NAVAL WAR COLLEGE REVIEW

Winter 2008
Volume 61, Number 1



Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
2008		**00-00-2008 to 00-00-2008**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Naval War College Review, Winter 2008,Volume 61, Number 1	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Naval War College,,686 Cushing Rd.,Newport,,RI,02841**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**155**	

Cover

U.S.S. *New Mexico* (BB 40), *an oil painting by Walter L. Greene. Launched on 13 April 1917, the battleship* New Mexico *was commissioned on 20 May 1918, in time to escort President Woodrow Wilson home from the Versailles Peace Conference. Designated flagship of the newly organized U.S. Pacific Fleet in 1919,* New Mexico *was to receive six battle stars for World War II service; the ship is pictured as appearing in 1925. Walter L. Greene (1870–1956) was an architect, artist, and prolific illustrator, known for his masterful use of color and detail in portraying technological subjects, notably locomotives and warships. The painting, which belongs to the U.S. Navy Art Collection in Washington, D.C. (by whose courtesy it appears), hung in an exhibit—"Command of the Sea: Highlights from the U.S. Naval Academy Museum, U.S. Navy Art Collection, and the U.S. Naval War College Museum"—at the Newport Art Museum in Newport, Rhode Island, in July–August 2007.*



Winter 2008
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NAVAL WAR COLLEGE REVIEW

NAVAL WAR COLLEGE PRESS
686 Cushing Road
Newport, RI 02841-1207

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Naval War College Review
Code 32, Naval War College
686 Cushing Rd., Newport, RI 02841-1207
Fax: 401.841.1071
DSN exchange, all lines: 948
Website: www.nwc.navy.mil/press

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The *Naval War College Review* was established in 1948 as a forum for discussion of public policy matters of interest to the maritime services. The thoughts and opinions expressed in this publication are those of the authors and are not necessarily those of the U.S. government, the U.S. Navy Department, or the Naval War College.

The journal is published quarterly. Distribution is limited generally to commands and activities of the U.S. Navy, Marine Corps, and Coast Guard; regular and reserve officers of U.S. services; foreign officers and civilians having a present or previous affiliation with the Naval War College; selected U.S. government officials and agencies; and selected U.S. and international libraries, research centers, publications, and educational institutions.

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Periodicals postage paid at Newport, R.I. POSTMASTERS, send address changes to: *Naval War College Review,* Code 32S, Naval War College, 686 Cushing Rd., Newport, R.I. 02841-1207.

ISSN 0028-1484



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FROM THE EDITORS

The Eighteenth International Seapower Symposium, held in Newport 16–19 October 2007, provided a fitting occasion for the unveiling of a new maritime strategy for the Navy and the nation. This document, signed jointly for the first time in such a case by the Chief of Naval Operations, the Commandant of the Marine Corps, and the Commandant of the Coast Guard, marks what may in future times be seen as a historic turn for America's sea services in the direction of a new global regime of intensified maritime security cooperation. The text is reprinted in full in the front of this issue. In coming issues, we will further explore its implications for the United States and for global maritime security, as well as the steps required to promote and implement it.

Our lead article, "Air Force–Navy Integration in Strike Warfare: A Role Model for Seamless Joint Service Operations," by Benjamin S. Lambeth, provides an authoritative account of an important organizational relationship within today's armed forces and helps compensate for what the naval aviation community may feel is comparative neglect in this journal. The story Lambeth tells is one that bodes well for the future of military jointness and does credit to both services. Next, and providing the theme for this issue's cover, Professor James Holmes of the Naval War College faculty, in "'A Striking Thing': Leadership, Strategic Communications, and Roosevelt's Great White Fleet," evokes a seminal moment in the history of the U.S. Navy. Just one hundred years ago, in December 1907, an impressive armada of warships departed on a trip around the world designed to signal the global reach of American naval might and assert the nation's claim to great-power status. This audacious attempt to shape foreign perceptions of the United States is worth recalling as the Navy contemplates what it must do to operationalize its new maritime strategy.

Two articles mark the reappearance of our "Asia Rising" feature. Gabriel Collins, Andrew Erickson, Lyle Goldstein, and William Murray offer an account of Chinese views of the American submarine force. Like other products of the Naval War College's China Maritime Studies Institute, this study is based on extensive research and analysis in the open Chinese-language military and technical literature. Shifting the focus away from China, a second paper, by Victor Huang, an officer in the Republic of Singapore Navy, provides an impressive survey of

issues relating to maritime security cooperation in Southeast Asia and the role the United States should play there. This is a most constructive contribution to the dialogue on maritime strategy that the U.S. Navy has sought with its foreign counterparts, and it helps lay the groundwork for the essential next step of understanding the regional implications of the new strategy document.

Finally, Scott C. Truver examines a neglected topic in the homeland security domain—the potential threat of mines or "improvised explosive devices" in American ports and waters. This provides an important supplement to the discussions of maritime terrorism featured in our Summer 2007 issue.

WOMEN IN NAVAL HISTORY

We commemorate an important anniversary this year: sixty years ago, on 12 June 1948, Congress passed the Women's Armed Services Integration Act (Public Law 625), which allowed women to gain permanent status in all branches of the U.S. military. Six enlisted women were sworn into the regular Navy: Kay Langdon, Wilma Marchal, Edna Young, Frances Devaney, Doris Robertson, and Ruth Flora. That same year, on 15 October, eight women were commissioned as the first female officers of the regular Navy: Captain Joy Bright Hancock, Lieutenant Commander Winifred Quick Collins, Lieutenant Commander Ann King, Lieutenant Commander Frances Willoughby, Lieutenant Ellen Ford, Lieutenant Doris Cranmore, Lieutenant Junior Grade Doris A. Defenderfer, and Lieutenant Junior Grade Betty Rae Tennant.

NEWPORT PAPERS ON "SHAPING" AND MARITIME STRATEGY

Two new and important Newport Papers are now in print as well as online (contact the editorial office if you'd like to become a series subscriber or to ask for copies of these titles). The editor of *Shaping the Security Environment* (Newport Paper 29), Derek S. Reveron of the Naval War College faculty, argues, "The question . . . is not whether the military should be engaged in . . . shaping"—diplomacy, security cooperation, and strategic communications in furtherance of regional stability—but "how these operations should be structured to ensure unified action and what new capabilities are necessary to perform these missions efficiently." Papers by six scholars and practitioners examine this vital concept from a variety of perspectives.

U.S. Naval Strategy in the 1970s: Selected Documents, Newport Paper 30, is the third of a series in which Dr. John B. Hattendorf, the Ernest J. King Professor of Maritime History at the Naval War College, is documenting the history of U.S. naval strategic thinking in recent decades. It reprints the key capstone documents for U.S. naval strategy in the seventies. These documents are described in Professor Hattendorf's Newport Paper 19, *The Evolution of the U.S. Navy's*

Maritime Strategy, 1977–1986, and were the predecessors of the documents that he published in Newport Paper 27, *U.S. Naval Strategy in the 1990s: Selected Documents.* A collection of selected documents of the 1980s is in preparation.

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION

Statement of ownership, management, and circulation (required by 39 USC. 3685) of the *Naval War College Review,* Publication Number 401390, published four times a year at 686 Cushing Road, Newport, R.I., 02841-1207. General business offices of the publisher are located at the Naval War College, 686 Cushing Road, Newport, R.I., 02841-1207. Name and address of publisher is President, Naval War College, 686 Cushing Road, Newport, R.I., 02841-1207. Name and address of editor is Dr. Carnes Lord, Code 32, Naval War College, 686 Cushing Road, Newport, R.I., 02841-1207. Name and address of managing editor is Pelham G. Boyer, Code 32A, Naval War College, Newport, R.I., 02841-1207. Owner is the Secretary of the Navy, Navy Department, Washington, D.C., 20350-1000. Average number of copies of each issue during the preceding 12 months is: (a) Total number of copies: 11,501; (b)(1) Requested subscriptions (outside Newport County): 9,529; (b)(2) Requested subscriptions (inside Newport County): 162; (c) Total requested circulation: 9,691; (d)(1) Nonrequested distribution by mail (outside Newport County): 285; (d)(4) Nonrequested distribution outside the mail: 1,129; (e) Total nonrequested distribution: 1,414; (f) Total distribution: 11,105; (g) Copies not distributed (office use, leftovers, spoiled): 396; (h) Total: 11,501; (i) Percent requested circulation: 87.3. Issue date for circulation data: Spring 2007; (a) Total number of copies: 11,480; (b)(1) Requested subscriptions: 10,145; (c) Total requested circulation: 10,145; (d)(1) Nonrequested distribution by mail: 201; (d)(4) Nonrequested distribution outside the mail: 834; (e) Total nonrequested distribution: 1,035; (f) Total distribution: 11,180; (g) Copies not distributed (office use, leftovers, spoiled): 300; (h) Total: 11,480; (i) Percent requested circulation: 90.7. I certify that all information furnished is true and complete.

Pelham G. Boyer, Managing Editor



A COOPERATIVE STRATEGY FOR 21ST CENTURY SEAPOWER

"A Cooperative Strategy for 21st Century Seapower" represents an historical first. Never before have the maritime forces of the United States—the Navy, Marine Corps, and Coast Guard—come together to create a unified maritime strategy. This strategy stresses an approach that integrates seapower with other elements of national power, as well as those of our friends and allies. It describes how seapower will be applied around the world to protect our way of life, as we join with other like-minded nations to protect and sustain the global, inter-connected system through which we prosper. Our commitment to protecting the homeland and winning our Nation's wars is matched by a corresponding commitment to preventing war.

Our citizens were involved in development of this strategy through a series of public forums known as the "Conversations with the Country." Three themes dominated these discussions: our people want us to remain strong; they want us to protect them and our homeland, and they want us to work with partners around the world to prevent war. These themes, coupled with rigorous academic research, analysis and debate, led to a comprehensive strategy designed to meet the expectations and needs of the American people.

A Cooperative Strategy for 21st Century Seapower binds our services more closely together than they have ever been before to advance the prosperity and security of our Nation. The demands of an uncertain world and the enduring interests of the American people require nothing less.

James T. Conway
General, U.S. Marine Corps
Commandant of the Marine Corps

Gary Roughead
Admiral, U.S. Navy
Chief of Naval Operations

Thad W. Allen
Admiral, U.S. Coast Guard
Commandant of the Coast Guard

INTRODUCTION

The security, prosperity, and vital interests of the United States are increasingly coupled to those of other nations. Our Nation's interests are best served by fostering a peaceful global system comprised of interdependent networks of trade, finance, information, law, people and governance.

We prosper because of this system of exchange among nations, yet recognize it is vulnerable to a range of disruptions that can produce cascading and harmful effects far from their sources. Major power war, regional conflict, terrorism, lawlessness and natural disasters—all have the potential to threaten U.S. national security and world prosperity.

The oceans connect the nations of the world, even those countries that are landlocked. Because the maritime domain—the world's oceans, seas, bays, estuaries, islands, coastal areas, littorals, and the airspace above them—supports 90% of the world's trade, it carries the lifeblood of a global system that links every country on earth. Covering three-quarters of the planet, the oceans make neighbors of people around the world. They enable us to help friends in need and to confront and defeat aggression far from our shores.

Today, the United States and its partners find themselves competing for global influence in an era in which they are unlikely to be fully at war or fully at peace. Our challenge is to apply seapower in a manner that protects U.S. vital interests even as it promotes greater collective security, stability, and trust. While defending our homeland and defeating adversaries in war remain the indisputable ends of seapower, it must be applied more broadly if it is to serve the national interest.

We believe that *preventing wars is as important as winning wars.* There is a tension, however, between the requirements for continued peacetime engagement and maintaining proficiency in the critical skills necessary to fighting and winning in combat. Maritime forces must contribute to winning wars decisively while enhancing our ability to prevent war, win the long struggle against terrorist networks, positively influence events, and ease the impact of disasters.

As it has always been, these critical tasks will be carried out by our people—the key to success in any military strategy. Accordingly, we will provide our people—our Sailors, Marines, and Coast Guardsmen—with the training, education and tools necessary to promote peace and prevail in conflict.

Guided by the objectives articulated in the *National Security Strategy, National Defense Strategy, National Military Strategy* and the *National Strategy for Maritime Security,* 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; secure strategic access and retain global freedom of action;

strengthen existing and emerging alliances and partnerships and establish favorable security conditions.

Additionally, maritime forces will be employed to build confidence and trust among nations through collective security efforts that focus on common threats and mutual interests in an open, multi-polar world. To do so will require an unprecedented level of integration among our maritime forces and enhanced cooperation with the other instruments of national power, as well as the capabilities of our international partners. *Seapower will be a unifying force for building a better tomorrow.*

CHALLENGES OF A NEW ERA

The world economy is tightly interconnected. Over the past four decades, total sea borne trade has more than quadrupled: 90% of world trade and two-thirds of its petroleum are transported by sea. The sea-lanes and supporting shore infrastructure are the lifelines of the modern global economy, visible and vulnerable symbols of the modern distribution system that relies on free transit through increasingly urbanized littoral regions.

Expansion of the global system has increased the prosperity of many nations. Yet their continued growth may create increasing competition for resources and capital with other economic powers, transnational corporations and international organizations. Heightened popular expectations and increased competition for resources, coupled with scarcity, may encourage nations to exert wider claims of sovereignty over greater expanses of ocean, waterways, and natural resources—potentially resulting in conflict.

Technology is rapidly expanding marine activities such as energy development, resource extraction, and other commercial activity in and under the oceans. Climate change is gradually opening up the waters of the Arctic, not only to new resource development, but also to new shipping routes that may reshape the global transport system. While these developments offer opportunities for growth, they are potential sources of competition and conflict for access and natural resources.

Globalization is also shaping human migration patterns, health, education, culture, and the conduct of conflict. Conflicts are increasingly characterized by a hybrid blend of traditional and irregular tactics, decentralized planning and execution, and non-state actors using both simple and sophisticated technologies in innovative ways. Weak or corrupt governments, growing dissatisfaction among the disenfranchised, religious extremism, ethnic nationalism, and changing demographics—often spurred on by the uneven and sometimes unwelcome advances of globalization—exacerbate tensions and are contributors to conflict.

Concurrently, a rising number of transnational actors and rogue states, emboldened and enabled with unprecedented access to the global stage, can cause systemic disruptions in an effort to increase their power and influence. Their actions, often designed to purposely incite conflict between other parties, will complicate attempts to defuse and allay regional conflict.

Proliferation of weapons technology and information has increased the capacity of nation-states and transnational actors to challenge maritime access, evade accountability for attacks, and manipulate public perception. Asymmetric use of technology will pose a range of threats to the United States and its partners. Even more worrisome, the appetite for nuclear and other weapons of mass destruction is growing among nations and non-state antagonists. At the same time, attacks on legal, financial, and cyber systems can be equally, if not more, disruptive than kinetic weapons.

The vast majority of the world's population lives within a few hundred miles of the oceans. Social instability in increasingly crowded cities, many of which exist in already unstable parts of the world, has the potential to create significant disruptions. The effects of climate change may also amplify human suffering through catastrophic storms, loss of arable lands, and coastal flooding, could lead to loss of life, involuntary migration, social instability, and regional crises.

Mass communications will highlight the drama of human suffering, and disadvantaged populations will be ever more painfully aware and less tolerant of their conditions. Extremist ideologies will become increasingly attractive to those in despair and bereft of opportunity. Criminal elements will also exploit this social instability.

These conditions combine to create an uncertain future and cause us to think anew about how we view seapower. No one nation has the resources required to provide safety and security throughout the entire maritime domain. Increasingly, governments, non-governmental organizations, international organizations, and the private sector will form partnerships of common interest to counter these emerging threats.

MARITIME STRATEGIC CONCEPT

This strategy reaffirms the use of seapower to influence actions and activities at sea and ashore. The expeditionary character and versatility of maritime forces provide the U.S. the asymmetric advantage of enlarging or contracting its military footprint in areas where access is denied or limited. Permanent or prolonged basing of our military forces overseas often has unintended economic, social or political repercussions. The sea is a vast maneuver space, where the presence of maritime forces can be adjusted as conditions dictate to enable flexible approaches to escalation, de-escalation and deterrence of conflicts.

The speed, flexibility, agility and scalability of maritime forces provide joint or combined force commanders a range of options for responding to crises. Additionally, integrated maritime operations, either within formal alliance structures (such as the North Atlantic Treaty Organization) or more informal arrangements (such as the Global Maritime Partnership initiative), send powerful messages to would-be aggressors that we will act with others to ensure collective security and prosperity.

United States seapower will be globally postured to secure our homeland and citizens from direct attack and to advance our interests around the world. As our security and prosperity are inextricably linked with those of others, U.S. maritime forces will be deployed to protect and sustain the peaceful global system comprised of interdependent networks of trade, finance, information, law, people and governance.

We will employ the global reach, persistent presence, and operational flexibility inherent in U.S. seapower to accomplish six key tasks, or *strategic imperatives*. Where tensions are high or where we wish to demonstrate to our friends and allies our commitment to security and stability, U.S. maritime forces will be characterized by regionally concentrated, forward-deployed task forces with the combat power to limit regional conflict, deter major power war, and should deterrence fail, win our Nation's wars as part of a joint or combined campaign. In addition, persistent, mission-tailored maritime forces will be globally distributed in order to contribute to homeland defense-in-depth, foster and sustain cooperative relationships with an expanding set of international partners, and prevent or mitigate disruptions and crises.

Regionally Concentrated, Credible Combat Power

Credible combat power will be continuously postured in the Western Pacific and the Arabian Gulf/Indian Ocean to protect our vital interests, assure our friends and allies of our continuing commitment to regional security, and deter and dissuade potential adversaries and peer competitors. This combat power can be selectively and rapidly repositioned to meet contingencies that may arise elsewhere. These forces will be sized and postured to fulfill the following strategic imperatives:

Limit regional conflict with forward deployed, decisive maritime power. Today regional conflict has ramifications far beyond the area of conflict. Humanitarian crises, violence spreading across borders, pandemics, and the interruption of vital resources are all possible when regional crises erupt. While this strategy advocates a wide dispersal of networked maritime forces, we cannot be everywhere, and we cannot act to mitigate all regional conflict.

Where conflict threatens the global system and our national interests, maritime forces will be ready to respond alongside other elements of national and multi-national power, to give political leaders a range of options for deterrence, escalation and de-escalation. Maritime forces that are persistently present and combat-ready provide the Nation's primary forcible entry option in an era of declining access, even as they provide the means for this Nation to respond quickly to other crises. Whether over the horizon or powerfully arrayed in plain sight, maritime forces can deter the ambitions of regional aggressors, assure friends and allies, gain and maintain access, and protect our citizens while working to sustain the global order.

Critical to this notion is the maintenance of a powerful fleet—ships, aircraft, Marine forces, and shore-based fleet activities—capable of selectively controlling the seas, projecting power ashore, and protecting friendly forces and civilian populations from attack.

Deter major power war. No other disruption is as potentially disastrous to global stability as war among major powers. Maintenance and extension of this Nation's comparative seapower advantage is a key component of deterring major power war. While war with another great power strikes many as improbable, the near-certainty of its ruinous effects demands that it be actively deterred using all elements of national power. The expeditionary character of maritime forces—our lethality, global reach, speed, endurance, ability to overcome barriers to access, and operational agility—provide the joint commander with a range of deterrent options. We will pursue an approach to deterrence that includes a credible and scalable ability to retaliate against aggressors conventionally, unconventionally, and with nuclear forces.

Win our Nation's wars. In times of war, our ability to impose local sea control, overcome challenges to access, force entry, and project and sustain power ashore, makes our maritime forces an indispensable element of the joint or combined force. This expeditionary advantage must be maintained because it provides joint and combined force commanders with freedom of maneuver. Reinforced by a robust sealift capability that can concentrate and sustain forces, sea control and power projection enable extended campaigns ashore.

Globally Distributed, Mission-Tailored Maritime Forces

The Sea Services will establish a persistent global presence using distributed forces that are organized by mission and comprised of integrated Navy, Marine Corps, and Coast Guard capabilities. This global distribution must extend beyond traditional deployment areas and reflect missions ranging from humanitarian operations to an increased emphasis on counter-terrorism and irregular warfare. Our maritime forces will be tailored to meet the unique and evolving

requirements particular to each geographic region, often in conjunction with special operations forces and other interagency partners. In particular, this strategy recognizes the rising importance and need for increased peacetime activities in Africa and the Western Hemisphere.

Contribute to homeland defense in depth. Maritime forces will defend the homeland by identifying and neutralizing threats as far from our shores as possible. From fostering critical relationships overseas, to screening ships bound for our ports, or rapidly responding to any threats approaching our coastline, our homeland defense effort will integrate across the maritime services, the joint force, the interagency community, our international partners and the private sector to provide the highest level of security possible. When directed, maritime forces will promptly support civil authorities in the event of an attack or natural disaster on our shores.

Foster and sustain cooperative relationships with more international partners. Expanded cooperative relationships with other nations will contribute to the security and stability of the maritime domain for the benefit of all. Although our forces can surge when necessary to respond to crises, *trust and cooperation cannot be surged.* They must be built over time so that the strategic interests of the participants are continuously considered while mutual understanding and respect are promoted.

A key to fostering such relationships is development of sufficient cultural, historical, and linguistic expertise among our Sailors, Marines and Coast Guardsmen to nurture effective interaction with diverse international partners. Building and reinvigorating these relationships through Theater Security Cooperation requires an increased focus on capacity-building, humanitarian assistance, regional frameworks for improving maritime governance, and cooperation in enforcing the rule of law in the maritime domain.

Additionally, the Sea Services must become adept at forging international partnerships in coordination with the other U.S. services and government departments. To this end, the Global Maritime Partnerships initiative seeks a cooperative approach to maritime security, promoting the rule of law by countering piracy, terrorism, weapons proliferation, drug trafficking, and other illicit activities.

Prevent or contain local disruptions before they impact the global system. Maritime forces will work with others to ensure an adequate level of security and awareness in the maritime domain. In doing so, transnational threats—terrorists and extremists; proliferators of weapons of mass destruction; pirates; traffickers in persons, drugs, and conventional weapons; and other criminals—will be constrained.

By being there, forward deployed and engaged in mutually beneficial relationships with regional and global partners, maritime forces will promote frameworks that enhance security. When natural or manmade disasters strike, our maritime forces can provide humanitarian assistance and relief, joining with interagency and non-governmental partners. By participating routinely and predictably in cooperative activities, maritime forces will be postured to support other joint or combined forces to mitigate and localize disruptions.

IMPLEMENTING THE STRATEGY

To successfully implement this strategy, the Sea Services must collectively expand the core capabilities of U.S. seapower to achieve a blend of peacetime engagement and major combat operations capabilities.

Expanded Core Capabilities

Although the Sea Services conduct many missions, the following six capabilities comprise the core of U.S. maritime power and reflect an increase in emphasis on those activities that prevent war and build partnerships.

Forward Presence. Maritime forces will be forward deployed, especially in an era of diverse threats to the homeland. Operating forward enables familiarity with the environment, as well as the personalities and behavior patterns of regional actors. Mindful of the sovereignty of other nations, this influence and understanding contributes to effective responses in the event of crisis. Should peacetime operations transition to war, maritime forces will have already developed the environmental and operational understanding and experience to quickly engage in combat operations. Forward presence also allows us to combat terrorism as far from our shores as possible. Where and when applicable, forward-deployed maritime forces will isolate, capture, or destroy terrorists, their infrastructure, resources and sanctuaries, preferably in conjunction with coalition partners.

Deterrence. Preventing war is preferable to fighting wars. Deterring aggression must be viewed in global, regional, and transnational terms via conventional, unconventional, and nuclear means. Effective Theater Security Cooperation activities are a form of extended deterrence, creating security and removing conditions for conflict. Maritime ballistic missile defense will enhance deterrence by providing an umbrella of protection to forward-deployed forces and friends and allies, while contributing to the larger architecture planned for defense of the United States. Our advantage in space—upon which much of our ability to operate in a networked, dispersed fashion depends—must be protected and extended. We will use forward based and forward deployed forces, space-based assets, sea-based strategic deterrence and other initiatives to deter those who wish us harm.

Sea Control. The ability to operate freely at sea is one of the most important enablers of joint and interagency operations, and sea control requires capabilities in all aspects of the maritime domain, including space and cyberspace. There are many challenges to our ability to exercise sea control, perhaps none as significant as the growing number of nations operating submarines, both advanced diesel-electric and nuclear propelled. We will continue to hone the tactics, training and technologies needed to neutralize this threat. We will not permit conditions under which our maritime forces would be impeded from freedom of maneuver and freedom of access, nor will we permit an adversary to disrupt the global supply chain by attempting to block vital sea-lines of communication and commerce. We will be able to impose local sea control wherever necessary, ideally in concert with friends and allies, but by ourselves if we must.

Power Projection. Our ability to overcome challenges to access and to project and sustain power ashore is the basis of our combat credibility. Our advantages will be sustained through properly sized forces, innovative technologies, understanding of adversary capabilities, adaptive joint planning processes and the proficiency and ingenuity of our Sailors, Marines, and Coast Guardsmen. We will maintain a robust strategic sealift capability to rapidly concentrate and sustain forces, and to enable joint and/or combined campaigns. This capability relies on the maintenance of a strong U.S. commercial maritime transportation industry and its critical intermodal assets.

Maritime Security. The creation and maintenance of security at sea is essential to mitigating threats short of war, including piracy, terrorism, weapons proliferation, drug trafficking, and other illicit activities. Countering these irregular and transnational threats protects our homeland, enhances global stability, and secures freedom of navigation for the benefit of all nations. Our maritime forces enforce domestic and international law at sea through established protocols such as the *Maritime Operational Threat Response Plan* (MOTR). We also join navies and coast guards around the world to police the global commons and suppress common threats.

Humanitarian Assistance and Disaster Response. Building on relationships forged in times of calm, we will continue to mitigate human suffering as the vanguard of interagency and multinational efforts, both in a deliberate, proactive fashion and in response to crises. Human suffering moves us to act, and the expeditionary character of maritime forces uniquely positions them to provide assistance. Our ability to conduct rapid and sustained non-combatant evacuation operations is critical to relieving the plight of our citizens and others when their safety is in jeopardy.

Implementation Priorities

Implementation of this strategy will require that the Sea Services demonstrate flexibility, adaptability and unity of effort in evolving to meet the enduring and emerging challenges and opportunities ahead. Specific initiatives in support of this strategy must be vetted and tested over time through experimentation, wargaming, and continued operational experience, with periodic oversight and unified guidance provided by the senior leaders of the Sea Services. While many initiatives must come to fruition to enable this strategy, three areas will receive priority attention:

Improve Integration and Interoperability. The combatant commanders' increased demand for mission-tailored force packages requires a more integrated approach to how maritime forces are employed.

Marines will continue to be employed as air-ground task forces operating from amphibious ships to conduct a variety of missions, such as power projection, but they will also be employed as detachments aboard a wider variety of ships and cutters for maritime security missions. Sailors, Marines, and Coast Guardsmen, teamed in various combinations of security forces, mobile training teams, construction battalions, health services, law enforcement, and civil affairs units to conduct security cooperation and humanitarian assistance missions, illustrate adaptive force packaging.

Homeland defense is the most obvious example of the requirement for greater integration. It is not sufficient to speak of homeland defense in terms of splitting the responsibilities and authorities between the Navy and the Coast Guard along some undefined geographic boundary. Rather, the Sea Services must—and will—work as one wherever they operate in order to defend the United States. Consistent with the *National Fleet Policy,* Coast Guard forces must be able to operate as part of a joint task force thousands of miles from our shores, and naval forces must be able to respond to operational tasking close to home when necessary to secure our Nation and support civil authorities. Integration and interoperability are key to success in these activities, particularly where diverse forces of varying capability and mission must work together seamlessly in support of defense, security, and humanitarian operations.

Expanded cooperation with the maritime forces of other nations requires more interoperability with multinational partners possessing varying levels of technology. The *Global Maritime Partnership* initiative will serve as a catalyst for increased international interoperability in support of cooperative maritime security.

Achieving the requisite level of integration and interoperability will demand a high degree of coordination among service headquarters staffs to fulfill their

responsibilities of providing, training, and equipping forces. Furthermore, Navy and Marine Corps component commanders and Coast Guard functional commanders will play a central role in determining how maritime forces are organized, deployed, and employed. This role involves identification of combatant commander requirements and articulation of how their respective service capabilities can be integrated in innovative ways to meet those requirements. Close coordination among, if not outright integration of, maritime components may be required to do this effectively. At all echelons of command, we must enhance our ability to conduct integrated planning, execution, and assessment.

Enhance Awareness. To be effective, there must be a significantly increased commitment to advance *maritime domain awareness* (MDA) and expand *intelligence, surveillance and reconnaissance* (ISR) capability and capacity. New partnerships with the world's maritime commercial interests and the maritime forces of participating nations will reduce the dangerous anonymity of sea borne transport of people and cargoes. Great strides have already been taken in that direction, and the *National Strategy for Maritime Security* has mandated an even higher level of interagency cooperation in pursuit of effective MDA. Maritime forces will contribute to enhance information sharing, underpinning and energizing our capability to neutralize threats to our Nation as far from our shores as possible.

Critical to realizing the benefits of increased awareness is our ability to protect information from compromise through robust information assurance measures. Such measures will increase international partner confidence that information provided will be shared only with those entities for which it is intended.

Adversaries are unlikely to attempt conventional force-on-force conflict and, to the extent that maritime forces could be openly challenged, their plans will almost certainly rely on asymmetric attack and surprise, achieved through stealth, deception, or ambiguity. Our ISR capabilities must include innovative ways to penetrate the designs of adversaries, and discern their capabilities and vulnerabilities while supporting the full range of military operations. We must remove the possibility of an adversary gaining the initiative over forward-deployed forces and ensure we provide decision makers with the information they need to deter aggression and consider escalatory measures in advance of such gambits.

Prepare Our People. Given the distributed nature of the forces executing this strategy, we must properly prepare Sailors, Marines, and Coast Guardsmen for the challenges and opportunities ahead. We are creating a dispersed force under decentralized authority in a world of rapid information exchange. Maritime forces will normally operate in a less concentrated manner than they do today, and

junior leaders will be entrusted with a higher level of responsibility and authority for carrying out important aspects of strategically important missions. Junior personnel will be required to interact with a far greater variety of U.S. and multinational partners and indigenous populations than their predecessors. Professional development and unit training must be refined accordingly. Operations as an integrated team require improved mutual understanding of respective service or agency capabilities and cultures, which can be achieved through expanded interagency teaming of students and instructors throughout training, education, and staff assignments.

Similarly, if we are to successfully partner with the international community, we must improve regional and cultural expertise through expanded training, education, and exchange initiatives.

Significantly, this strategy requires new ways of thinking—about both empowering individual commanders and understanding the net effects of dispersed operations. Such operations require a broadly shared responsibility among: the on-scene commander responsible for ensuring actions are in accordance with the commander's intent; the higher commander responsible for providing intent and guidance to subordinates; the parent service of dispersed forces responsible for ensuring that units are trained, equipped, and culturally prepared for the missions they will undertake; and, finally, the regional commanders responsible for determining appropriate force levels and readiness postures.

CONCLUSION

This strategy is derived from a thorough assessment of the Nation's security requirements. It does not presume conflict but instead acknowledges the historical fact that peace does not preserve itself. Looking across the wide maritime domain, it calls for a broad portfolio of core capabilities to support our vital interests, realized by well-trained, highly motivated and ably-led people.

The strategy focuses on *opportunities*—not threats; on *optimism*—not fear; and on *confidence*—not doubt. It recognizes the challenges imposed by the uncertain conditions in a time of rapid change and makes the case for the necessity of U.S. seapower in the 21st Century.

As a declaratory strategy, this document challenges the Sea Services to evolve an expanded range of integrated capabilities to achieve enduring national strategic objectives. Further experimentation, operational experience, and analysis are necessary, as is sea service commitment to building upon the ideas that this document puts forward. However, the Sea Services cannot do this alone. The diverse elements of the greater maritime community must be inspired and supported as they invest to secure peace and prosperity across the maritime domain.

The Sea Services commit to continuing the process of collaborative strategy implementation in the years ahead. 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.

The U.S. Navy, Marine Corps, and Coast Guard released this new cooperative maritime strategy at the International Seapower Symposium at the Naval War College on 17 October 2007. The report can be found online at www.navy.mil/maritime/MaritimeStrategy.pdf.

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



A Cooperative Strategy for 21st Century Seapower

AS MOST OF YOU ARE WELL AWARE, for over a century the College has played a unique role in the analysis and formulation of national maritime strategy and policy as well as national grand strategy. Over the past two years, the Naval War College has found itself once again in a key position to support the leadership of our maritime forces, and of those of our global partners, in thinking through the implications of a new set of global security challenges and opportunities (see the "President's Forum" in the Autumn 2006 issue of the *Review*). The current effort finds its roots in the discussions of the 17th International Seapower Symposium (ISS), held in the fall of 2005.

At that conference, fifty-five chiefs of navies and coast guards, along with twenty-seven war college presidents from around the world, gathered in Newport to share perspectives on a broad range of issues important to our navies, coast guards, and countries through the mechanism of regionally oriented seminars (eight of them). The two days produced from each region comprehensive lists of key concerns, the similarity of which was remarkable. As the symposium drew to a close, a consensus was articulated that maritime security was fundamental to address these concerns, that the scope of security challenges reached beyond the waters of individual nations, and most importantly, that responsibility for the maritime domain—the great "commons" of the world—was shared. Moreover, the need was expressed for regional and global mechanisms that would allow maritime nations to bring more routinely and effectively their particular capabilities together to ensure a free and secure maritime domain.

The host of that ISS, Admiral Mike Mullen, summarized the key proposition of the symposium: "Because today's challenges are global in nature, we must be collective in our response. We are bound together in our dependence on the seas

and in our need for security for the vast commons. This is a requisite for national security, global stability, and economic prosperity." Acknowledging that "the United States Navy cannot, by itself, preserve the freedom and security of the entire maritime domain," Admiral Mullen said that "it must count on assistance from like-minded nations interested in using the sea for lawful purposes and precluding its use by others that threaten national, regional, or global security." So too must each nation count on contributions from other nations.

Then began a very productive period, when the College—aligned with the fundamental notions of the 17th International Seapower Symposium—was tasked to work on a new maritime strategy "*of* and *for* its time." Critical to our effort to rethink maritime strategy has been an extensive scenario analysis and war-gaming effort and a series of high-level conferences, symposia, and other professional exchanges with maritime partners here in Newport and other venues around the world. This collaborative effort has produced great insight and has brought into focus the diverse perspectives necessary to make this strategy robust across multiple challenges and useful both for Navy leadership and national policy makers in understanding the key role maritime forces must play in the evolving international system.

We see some powerful ideas in this strategy: the preeminent value of maritime forces to underwrite stability for the global system, and an emphasis on the unique capabilities inherent in maritime forces to prevent global shocks and to limit and localize regional conflict. Over and above the long-standing naval commitment to provide high-end military capability, there are clear new demands related to sustaining the global system—demands that are peculiar to the maritime domain. The new maritime strategy also recognizes that we must rely increasingly, across the range of military operations, on an expanded set of more robust, global maritime relationships—in effect, partnerships that engender trust, contribute to war prevention, and yield more effective maritime security.

At the 18th International Seapower Symposium, hosted here at the College in October 2007, General James Conway, Commandant of the Marine Corps; Admiral Thad Allen, Commandant of the Coast Guard; and Admiral Gary Roughead, our new Chief of Naval Operations, presented before the largest gathering of high-ranking naval leadership ever assembled in the world the results of the work of the last two years. Present in Spruance Auditorium were sixty-nine chiefs of naval operations, twenty-one commandants of coast guards, sixteen war college presidents, and many senior uniformed and civilian leaders from the United States. (I should note that nearly a quarter of our foreign guests were graduates of the College!) In all, ninety-eight countries were represented, and the event—with the three service chiefs presiding—was televised to the national security press corps in the Pentagon.

The strategy they presented (printed in its entirety in this issue) provides a long-needed, overarching logic that links the vital contribution of the nation's maritime services to global security and prosperity.

This has truly been an international collaborative effort. Many, if not most, of the navies represented at the 2007 ISS were engaged in some fashion during the strategy's development, and its substance and wording were significantly influenced by these discussions and inputs. If the initial reception by the heads of navies in attendance is any indication, the new strategy will provide a sound basis for achieving the vision of global maritime cooperation on an unprecedented scale.

The new strategy also reflects the extensive collaboration with the Navy's maritime service partners. The three sea services have worked on the strategy as an integrated team from the very first. All three service chiefs have signed the document; it truly represents a *national maritime* strategy. This collaboration also extended to the staffs of our joint combatant commanders and the U.S. interagency arena.

The strategy's rollout at Newport underscores the unique role the College plays in enabling genuine collaboration among the other sea services, international navies, and a host of other organizations. In fact, it was the formation of new relationships and the strengthening of existing ones that compelled the development of the new strategy. On the basis of the open sharing of information and of respect for the perspectives and ideas of all, the College was able to integrate the thinking of a wide range of people who would not ordinarily have an opportunity to exchange views. This synthesis of diverse perspectives embodies the philosophy behind the strategy itself, so in a sense the development of the strategy was also a step in its execution.

As I have outlined, this has been a very different kind of strategy development process. In the words of Paul Bracken, "It represents a break with recent U.S. strategic thinking in that it did not start with the answer."* I am not saying that we started with a completely blank sheet of paper, but we did free ourselves from preexisting biases on desired fleet size or shape. In fact, we all but banned any discussion of ships, submarines, or aircraft, focusing instead on the relationship between grand strategy and seapower. By maintaining that discipline throughout the project, I think we achieved one of the going-in goals—that is, to elevate the discussion in order to create a broader definition of seapower. I anticipate that *A Cooperative Strategy* will be an influential document for years to come. Part of its influence will be due to the way we went about crafting it, giving it a joint, interagency, and international pedigree, as well as solid intellectual underpinnings to make it robust and durable. From the very beginning we were intent

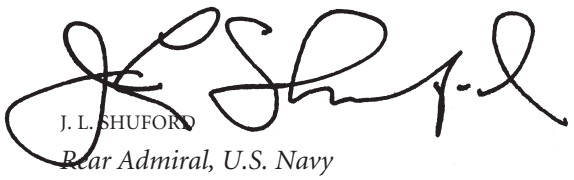
* Paul Bracken, "Maritime Strategy and Grand Strategy," *Chinfo News Clips,* 29 September 2006.

on taking the "long view," to borrow from the title of Peter Schwartz's book,* and we applied Schwartz's idea of a "strategic conversation" with a broad range of expert stakeholders around the nation and the world.

Despite the strategy's strong pedigree, I don't think anyone would consider it a finished product in the sense that we can now put it in a drawer and go on to other things. Quite the contrary—if history is any guide, it will be a number of years before the implications of the new strategy are completely understood. It took several decades for us to sort out the program and resource implications of War Plan ORANGE, and the 1980s Maritime Strategy was still being refined and interpreted when the Soviet Union fell. Thus, I would expect that we will be discussing, analyzing, arguing, and gaming the new strategy for several years.

The College will have a significant role in all of these efforts, including involvement in the Navy's new Adaptive Planning Process, which seeks to establish systematically a strategic "front end" for the requirements process in the Pentagon. Among other activities, the College will reenter the arena of "Title X" war gaming, whereby services can examine, integrate, and evolve their future concepts. The Naval War College was the originator of this type of game in the late 1970s, with its "Global" series. Whereas the Global games actually preceded and informed the 1980s Maritime Strategy, this new maritime strategy will set in motion a new series of strategy and concept games to translate the document effectively into operational, policy, and resource contexts.

I fully expect this national and international dialogue on strategy to continue, building on the work of the last two years and the investment of honest and expert intellectual capital it represents.



J. L. SHUFORD
Rear Admiral, U.S. Navy
President, Naval War College

* *The Art of the Long View: Planning for the Future in an Uncertain World* (New York: Doubleday/Currency, 1991).



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Naval War College Review, Winter 2008, Vol. 61, No. 1

AIR FORCE–NAVY INTEGRATION IN STRIKE WARFARE

A Role Model for Seamless Joint-Service Operations

Benjamin S. Lambeth

One of the most remarkable aspects of American joint-force combat capability today is the close harmony that has steadily evolved since the 1991 Persian Gulf War in the integrated conduct of aerial strike operations by the U.S. Air Force and U.S. Navy, along with the latter's closely associated Marine Corps air assets. This under-recognized and little-appreciated aspect of the nation's warfighting posture stands in marked contrast to the more familiar and contested relationship between the two services in the roles and resources arena, where a fundamentally different incentive structure has tended to prevail and where seemingly zero-sum battles for limited defense dollars have appeared to be the natural order of things from one budget cycle to the next. As a former Air Force three-star general and fighter pilot recently remarked on this important point, although there remains "lots to be done at the budget table, tactically the [two] services are [now] bonded at the hip."[1] Indeed, in the words of a former Navy Fighter Weapons School instructor, now the commander of Second Fleet, such integration "is now a part of the culture" of U.S. fixed-wing combat aircrews, regardless of whether the wings they wear on their uniforms are made of silver or gold.[2]

In this regard, the Air Force and Navy have come a long way since the Vietnam War and its early Cold War aftermath more than three decades ago, when the two services remained cultures apart, operated in wholly separate physical and conceptual worlds, and could claim no significant interoperability features to speak of. Once the unexpected demands of Operation DESERT STORM so starkly dramatized the downside consequences of that absence of interoperability between the two services, however, the Navy, in particular, responded with due

alacrity and began implementing the many needed changes in its equipment, doctrine, and operating practices to accommodate the demise of its former open-ocean mission against Soviet naval forces and the emergence of a need to work more closely with its Air Force sister service in the conduct of joint air operations in dealing with littoral combat challenges around the world.

For its part, the Air Force likewise embraced not only the new demand but also the many new opportunities for working more synergistically with its naval-aviator counterparts in both peacetime training and actual contingency operations. From the most tentative initial stirrings of this early move toward greater interoperability between the two services in the late 1970s, the Air Force and Navy registered ever-greater progress toward synchronized air operations throughout the 1990s, to a point where the fruits of that integration were finally realized during Operation ENDURING FREEDOM over Afghanistan in late 2001 and further clinched by the all but seamless joint combat performance of the two services a year later during the three-week period of major combat in Operation IRAQI FREEDOM.

A BACKDROP OF APARTNESS

The integration of the Navy and Air Force in aerial strike warfare is a fairly recent phenomenon in American military experience. For more than two centuries the Navy was proudly accustomed to operating independently on the high seas, with a consequent need to be completely self-reliant and adaptable to rapidly changing circumstances far from the nation's shores, with the fewest possible constraints on its freedom of action. The nation's sea service was forward deployed from the beginning of its existence and, throughout most of the Cold War, was the only service that was "out there," in and above the maritime commons and ready for action. Largely for that reason, operations integration between the Navy and Air Force was not even a remote planning consideration. On the contrary, the main focus was rather on force *deconfliction* between the two services. Not only figuratively but also literally, the Navy and Air Force conducted their daily routines in separate and distinct operating environments, and no synergies between the two services were produced—or even sought. Not surprisingly, a unique Navy operating culture emerged from this reality that set the Navy clearly apart from the Air Force and its more structured and rule-governed way of conducting its missions.

These widely divergent service approaches to air operations persisted throughout the 1970s and early 1980s, with the final years of the Cold War (after the nation's combat involvement in Vietnam ended in 1973) seeing little significant change from the previous pattern of segregated operations that had been the norm throughout the eight-year air war in Southeast Asia. Throughout

those final Cold War years, the Navy's carrier battle groups figured most prominently in a sea-control strategy that was directed against Soviet naval forces, including long-range and highly capable shore-based naval air forces, in open-ocean engagements around the world. Because the Maritime Strategy of the Reagan administration put the focus of American naval force projection more than a thousand miles away from the most likely focus of any Air Force combat operations in both Europe and the Pacific, such geographic separation, in an apt portrayal, "simply ruled out any concern with or interest in cross-service synergies at the operational or tactical levels."[3] Any combat operations against Soviet forces in the northernmost reaches of the Norwegian Sea or off the Kamchatka Peninsula in the western Pacific would have involved solely the U.S. and Soviet navies, with no other force operations in the area. That accordingly freed the Navy to develop long-range fire-and-forget weapons, like the AIM-54 Phoenix air-to-air missile and the AGM-84D Harpoon antishipping missile, that were unconstrained by any need for concern over the risk of fratricide or the possibility of causing unintended collateral damage should they go astray.

It would be hard to overstate the shock effect that DESERT STORM had on the Navy, to say nothing of carrier air, with respect to the newly emergent needs of joint strike warfare.

For its part, the Air Force was looking at a very different and more complex operating arena in which friendly and enemy aircraft would be simultaneously airborne and often commingled in the same block of airspace. Unlike the Navy, which was focused literally a thousand miles away—on the open-ocean environment, on NATO's northern flank and the defense of northern Norway, and on Murmansk and the Kola Peninsula of the Soviet Union—the Air Force was preparing itself for joint operations in shared battle space with the Army and with the nation's NATO allies in Central Europe. Given that stark dissimilarity in outlook and mission orientation, the Navy and Air Force, in a fair characterization, "simply thought about and operated within two separate conceptual worlds."[4]

As a result of these widely divergent mind-sets and operating environments, a pronounced culture divide separated the Air Force and naval aviation in the strike-warfare arena. In telling testimony to this divide, Air Force pilots who participated in joint peacetime training exercises with their Navy counterparts during the early post-Vietnam years were often heard to tell horror stories about such (to them) cavalier and undisciplined Navy practices as last-minute unannounced changes in flight schedules, controlling agencies, radio frequencies, operating areas, or even mission profiles. For their parts, Navy pilots who flew in similar joint training exercises routinely complained that overly rigid adherence

to maintenance, operation, and crew-rest requirements greatly hampered the Air Force's ability to be fully flexible in executing its assigned missions. One junior naval aviator in 1991 voiced a commonly heard refrain that neatly encapsulated the essence of the cultural divide from the Navy's perspective: "Naval aviators are fond of saying that Air Force pilots may only do something if it is written somewhere that they can, while Navy pilots may do whatever they want as long as it isn't written somewhere that they can't."[5]

THE WATERSHED OF DESERT STORM

Iraq's sudden and unexpected invasion of Kuwait in August 1990 presented naval aviation, in particular, with a new and unfamiliar set of challenges. During the course of the six-week Persian Gulf War that began five and a half months later, the Navy's carrier force found itself obliged to surmount a multitude of new adjustments the need for which came to light for the first time in that campaign. Few of the challenges that were levied on naval aviation by that U.S.-led offensive, code-named Operation DESERT STORM, bore much resemblance to the planning assumptions that underlay the Maritime Strategy, which had been created during the early 1980s to accommodate a very different set of concerns. Although naval aviators had routinely trained for and were wholly proficient at over-the-beach conventional strike operations, the Navy's carrier battle groups during that period had been geared, first and foremost, to doing open-ocean battle against the Soviet Navy. As such, they were not optimally equipped for conducting littoral combat operations. They also were completely unaccustomed to operating within the Air Force's complex air tasking system for managing the large-force operations involving two thousand or more sorties a day that dominated the DESERT STORM air war.

Simply put, the 1991 Gulf War in no way resembled the open-ocean battles that the Navy had planned and prepared for throughout the preceding two decades. To begin with, there were no opposed surface naval forces or enemy air threat to challenge the Navy's six carrier battle groups that participated in that war. Moreover, throughout the five-month buildup of forces in the region that preceded the war and the six weeks of fighting that ensued thereafter, the Navy did not operate independently, as had been its familiar pattern throughout most of the Cold War, but rather in shared operating areas with the Air Force, Army, and Marine Corps.

With respect to equipment, the naval air capabilities that had been fielded and fine-tuned for open-ocean engagements, such as the long-range AIM-54 carried by the F-14, were of little relevance to the coalition's predominantly overland air-combat needs.[6] Navy F-14s also were not assigned to the choicest combat air patrol (CAP) stations in DESERT STORM, because, having been

equipped for the less-crowded outer air battle in defense of a carrier battle group, they lacked the redundant onboard target-recognition systems that the rules of engagement promulgated by U.S. Central Command (CENTCOM) required for the denser and more conflicted air environment over Iraq. Relatedly, because of the Navy's lack of a compatible command and control system that would enable receipt of the document electronically, the daily air tasking order (ATO) generated by the Air Force–dominated combined air operations center (CAOC) in Saudi Arabia had to be placed aboard two S-3 antisubmarine warfare aircraft in hard copy each day and flown to the six participating carriers so that the next day's air-wing flight schedules could be written. As for the Navy's other equipment items and habit patterns developed for open-ocean engagements, such as fire-and-forget Harpoon antiship missiles and decentralized command and control, all were, in the words of the former vice chairman of the Joint Chiefs of Staff (JCS), Admiral William Owens, "either ruled out by the context of the battle or were ineffective in the confined littoral arena and the environmental complexities of the sea-land interface."[7]

Because of the Navy's lack of a significant precision-strike capability when the call to deploy for DESERT STORM arose, its six carrier air wings that participated in the campaign were denied certain targets, which were assigned to the Air Force instead, by default. The participating carrier air wings also had to turn down some target-attack opportunities because of their lack of a penetrating munition like the Air Force's Mark 84 improved two-thousand-pound bomb. One strike fighter squadron's after-action report, submitted not long after the Gulf War ended, remarked that the Navy's lack of the sort of precision-attack capability that the Air Force had used to such telling effect in the war "was eloquent testimony that naval aviation had apparently missed an entire generation of weapons employment and development."[8]

POST–GULF WAR ADJUSTMENTS TO NEW DEMANDS

It would be hard to overstate the shock effect that the DESERT STORM experience had on the Navy as a whole, to say nothing of its carrier air component, with respect to the newly emergent needs of joint strike warfare. As one rising naval aviator noted insightfully in 1992 in this regard: "Nearly two decades of narrow focus—on one-shot, small-scale, and largely single-service contingency operations—left naval aviation temperamentally, technically, and doctrinally unprepared for some key elements of a joint air campaign such as Desert Storm."[9] Admiral Owens put the point even more bluntly four years later: "For the Navy, more than any other service, Desert Storm was the midwife of change. . . . [The war] confirmed the operational doctrines that the Army and Air Force had developed over the previous two decades, but it also demonstrated that the Maritime Strategy—the basic

operational concept driving Navy planning since the early 1970s—did not fit the post–cold war era."[10]

Fortunately, although naval aviation entered the post–Cold War era ill equipped for that era's new demands, the Navy quickly made the necessary adjustments in the early aftermath of DESERT STORM. In the realm of equipment, it stepped out smartly to upgrade its precision-strike capability by fielding both new systems and improvements to existing platforms, soon achieving a degree of flexibility that it had lacked throughout the six-week Gulf War. First and foremost, it moved to convert the F-14 from a single-mission air-to-air platform into a true multimission aircraft, through the incorporation of the Air Force–developed LANTIRN* infrared targeting system, which allowed the aircraft to deliver laser-guided bombs (LGBs) both day and night.

The Navy leadership also rectified its shortfall in precision-guided-munitions delivery capability, by equipping more F/A-18s with the ability to fire the AGM-84E standoff land-attack missile (SLAM) and to self-designate targets. To correct yet another equipment-related deficiency highlighted by the DESERT STORM experience, naval aviation also undertook measures to improve its command, control, and communications arrangements so that it could operate more freely with other joint air assets within the framework of an ATO. Those measures most notably included gaining the long-needed ability to receive the daily ATO aboard ship electronically.

Finally, in the realm of doctrine, the Navy began to accept the value of strategic air campaigns and the idea that naval air forces must become more influential players in them. As Admiral Owens noted as early as 1995, "the issue facing the nation's naval forces is not whether strategic bombardment theory is absolutely correct; it is how best to contribute to successful strategic bombardment campaigns."[11] In a major move to formalize this new thinking, the Navy and Marine Corps on 28 September 1992 promulgated a fundamentally new strategy for the naval establishment in a white paper called . . . *From the Sea*.[12] That new mission orientation put the main emphasis on power projection and explicitly envisioned naval forces as working jointly with both Air Force and Army elements to control events ashore. Importantly in this respect, Admiral Owens later stressed that "naval aviation must see itself as a component part of the full air power the nation can bring to bear on military problems, especially in support of land and air campaigns."[13]

There were notable changes as well in naval aviation tactics, techniques, and procedures to make the nation's sea-based strike fighters more compatible with the needs of joint warfare. After DESERT STORM, naval aviation's emphasis

* LANTIRN is an acronym for "low-altitude navigation and targeting infrared for night."

shifted from air superiority and battle-group defense to multimission operations against heavily defended targets ashore. Although the air-to-air skill set was retained, the focus of naval fighter training in the 1990s took a pronounced swing toward ground-attack operations, with a predominant stress on day and night precision strike. The effect of these improvements in equipment, doctrine, and concepts of operations was to transform carrier-based air power from a force configured mainly for sea control to one able to exploit sea control as a basis for enabling and participating in joint strike operations ashore.

To be sure, despite these nascent trends toward more harmonious cooperation in joint strike warfare, a number of disconnects between the Navy and Air Force persisted throughout the 1990s. One recurring manifestation of the cultural divide that still separated the two services in air warfare came in the form of continued expressions of Navy discomfiture over the Air Force–inspired ATO and the way in which, at least in the view of many naval aviators, it sometimes made less than the best use of the nation's increasingly capable carrier-based strike forces. Ever since their first exposure to operating in an ATO context during DESERT STORM, naval aviators had been inclined to chafe, sometimes quite insistently, at the alleged rigidity of that document and at its perceived insensitivity to certain unique features of sea-based air power, such as the inescapable operating requirements and limitations imposed by the carrier deck cycle.

During the Cold War a pronounced culture divide separated the Air Force and naval aviation in the strike-warfare arena.

This persistent Navy discontent with the air tasking process, which was almost exclusively a mission-management artifact of the Air Force, was especially apparent during the contingency-response operations that were conducted by the Navy's carrier air wings, in conjunction with Air Force and allied air assets, over the Balkans in the 1990s. After the first of those early joint evolutions, Operation DELIBERATE FORCE, ended in success, there were recurrent expressions of Navy dissatisfaction over the Air Force's centralized control of mission tasking, especially with respect to the air tasking message (ATM), which specified munition types to be used against particular targets and numerous other mission particulars.

Some of those complaints merely reflected a less than full understanding of the air tasking process and what lay behind it. Most of them, moreover, would have been voiced under just about any alternative mission-management arrangements as well. Often overlooked was the fact that NATO operations over the former Yugoslavia were highly constrained exercises in force employment, in which it was not possible for CAOC planners to make optimal use of *any* air assets, Navy or any other. In those cases, the ATM often provided a convenient

lightning rod for Navy complaints that were actually prompted by severe operating limitations imposed by U.S. political leaders in the interest of avoiding fratricide, collateral damage, noncombatant civilian casualties, or other violations of standing rules of engagement, with the intent both to reassure reluctant NATO allies and to prevent tactical mistakes from producing undesirable strategic consequences.

In all, the single most influential factor in bringing the two services together during the 1990s was the nation's ten-year experience of operations NORTHERN WATCH and SOUTHERN WATCH, in which both Air Force land-based fighters and Navy carrier-based fighters jointly enforced the United Nations–imposed no-fly zones over northern and southern Iraq that had been first put into effect shortly after DESERT STORM. That prolonged aerial policing function proved to be a real-world operations laboratory for the two services, and over time it was the main crucible in which their integration in strike warfare was forged. By conscious choice, both services sent their best tacticians and intelligence officers to serve temporary-duty assignments in the supporting CAOCs in Turkey and Saudi Arabia, working together in the joint planning and execution of those nonstop air operations over Iraq. Their working relations became more and more transparent and seamless. Viewed in hindsight, this convergence was not just a result of the Navy's need to acquire the wherewithal for remaining relevant in joint warfare but even more a direct outgrowth of conscious leadership determination in *both* services, based in considerable part on steadily evolved mutual trust relations, to move toward a more common operating culture when it came to coordinated joint-force execution.

A CONVERGENCE OF INTEGRATION OVER AFGHANISTAN

The terrorist attacks carried out against the United States on September 11, 2001, levied upon the nation a demand for a deep-strike capability in the remotest part of Southwest Asia, where the United States maintained virtually no access to forward land bases. That unusual demand required the Navy's carrier force to provide the bulk of strike-fighter participation in the joint air war over Afghanistan that ensued soon thereafter.[14] To be sure, Air Force heavy bombers also played a prominent part in that air-centric campaign, code-named Operation ENDURING FREEDOM. Nevertheless, carrier-based aviation operating from stations in the north Arabian Sea substituted almost entirely for what would have been a far larger complement of land-based strike fighters in other circumstances, because of an absence of suitable forward operating locations close enough to the war zone to make the large-scale use of the latter practicable.

Between 7 October, when ENDURING FREEDOM began, and 23 December, when the major combat phase ended with the rout of the ruling Taliban, some

6,500 strike sorties were flown by CENTCOM altogether. Navy fighters accounted for 4,900 of the strike sorties flown during that period, 75 percent of the total. For its part, although the Air Force flew only a quarter of the strike missions, its aircraft dropped 12,900 munitions, adding up to more than 70 percent of the total. The heavy B-52s and B-1s flew only 10 percent of the total strike missions, yet they delivered 11,500 of the 17,500 munitions, accounting for 65 percent of the total and 89 percent of all the munitions dropped by the Air Force.[15]

Much energy was wasted during the war's early aftermath in parochial fencing between some Air Force and Navy partisans over which service deserved credit for having done the heavier lifting in ENDURING FREEDOM, with Air Force advocates pointing to the preponderance of munitions and overall tonnage dropped by that service and Navy proponents countering that it had been carrier-based aircraft, in the end, that had flown the overwhelming majority of combat sorties and that had performed nearly all of the "true" precision LGB attacks. That contretemps was entirely unhelpful to a proper understanding of what integrated Air Force and Navy strike operations had actually done to produce such a quick and lopsided win over the Taliban and al Qaeda. True enough, Air Force F-15Es and F-16s operating out of the Persian Gulf flew only a small percentage of the overall number of fighter missions conducted in ENDURING FREEDOM. Yet Air Force B-1 and B-2 bombers, with very few exceptions, dropped nothing but satellite-aided precision munitions of various types, and Air Force B-52s dropped large numbers of accurate Joint Direct Attack Munitions (JDAMs), in addition to unguided Mark 82 five-hundred-pound general-purpose bombs. It accordingly is a toss-up as to which service predominated in the precision-strike arena. Arguing over whether Navy or Air Force air power had been more important in achieving the successful outcome of ENDURING FREEDOM is on a par with arguing over which blade in a pair of scissors is more important in cutting paper.

The fact is that, for the first time in the history of joint warfare, Operation ENDURING FREEDOM showed real synergies in Air Force and Navy conduct of integrated strike operations. Navy fighters escorted Air Force bombers into Afghan airspace until assured allied air supremacy was established. For its part, the Air Force, along with the United Kingdom's Royal Air Force (RAF), provided roughly 80 percent of the tanker support that allowed Navy carrier-based fighters to reach central and northern Afghanistan. That support, in turn, enabled sea-based strikes far beyond littoral limits as well as a sustained carrier-based strike-fighter presence over remote target areas for hours, if needed, for on-call strikes on time-sensitive targets.

In addition, for the first time naval aviators found themselves occupying key CAOC positions, ranging from the deputy combined-force air component

commander (CFACC), then–rear admiral David Nichols, on down. These positions included that of the night CAOC director; the night guidance, apportionment, and targeting cell director; and codirectors or principal deputies for all key CAOC divisions (strategy, combat plans, combat operations, and ISR*).[16] In hindsight, two knowledgeable commentators on the evolution of the Air Force–Navy relationship since DESERT STORM were more than a little prescient in having predicted, on the very eve of the September 11th attacks, that the coming year would witness "a triumph of the synergistic view of jointness . . . where the Navy and Air Force are concerned," and in turn a "closing of a promise-reality gap" that would yield "effects-based capabilities that are good for our regional commanders in chief and right for our nation."[17]

FURTHER CONVERGENCE IN OPERATION IRAQI FREEDOM

If the air war over Afghanistan was tailor made for integrated Air Force and Navy strike operations, the three-week campaign a year later to topple Saddam Hussein would prove to be no less so. During that second campaign's unpreplanned opening night on 19 March 2003, in response to what President George W. Bush and his principal deputies believed at the time to have been solid last-minute intelligence reporting that Hussein and his two sons were meeting at a certain location in the Baghdad suburbs, Navy EA-6Bs provided electronic jamming support for Air Force F-15Es and RAF Tornado GR4s. The latter opened a penetration corridor for the two Air Force F-117 stealth attack aircraft that led the ultimately unsuccessful decapitation attempt, followed shortly thereafter by forty Navy theater land-attack missiles fired against the suspected meeting site. As had been true in operations ALLIED FORCE and ENDURING FREEDOM, the availability of Navy EA-6B jamming support was an ironclad go/no-go criterion for all IRAQI FREEDOM strike missions, including those that involved stealthy Air Force B-2s and F-117s.

Later the next morning, when the Iraqis fired several theater ballistic missiles at Kuwait in a response to the initial U.S. attack, the Navy's USS *Higgins* (DDG 76), a guided-missile destroyer on station in the north Arabian Gulf, transmitted launch-point information to the CAOC, which in turn targeted two Air Force F-16s that geolocated and destroyed the Iraqi missile launchers. Similarly, Air Force B-1 bombers used their onboard moving-target-indicator radar in an ISR role to geolocate time-sensitive targets and transmit their coordinates to Navy strikers. Several days later, the Air Force E-8 Joint Surveillance Target Attack Radar System (JSTARS) aircraft was used as a dynamic retasking tool to direct and redirect Navy strike aircraft during a three-day sandstorm that occurred during the campaign's first week, as was a pair of Air Force RC-135 Rivet Joint aircraft

* ISR: intelligence, surveillance, and reconnaissance.

when Navy satellite-aided JDAMs were needed to replace LGBs that would not function to their fullest potentials during the sandstorm. Once the sandstorm abated, Air Force RQ-1 Predator unmanned aerial vehicles provided accurate target geolocation for Navy JDAM strikes. Air Force Special Operations Command joint terminal attack controllers on the ground also provided updated target coordinates for Navy JDAM attacks.

Operation IRAQI FREEDOM also set a new record for close Navy involvement in the high-level planning and conduct of joint air operations. As the deputy CFACC once again, Rear Admiral Nichols was not just the "senior naval representative" in the CAOC but the alter ego, to all intents and purposes, to the Air Force CFACC, then–lieutenant general T. Michael Moseley, when it came to commanding and managing the air war. In addition, alternating with Colonel Douglas Erlenbusch of the Air Force, Captain Russell Penniman of the Navy was codirector of the combat plans division, which did all of the target analysis and weaponeering.[18] Captain (now Rear Admiral) William Gortney was the naval air liaison coordinator. That representation and more stood in stark contrast to the Navy's less gratifying experience twelve years before during DESERT STORM, when the overwhelming majority of the targeting cell's staff had been Air Force officers, its Navy members both too few in number and far too junior in rank to influence the day-to-day decision making.

In sum, Operation IRAQI FREEDOM was a true joint-service effort involving wholly integrated Air Force and Navy strike operations. In the apt words of two historians writing an early synopsis of the war, that effort saw "little of the petty parochialism that too often marks interservice relations within the [Washington] Beltway."[19] Speaking as the combined-force maritime component coordinator for IRAQI FREEDOM, Admiral Timothy Keating characterized the operational payoff of all this as "joint warfighting at the highest form of the art I'd ever seen. . . . There was understanding, friendship, familiarity, and trust among all the services and special forces working for [Army] General [Tommy] Franks [the overall joint-force commander for the three-week campaign]. He did, in my view, a remarkable job of engendering that friendship, camaraderie, and trust. In fact, he insisted on it. . . . There was no service equity infighting—zero."[20]

EMERGENT TRENDS IN AIR FORCE–NAVY INTEGRATION

The performance of Air Force and Navy strike assets in the first two American wars of the twenty-first century bore ample witness to the giant strides that have been made in the integration of the two services' air-warfare repertoires since DESERT STORM. The two wars saw naval aviation fully integrated into the joint and combined air operations that largely enabled the successful outcomes in each case. They also showed increased Air Force and Navy acceptance of effects-based

thinking and planning, as well as a common use of the joint mission-planning tools that the Air Force had refined during the decade after DESERT STORM. As attested by the Navy's experiences in both ENDURING FREEDOM and IRAQI FREEDOM, the CAOC-generated air tasking order is now disseminated electronically to carrier strike groups in an easily usable form and is updated hourly for each carrier via secure e-mail. Moreover, prompted by the experiences of ENDURING FREEDOM and IRAQI FREEDOM, prospective carrier air-wing commanders and other rising naval aviation leaders now routinely spend upward of a hundred days forward deployed in the Central Command Air Forces' new combined air operations center at Al Udeid Air Base in Qatar for operational-planning familiarization in senior CAOC staff assignments before assuming their new command responsibilities. They also routinely attend the Air Force's strike planning course at Hurlburt Field, Florida, and later, having moved on to postcommand billets, its week-long CFACC course at Maxwell Air Force Base, Alabama.

This convergence was not just a matter of the Navy's accommodating to the Air Force by seeking ways to work more easily with the latter's ingrained practices. At about the time that CENTCOM was gearing up for the major combat phase of IRAQI FREEDOM, the Air Force chief of staff, General John Jumper, frankly conceded that some criticism of the ATO process had a legitimate basis. Said General Jumper: "We take a rap in the Air Force about having a 72-hour ATO cycle. . . . It is really not true. It's the planning cycle that is 72 hours. The execution cycle can be instantaneous." However, he went on to note, "There is a point to that argument. . . . You go into an AOC [air operations center] today, and what will you see? Tribal representatives sitting down in front of tribal workstations, interpreting tribal hieroglyphics to the rest of us who are on watch. And then what happens? They stand up and walk over to another tribal representative, and reveal their hieroglyphics, which are translated by the other tribe into its own hieroglyphics and entered into its own workstation."[21] His point was a need for tighter horizontal integration of command and control both within each service and across service lines in the interest of shortening the sensor-to-shooter connection.

In this regard, with the advent of the global command-and-control system, Link 16, and related cross-service connectivity improvements, the prospect has finally emerged of joint operations by the two services that entail what two early commentators on air-naval integration called "true interoperability, functional integration, and order-of-magnitude improvement in capability."[22] This welcome prospect has arisen in part from the Navy's development of cooperative engagement capability (CEC) during the waning years of the Cold War. Responding to the stress in that period on space-based surveillance and to the need to be capable of reacting to a common operating picture, CEC laid down the

needed groundwork for closer operational convergence of the Navy with the Air Force. As early as 1993, the Navy demonstrated cooperative engagement and its potential by linking the Commander in Chief, U.S. Atlantic Fleet, with the Air Force's Air Combat Command and the Army's Forces Command, and subsequently Fleet Marine Force, Atlantic as well. Thus were planted the seeds of a growing convergence by the Air Force with the Navy's concept of network-centric warfare. As the commander of Naval Air Systems Command remarked in 1999, "We have spent this whole decade concentrating on better interoperability. We learned a lesson in Desert Storm that we have to pay more attention to operating with our counterparts. . . . We must be able to communicate freely—both in planning and in operations—and many of the systems we have in development or deployed today are aimed specifically at improving that ability."[23]

The fruits of integration were finally realized over Afghanistan in late 2001 and further clinched by the all but seamless joint combat performance in Operation IRAQI FREEDOM.

As a result of these developments, the second Gulf War, in 2003, featured a more closely linked U.S. force than ever before. As one CENTCOM staffer put it, "everything that had a sensor was connected."[24] To note a representative example, the aircraft carrier USS *Abraham Lincoln* had a joint "fires" network and CEC system that allowed strike-group participants to share radar information and fire missiles on the basis of off-board information provided by other ships in the battle group. This capability was expanded with the arrival of the carrier USS *Nimitz* and the first Navy E-2C Hawkeye aircraft equipped with the system. The joint fires network allowed carriers to receive imagery from airborne platforms and signals intelligence from the Air Force's RC-135 Rivet Joint. Similarly, the Multifunction Information Distribution System, a nodeless and secure, Link 16–based, jam-resistant tactical data link, also made a major difference, by enabling enhanced interoperability with other joint and multinational platforms equipped with that capability.[25]

As for other signs of progress toward greater cross-service integration in strike warfare, there have been steady improvements in joint operations and training between the Air Force and Navy since American combat involvement in Vietnam ended more than three decades ago. For years, naval aviators have routinely taken part in the Air Force's recurrent RED FLAG, a realistic large-force employment training exercise that began in late 1975 and continues to be conducted roughly six times a year on the instrumented range complex north of Nellis Air Force Base, Nevada. Also, the Air Force's and Navy's undergraduate pilot training (UPT) programs are now fully integrated, with Air Force officers commanding Navy primary UPT squadrons and vice versa. The two services

continue as well to provide exchange officers to each other's line squadrons and flight-test units on a regular basis; a Navy lieutenant commander, for instance, was recently assigned to fly the F-22A Raptor fifth-generation Air Force fighter with the 422nd Test and Evaluation Squadron at Nellis. In addition, Navy E-2C crew members regularly fly aboard the Air Force's E-3 AWACS* whenever there is an operational need for their presence at the console. Similarly, ever since the Air Force retired its EF-111 electronic-warfare aircraft, not long after DESERT STORM, Air Force aircrews have routinely been assigned to full tours of duty with the Navy's EA-6B shore-based expeditionary squadrons.

Furthermore, there have been recurrent cross-communication and cross-fertilization between the Air Force's and Navy's weapons schools in an instructor exchange program that has experienced ups and downs since its inception during the late 1970s. During the late 1980s and early 1990s, when the Air Force Weapons School produced three classes per year, the instructor exchange was a standard, twice-yearly exercise. However, when the Air Force Weapons School went to two classes a year and the Navy's TOPGUN program moved from Naval Air Station Miramar, California, to NAS Fallon, Nevada, those initial exchanges began to die on the vine. There was none from 1999 until the most recent commander of the Air Force Weapons School's F-15C Division pressed hard to re-establish the program, the first renewed exchange taking place in June 2006. The exchange was adjudged by all participants to have been a great success, with useful and important lessons learned by both sides. Thanks to that success, a repeat performance was scheduled for June 2007, the F-15C Division's commander having arranged to host a TOPGUN deployment to Nellis to keep a resurgent yearly exchange program going.[26]

Perhaps most constructively of all, the two services continue to bring their respective forces and combat-support assets together in a variety of joint training and experimentation exercises aimed at further honing their interoperability and extracting the most from their synergistic potential in effective strike operations. One such recent exercise brought Air Force and Navy air assets together in the Alaskan operating environment in a scenario that focused on homeland security and entailed military responses to a range of simulated natural disasters and terrorist events. That exercise, the 2005 iteration of the annual NORTHERN EDGE series, featured the involvement of both a Navy surface maritime action group and Air Force, Navy, and Coast Guard aircraft, which took part in various at-sea deterrence and defense operations over five days. Significantly, during this evolution, the Navy exercised for the first time tactical control of an Air Force AWACS in a maritime-operations scenario, and the participating Air Force F-15Es

* AWACS: Airborne Warning and Control System.

were controlled by the guided-missile destroyer USS *Russell* (DDG 59). After the exercise ended, the maritime action group commander, Captain Vic Mercado, reported that "the coordinated joint surveillance resulting in the call for a show-of-force by the [Air Force] fighters was a highlight for the maritime operations, because it demonstrated a key exercise objective of cooperation and interoperability among the services for homeland defense."[27]

Most recently, joint Air Force and Navy involvement in realistic large-force training in a maritime setting occurred during Exercise VALIANT SHIELD '06, a five-day evolution conducted in the vicinity of Guam from 19 to 24 June 2006. Admiral Gary Roughead, USN, then commander of U.S. Pacific Fleet, served as joint force commander for the exercise, with Lieutenant General David Deptula, commander of U.S. Pacific Command Air Forces' Kenney Warfighting Headquarters at Hickam Air Force Base, Hawaii, as his joint-force air component commander (JFACC) and Rear Admiral Mark Emerson, commander of the Naval Strike and Air Warfare Center at Fallon, assigned as deputy JFACC. VALIANT SHIELD involved the participation of some twenty-two thousand personnel, 280 aircraft, and thirty ships, including the aircraft carriers *Kitty Hawk, Abraham Lincoln,* and *Ronald Reagan* and their respective air wings. The largest military exercise conducted in Pacific waters since the Vietnam War, it represented the first installment of what will become a regular biennial exercise series involving various U.S. service branches and communities.

After the exercise ended, with nearly two thousand sorties having been flown by all participating aircraft, General Deptula characterized it as "an opportunity to interface large numbers of [American] air and sea forces together in a unique environment and to work out some of what we call frictions. . . . You find out things that might not go as you would have anticipated or planned. These types of exercises allow us to work out those challenges in advance." On the synergy that was sought and achieved during the course of the joint-force exercise, he added: "We're not interested in what Navy or Air Force airplanes are doing separately. We take the approach that air power is air power, and we're interested in ensuring [that] we take a unified stance in working those assets together with our sea-based assets in achieving the commander's overall objectives."[28]

A NEW SYNERGY OF LAND- AND SEA-BASED STRIKE WARFARE

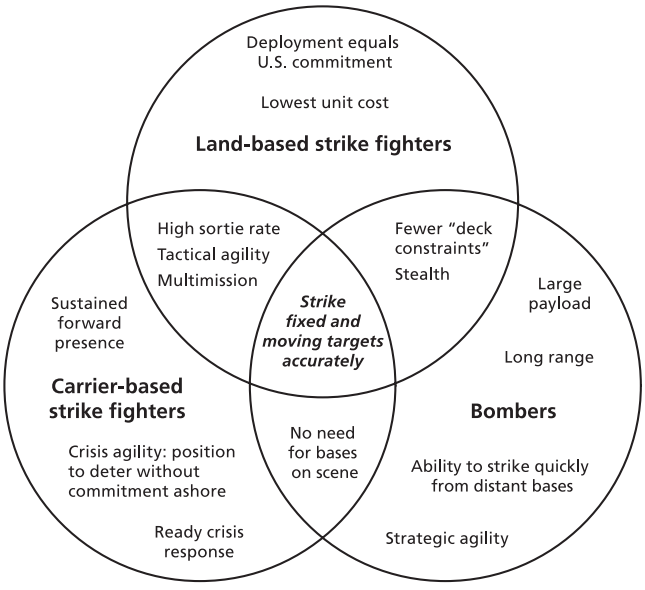
The unprecedentedly close integration of Air Force and Navy strike operations during the first two American wars of the twenty-first century handily confirmed the observation of a respected ship-design specialist when he wrote in 1998 that "carrier-based and land-based tactical aircraft, as well as the CONUS [continental United States]-based Air Force bomber force, are intertwined in their support of each other."[29] To be sure, the two services have long paid lip service to

their mutually reinforcing potential in their declaratory rhetoric. Yet in the increasingly competitive annual budget battles within the Pentagon, the strike-warfare components of the Air Force and Navy have all too often appeared as though they were mainly devoted to putting each other out of business.

The real-world experience described above, however, strongly suggests that when it comes to the crucial matter of integrated strike-warfare operations, the two services are, and should duly regard one another as, natural allies in the roles and resources arena. They did not compete with each other in Operation ENDURING FREEDOM or IRAQI FREEDOM but rather supported one another in the successful pursuit of joint campaign objectives. Indeed, when viewed from an operational rather than a bureaucratic perspective, the Air Force's and Navy's long-standing involvement in air-delivered conventional force projection are complementary rather than competitive in the service of joint force commanders; land-based bombers and fighters and carrier-based fighters are not duplicative and redundant but rather offer overlapping and mutually reinforcing as well as unique capabilities for conducting joint strike warfare (see the Venn diagram, which captures this unique interrelationship).[30]

For example, Air Force long-range bombers can penetrate deeper beyond littoral reaches than can carrier-based strike fighters supported solely by organic tanking. They also can launch directly from their home bases in the United States, if no carrier strike group is positioned within immediate reach of a designated target area. Unlike bombers, however, carrier air power can provide a sustained presence as long as may be required over a target area once it is in place and provided with the requisite nonorganic tanker support. The greatest liability of aircraft carriers for immediate crisis response is that they may not be close enough on short notice to where they are most needed. In sharp contrast, the greatest advantage of long-range bombers is that they can be over a target complex anywhere in the world within twenty hours of takeoff. The downside for bombers, however, is that they cannot loiter for long or regenerate striking power

ATTRIBUTES OF DIFFERENT FORMS OF AIR POWER



Source: Reproduced from Benjamin S. Lambeth *Combat Pair: The Evolution of Air Force–Navy Integration in Strike Warfare,* MG-655-AF (Santa Monica, Calif.: RAND Corporation, 2007), pp. xi, 83.

once their munitions have been expended, whereas carriers—especially with more than one on station—can offer persistence once they are in place.

Therein lies the synergy offered by Air Force bombers and land-based fighters and Navy carrier air wings when employed in an integrated fashion, as was amply demonstrated over Afghanistan and Iraq during the first two American wars following the terrorist attacks of September 11, 2001. As one commentator noted in this regard long before those two wars bore compelling witness to his observation, "bombers are quick to respond over vast distances to deliver very large bomb loads to an increasing variety of targets, but they are not as responsive to quick-turnaround requirements. Carrier air provides a visible presence and does not need anyone's permission to 'be there,' but has limited assets and potentially long deployment times. Theater-based attack air has the potential to provide quick turnaround in high numbers and can deploy relatively quickly but is dependent on a dwindling number of forward bases. In short, each element has strengths and weaknesses. To shortchange any one area is to hamstring the nation's ability to protect its global interests."[31]

One area in particular in which land-based and sea-based air power has a symbiotic relationship that warrants further nurturing has to do with nonorganic in-flight refueling. As was shown during operations ENDURING FREEDOM and IRAQI FREEDOM, the participating Navy carrier air wings plainly needed the support of long-range Air Force and allied tankers to generate mission-effective sorties on a sustained basis. Yet the tankers also needed the protective screening against potential enemy threats that was offered by Navy fighters in a situation in which land-based fighters were unavailable in sufficient numbers due to the lack of adequate regional basing. For his part, especially in the case of Operation ENDURING FREEDOM over remote Afghanistan, the air component commander needed *both* force elements in order for the nation's air weapon to offer its greatest contribution to joint warfare, a fact that bore out the observation of one Air Force advocate almost a decade before that "there is a place on the team for *all* the nation's land, sea, air, and space forces," with the only real question being one of appropriate mix and affordability.[32]

In both wars, to sum up, each service brought a needed comparative advantage to the fight. In the case of ENDURING FREEDOM, Air Force bombers flew only around 10 percent of the total number of combat sorties but dropped roughly 80 percent of the ordnance, including the preponderant number of satellite-aided JDAMs. For its part, although the Navy needed the support of Air Force tankers to be mission effective, its sea-based strike fighters operating off the coast of Pakistan from the north Arabian Sea provided an essential combat capability in a part of the world where the Air Force both lacked the needed access to operate its fighters most efficiently and remained limited in the number

of fighter sorties it could generate even after it finally achieved its needed access. The reason for the latter was the substantially greater distances to Afghanistan from forward land bases in the Persian Gulf that demanded fighter missions lasting as long as fifteen hours, which were unsustainable by the Air Force over the long haul.

In both cases, carrier air power, long-range bombers, land-based tankers, and land-based fighters were all eventually available and ready for CFACC tasking when the time came, and all four force elements were crucial to the timely achievement of the joint-force commander's declared objectives. Rather than continuing to engage in pointless either-or arguments over carrier versus land-based air power that miss this overarching point, Air Force and Navy proponents should instead be using their recent combat experience as a model for seeking ways, as one writer put it over a decade ago, to "enhance the synergy of the air power triad of long-range projection forces" consisting of bombers, land-based fighters, and sea-based fighters that, taken together, make up the nation's overall air power equation.[33] The former commander of Naval Air Force, U.S. Atlantic Fleet, Vice Admiral John Mazach, gave clear voice to this critically important point when he reflected after the Afghan air war: "Rather than pitting one variant of air power against the other, . . . Enduring Freedom convincingly demonstrated that such 20th-century interservice rivalries have no place in the 21st-century U.S. warfighting establishment. The operation was remarkable for its degree of seamless interoperability between the U.S. Air Force and the Navy–Marine Corps team's sea-based aviation. . . . In short, aircraft carriers and [land-based] bombers should not be viewed as competitors for resources, but as partners able to leverage unique synergies on the modern battlefield."[34]

FUTURE CHALLENGES AND OPPORTUNITIES

Air Force and Navy integration in aerial strike warfare has shown remarkable progress in the nearly two decades since DESERT STORM, when such integration could be fairly said to have been all but nonexistent. By the frank admission of key participants in both services, that process still has a way to go before it can be rightly described as having fully matured. Nevertheless, there can be no doubt that the strike-warfare arena is now by far the most developed area of force integration in the nation's joint-operations repertoire. Indeed, one can safely say that it has now progressed to a point where it can be showcased as an object lesson in the sorts of closer integration that can be successfully pursued by the Air Force and Navy in other mission areas where the air and maritime operating mediums intersect, as well as by the Air Force and Army, for that matter, when it comes to joint air-land operations.[35]

As for still-unresolved issue areas between the two services where further work can be done in the interest of closer Air Force–Navy integration, senior leaders in each service have often cited continued communications shortcomings as one important problem area in need of further attention. Within that arena, bandwidth limitations remain, by all accounts, a major constraint on the implementation of many good-in-principle ideas in the realm of C4ISR integration that could bring the services more closely together as a joint warfighting team. One step toward a possible resolution, in the views of both Air Force and naval warfighters, would be a dynamic bandwidth management system that automatically prioritizes incoming messages.

Another persistent sore spot between the Air Force and Navy, at least from the Navy's perspective, has to do with a rapidly looming problem in the electronic-attack mission area. When the Air Force decided to retire its twenty-four aging EF-111 Raven electronic jammer aircraft not long after DESERT STORM, primarily because of excessive upkeep costs, the Navy and Marine Corps picked up the tactical electronic-attack mission with their now greatly overworked EA-6B Prowlers, with the result that those aircraft became, to all intents and purposes, high-demand/low-density national assets. That arrangement has, by and large, worked satisfactorily until now, but the EA-6Bs are rapidly running out of service life, the first replacement EA-18G Growlers will not enter fleet service until 2009 at the earliest, and the interservice memorandum of agreement that made the Navy the lead service in the provision of standoff jamming after DESERT STORM expires in 2011. Accordingly, senior naval aviation leaders insist that the Air Force will soon have to decide, conjointly with the Navy, what it intends to do by way of proceeding with timely gap-filler measures.[36]

Still other possible joint ventures worth exploring in the training arena by the Air Force and Navy might include

- More recurrent exercises between the two services, to include greater Air Force involvement in Navy carrier air-wing predeployment workups at Naval Air Station Fallon and more Navy participation in Air Force RED FLAG and other large-force training evolutions, as instruments for spotlighting persistent cross-service friction points
- Greater joint reliance on distributed mission simulation, which will entail high buy-in costs but can offer substantial long-term payoffs as fuel and associated training costs continue to soar
- A more holistic look at the joint use of training ranges, perhaps with a view toward ultimately evolving to a truly national range complex

- More comprehensive joint use of realistic adversary threats in training, not only in air but also in space and cyberspace operations
- Extending integrated air-warfare training to the surface and subsurface Navy
- Enlisting the real-time involvement of air operations centers worldwide.

Many such initiatives are already being cooperatively pursued, or at least carefully considered, by the Air Force Warfare Center at Nellis Air Force Base and the Naval Strike and Air Warfare Center at Naval Air Station Fallon, Nevada, with the primary limiting factor being insufficient funds to support them.

As for additional areas of possible closer Air Force and Navy cooperation that pertain more to investments in equipment and hardware capability, the two services could usefully consider

- Continued pursuit of ways of bringing their connectivity systems into closer horizontal integration
- Greater attention to exploiting the promise of new electronic-warfare means in joint warfare
- Getting the greatest operational leverage for the least cost out of the high-commonality F-35 multirole combat aircraft that both services will be acquiring in the coming decade
- Further coordination in setting agreed integration priorities.

Finally, in the studies and analysis arena, one potentially high-payoff initiative that would cost essentially nothing beyond a determined Air Force and Navy effort to devote the right talent to it would be a careful review of any and all archived aircrew mission reports and other records associated with past training exercises and actual contingency-response operations since DESERT STORM in search of any friction points that may still be in need of cooperative attention and correction by both services.

Even with this much room remaining for further progress, however, the overall record of Air Force and Navy accomplishment in integrated air-warfare planning stands as a resounding good-news story that is a credit to each service both separately and together. As such, it offers a role model for what can be done along similar lines elsewhere, not just in the interface between air and maritime operations, but even more so in the still-troubled relationship between the Air Force and Army when it comes to the most efficient conduct of joint air-land warfare. Furthermore, the operational integration described above had to overcome multiple barriers and the most deeply ingrained resistance to change in both services. The fact that organizations, especially military organizations, tend to resist rather than

embrace change makes the history and experience described above all the more remarkable.

More encouraging yet, thanks to the guiding role played by individuals in both services with the right focus and a determination to act on it, there is now a well-ensconced successor generation in place in both the Air Force and the Navy who grew up as line aircrew members during the formative years of this integration process. Those individuals have since migrated through such midlevel positions as CAOC night coordinators, combat plans and operations staffers, and strategy division principals to the more senior flag ranks and positions that will help them ensure that the strike-warfare communities in both services continue to pursue an increasingly common operational culture. Today, such commonality of purpose at the operational and tactical levels has become more important than ever as the nation finds itself increasingly reliant on the combined-arms potential that is now available in principle to all services for continuing to prosecute counterinsurgency and counterterrorist operations, while hedging also against future peer or near-peer competitors at a time of almost unprecedented lows in annual spending for force modernization.

NOTES

This article is extracted and adapted from the author's recent RAND study *Combat Pair: The Evolution of Air Force–Navy Integration in Strike Warfare,* MG-655-AF (Santa Monica, Calif.: RAND Corporation, 2007).

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Naval War College Review, Winter 2008, Vol. 61, No. 1

"A STRIKING THING"

Leadership, Strategic Communications, and Roosevelt's Great White Fleet

James R. Holmes

The voyage of the U.S. Navy's "Great White Fleet" constituted an exercise in personal leadership on the part of President Theodore Roosevelt and in international leadership on the part of a United States announcing its arrival as a world power. Sixteen battleships, eight armored cruisers, six torpedo-boat destroyers, and associated auxiliaries steamed out of Hampton Roads in December 1907, embarking on a world cruise.[1] The fleet rounded South America before standing out across the Pacific, stopping at a variety of ports of call along the way. It passed through Malacca, the Bab el Mandeb, Suez, and Gibraltar before returning home through the Atlantic. The vessels entered harbor in early 1909, allowing "TR" to conclude his presidency on a triumphant note.[2]

The voyage was "a striking thing," to borrow the president's words, in more ways than one. The armada, the largest ever to attempt to circumnavigate the globe, demonstrated an unprecedented naval capability, defying military experts who pronounced such a feat of seamanship impossible. While at sea, the ships' crews honed their tactical proficiency, conducting gunnery practice and other exercises. While in port, they performed an important diplomatic function. And their exploits fired imaginations back home—which was precisely TR's intent.[3]

Roosevelt advanced extravagant claims for the nautical enterprise he had superintended. "In my own judgment," he wrote in his autobiography, "the most important service I rendered to peace was the voyage of the battle fleet round the world." This is quite a statement, coming from a Nobel Peace Prize laureate.[4] TR maintained that the cruise had invigorated the American national character,

renewing Americans' enthusiasm for seafaring pursuits, and that it had done so while encouraging sea powers to police their geographic environs and discouraging them from imperial adventures in Asia and the New World.

It is worth revisiting this venture in American diplomatic and naval history now, precisely a century hence, when the U.S. Navy is again fashioning a maritime strategy predicated on American leadership. To gain some analytical purchase, I briefly review James MacGregor Burns's theory of leadership. I introduce the concept of "strategic communications," observing that the ability to persuade domestic and foreign audiences is essential to each mode of leadership Burns identifies. I then apply these concepts to the historical record, evaluating the accomplishments TR asserted for the Great White Fleet in his autobiography. My findings are at once of historical interest and of use for today's framers of maritime strategy.

Despite his reputation for bombast, TR executed his diplomatic duties with discretion, taking seriously the "speak softly" element of the West African proverb that inspired his "big stick" philosophy. His approach combined unbending resolve on matters of principle with compromise on less critical matters, leavening diplomatic discourses with tact and good humor.[5] Wielded deftly, seagoing forces clearly make a useful instrument for this sort of statesmanship, beyond their primary mission of waging war at sea. It behooves naval leaders to understand how basic tenets of leadership pertain to maritime strategy—now, as in Roosevelt's day.

JAMES MACGREGOR BURNS AND MARITIME LEADERSHIP

Leadership is normally thought of as an individual quality. This is especially so when considering a figure like Theodore Roosevelt, whose larger-than-life personality tends to overshadow his policy accomplishments. Most studies of leadership strive to explain how statesmen, soldiers, businessmen, and other individual leaders inspire their followers, vectoring their energies toward desired ends. Lists of individual traits, coupled with tactics successful leaders purportedly employ, constitute the norm in such studies, many of which have the feel of how-to manuals. In his classic work on leadership, by contrast, Burns proffers a richer working definition of this elusive quality: "Leadership over human beings is exercised when persons with certain motives and purposes mobilize, in combination or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers."[6]

Burns divides leadership into two broad categories: "transactional" and "transformational." For him, transactional leadership involves exchanging "goods or services or other things in order to realize independent objectives."[7] There is clearly a strong material aspect to leadership. Self-interest counts.

More interesting—and just as relevant to Roosevelt and the expedition of the Great White Fleet—is transformational leadership. A common assumption about leadership is that leaders lead, followers follow.[8] This imputes a certain passiveness to subordinates in an institution or group. Defying such assumptions, Burns posits an interactive dynamic between leaders and the led, presupposing a real or latent community of motives and values that leaders can tap. Whereas transactional leadership, exercised honorably and fairly, can help all parties to the transaction realize their material aspirations, transformational leadership "is more concerned with *end-values,* such as liberty, justice, equality. Transforming leaders 'raise' their followers up through levels of morality."[9]

An interactive relationship also implies that there are limits to leadership. People are not as malleable as many scholars of leadership suggest. From time to time TR ran up against these limits—notably in the bitter dispute over Japanese immigration, which at one point threatened to precipitate war—as he grudgingly conceded.[10] If public communications can tax the skills of American presidents, who enjoy a "bully pulpit" by virtue of their office, this is even more true in diplomacy, which by nature represents communication across national and cultural lines. Exerting political leadership is no simple prospect—but robust seagoing forces can help.

Theodore Roosevelt's maritime leadership incorporated the message that the United States was a worthy steward of certain universal ideals of good government.

While Roosevelt lacked James MacGregor Burns's vocabulary for discussing leadership, he likely would have accepted depiction of himself as a practitioner of transformational leadership. His writings and speeches are replete with exhortations to moral virtue, "true Americanism," and the "strenuous life" lived by those possessed of a martial spirit.[11] He regarded public office and the bully pulpit it affords as a medium for social uplift, presaging Burns's concept of instilling end-values. Also, while he would have taken a more skeptical view of transactional leadership, in light of his lifelong crusade against corruption and patronage, he probably would have acknowledged that offering public goods was central to effective leadership—both at home and abroad—provided such goods were bestowed in an aboveboard manner, accountable to the public.

For TR, combining transactional and transformational leadership was intrinsic to prudential statecraft—the art of promoting lofty ideals through pragmatic means, abiding by the limits of the possible. Burns's analysis can be carried a step farther. In the international domain, nations, like statesmen, can exercise transactional and transformational leadership.[12] A nation's capacity to do so, particularly in efforts at transformation, is in large measure a function of its leadership's skill at strategic communications.[13] This would have

been an uncontroversial notion for Roosevelt, who beseeched nations to follow the same standards—notably the Golden Rule—expected of individual citizens.[14]

RENEWING AMERICA'S SEAFARING ETHOS

Now, we turn to some specifics. What benefits accrued from dispatching the battle fleet around the world? "My prime purpose," declared TR, "was to impress the American people; and this purpose was fully achieved."[15] His confidant Alfred Thayer Mahan listed national character—a people's propensity for nautical endeavors—among his six attributes of sea power. Roosevelt heartily agreed, although he did not cite Mahan's works as authority for the healthful effects the world cruise would bring.[16] Much as the Founding Fathers had constructed a "usable past" to inspire the loyalties of Americans, binding the fractious new Republic together, TR hoped to create a new tradition that prized great sea power.[17]

That public sentiment was the propellant for seaborne pursuits must have seemed self-evident to President Roosevelt, concerned as he was with nurturing the national character. Turning America's gaze seaward was his uppermost concern in ordering the Great White Fleet to sea.

Nations too should behave virtuously. Roosevelt transposed his vision of individual virtue into the international realm, holding nations to the same standards as those governing ordinary citizens' conduct. The better-off in American society should work to improve the lot of those impoverished during the Industrial Revolution. Just as the doctrine of noblesse oblige enjoined individuals to exert themselves on behalf of the common good, so governments should maintain order while improving the health, welfare, and morals of the body politic. Also, just as he saw enlivening and channeling America's national character in the right direction as part of his writ in domestic statecraft—Progressive politics allowed the United States to claim its rightful place in the vanguard of "civilization"—he saw preserving and extending civilization as part of America's writ in diplomatic and military affairs.

The upshot: TR applied the same principles to both domestic and international affairs. Affirmed Elihu Root, his secretary of war and later his secretary of state, whom the president affectionately described as "the brutal friend to whom I pay the most attention":[18]

> The fundamental convictions of his political philosophy were in perfect accord with this way of treating international questions. Those convictions which he applied in practice to government and social organization were identical with the basis upon which the law of nations rests and must necessarily rest if it is to endure.[19]

To employ Burns's taxonomy of leadership, President Roosevelt's motives and purposes in ordering the fleet around the world included stimulating interest and

enthusiasm for sea power among an American populace that had long avoided foreign political entanglements, allowing its navy to atrophy. Roosevelt admitted his quest for sea power faced stiff political opposition, concentrated among influential newspapers and the remnants of the anti-imperialist movement—a movement led by the likes of Mark Twain and Andrew Carnegie—that had opposed annexing the Philippines.[20]

To overcome determined opposition, TR hoped to encourage and satisfy what he believed was Americans' innate propensity to the sea. He summoned up political and psychological resources. Transactional leadership played its part. Like Mahan, Roosevelt pointed out that sea power conferred tangible benefits, including not only the safety of American shores from foreign naval attack but also assured access to the international trade and commerce on which an economy wracked by depression—the 1893 crash was comparable to the Great Depression—seemed to depend. Mahan had depicted commerce, overseas bases, and merchant as well as military shipping as the "pillars" of sea power.[21] Self-interest beckoned America to the oceans after a century of apathy toward the republic's aquatic surroundings.

TR also put his bully pulpit to good use, giving his exercise of leadership strong transformational overtones. He appealed to Americans' sense of national mission as well as to their commercial and security interests. Elihu Root aptly described Roosevelt's approach to strategic communications toward domestic audiences. Root observed that what Roosevelt called "the peace of justice" rested on two grounds:[22] first, his conviction that "a very rich people incapable of defending its independence and its citizens against aggression" would tempt "some other nation of predatory instincts" to prey upon it, and second, his belief that

> no nation can exercise a helpful influence upon the development of civilization unless it commands the respect which follows from a recognition that its adherence to peaceful methods and its regard for the rights of others comes from power controlled by justice and not from weakness controlled by fear. The sending of the battleship fleet around the world was a gesture designed to strike the imagination of the nations including the United States with a conviction that this was the kind of judgment to which the United States was entitled.[23]

Theodore Roosevelt's effort at maritime leadership, then, incorporated the message not only that the United States was entitled to defend its own national interests—practitioners of realpolitik conceded this right to all nation-states—but also that it was a worthy steward of certain universal ideals of good government, namely, those embedded in his Progressive politics. The cruise of the Great White Fleet telegraphed this message to domestic audiences in vivid

terms, earning acclaim even from many staunch opponents of his assertive foreign policy.[24]

GIVING SUBSTANCE TO THE MONROE DOCTRINE

Impressing foreign peoples was likewise important, observed Roosevelt, and "positive achievement" was the best way to do so. The "two American achievements that really impressed foreign peoples during the first dozen years of this century [were] the digging of the Panama Canal and the cruise of the battle fleet around the world."[25] He might have added that conjoining these endeavors with a forceful interpretation of the Monroe Doctrine helped rouse popular support at home for an ambitious, maritime-intensive foreign policy.

In 1904, Roosevelt fashioned a "corollary" to the Monroe Doctrine.[26] When the Dominican Republic defaulted on its foreign debt and European intervention seemed imminent, TR informed Congress that "chronic wrongdoing" or "governmental impotence" preventing Caribbean governments from meeting their foreign obligations warranted preventive U.S. intervention.[27] The United States would forestall violations of the doctrine by stepping in itself. "If we are willing to let Germany or England act as the policeman of the Caribbean," proclaimed Roosevelt, "then we can afford not to interfere when gross wrongdoing occurs. But if we intend to say 'Hands Off' to the powers of Europe, then sooner or later we must keep order ourselves."[28]

He therefore claimed the right to deploy "an international police power" when governmental incompetence in the Caribbean basin threatened to leave American territory in the hands of European powers—especially Kaiser Wilhelm's Germany. In TR's day, a common practice among the great powers was to send warships to seize the customhouses of weak American governments that had refused or been unable to honor their foreign debts. Europeans would use these governments' tariff revenues—their chief source of income—to repay their aggrieved creditors. This left imperial powers in possession of American territory—territory that could be used to base warships. Roosevelt feared Europeans would use debt collection as an excuse to establish naval bases in the Caribbean basin, endangering the independence of American republics and the vital American interest in free navigation.

Indeed, the geostrategic value of secure sea communications with the Isthmus of Panama, a geographic feature Mahan had described as the "gateway to the Pacific for the United States," could hardly be overstated.[29] A canal would spare commercial or naval shipping originating in East Coast ports the arduous voyage around South America. American ships would enjoy more direct communications with the modest Pacific empire won from Spain in 1898, not to mention easier access to the China trade. Last but not least, the U.S. Navy could

concentrate its Atlantic and Pacific fleets far more readily—bolstering the battle fleet's ability to discharge its defense and police duties in critical waterways.

TR thus did not regard the doctrine as a pretext for U.S. hegemony over the Western Hemisphere—or so he said;[30] it was, rather, an expression of American leadership of a joint defense against European great-power pretensions.[31] He questioned whether democratic regimes could sustain consistent policies; the doctrine offered a rare standard around which to rally Americans for grand foreign-policy enterprises. Accordingly, he declared that "it would be well were we sufficiently farsighted steadily to shape our policy with the view to the ultimate removal of all European powers from the colonies they hold in the western hemisphere."[32] He assumed that all American republics shared an interest in preventing Europe from partitioning the Americas, as it had much of Asia and Africa.

Sending to sea a U.S. Navy able to fend off European encroachment thus advanced mutual security objectives. To assuage fears of American hegemony, however, American statesmen had to communicate clearly that their nation had no desire to dominate its neighbors politically or militarily, taking on a hegemonic role of its own. This was a real fear in Latin America. In 1895, Richard Olney, President Grover Cleveland's secretary of state, had injected himself—uninvited—into a territorial dispute between Venezuela and British Guiana. The American "fiat [was] law" on matters it deemed of vital interest, decreed Olney—primarily because the U.S. Navy could enforce America's will throughout the hemisphere.[33] He cited the Monroe Doctrine as authority for this "fiat," illustrating how Monroe's defensive precepts could be abused to justify meddling in Latin American affairs.

For TR, combining transactional and transformational leadership was intrinsic to prudential statecraft.

Roosevelt, by contrast, declared that he wanted to interfere in fellow American republics as little as possible, consistent with such goals as digging the all-important isthmian canal.[34] He accentuated the self-restraint implicit in his international police power—foreshadowing his emphasis on the Great White Fleet's constabulary mission. "I want to do nothing but what a policeman has to do" in the Dominican Republic, he assured his friend Joseph Bucklin Bishop, who had questioned his motives for intervening on the island. "As for annexing the island, I have about the same desire to annex it as a gorged boa constrictor might have to swallow a porcupine wrong-end-to."[35] Furthermore, he disavowed plans for thrusting wide-ranging reform on the island: "If I possibly can I want to do nothing to them. If it is absolutely necessary to do something, then I want to do as little as possible."[36]

In effect he wanted to show Latin Americans that they were not replacing one imperial menace—Europe—with another one far closer to home. In 1906, he sent Secretary of State Root on a goodwill tour of the region. Thomas Bailey credits Root's diplomacy, coupled with the numerous South American port visits of the battle fleet in 1907–1908, with easing worries about U.S. intentions.[37] Dr. Luis Drago, the Argentine foreign minister, summarized the Monroe Doctrine as "the traditional policy [by which] the United States without accentuating superiority or seeking preponderance condemned the oppression of the nations of this part of the world and the control of their destinies by the great Powers of Europe." TR congratulated Drago for discerning the "true attitude" of the United States toward its southern neighbors.[38]

DETERRING AND CONCILIATING JAPAN

Demonstrating strength, responsibility, and forbearance was at the core of Roosevelt's Asia policy as well. TR was a great admirer of Japan, which had vaulted into the front rank of progressive civilization within a few generations of its opening to the outside world. The Japanese—unlike the Chinese, who were enduring a prolonged period of decay, weakness, and imperial exploitation that aroused TR's contempt—embodied the manly virtues he extolled. "What wonderful people the Japanese are!" he exclaimed to his friend Cecil Arthur Spring Rice, a British diplomat. "They are quite as remarkable industrially as in warfare. . . . [Japan] is now a great power and will be a greater power."[39] Consequently, "I wish to see the United States treat the Japanese in a spirit of all possible courtesy, and with generosity and justice."[40]

Indeed, TR considered Japan a worthy partner in the advanced nations' effort to police the developing world. During the Boxer Rebellion of 1900–1901, for instance, Roosevelt hoped that Japan would join the Western powers to intervene in China, chastening those he regarded as bandits.[41] (Tokyo did deploy troops as part of the German-led expeditionary force.) Giddy at the success of Japanese arms against Russia in 1904, when the Imperial Japanese Navy smashed a Russian fleet at Tsushima, Roosevelt proclaimed that Japan had a "paramount interest" in the Yellow Sea basin similar to the one the United States claimed in the Caribbean. "I thought it for the interest of all the world," he reported telling one Japanese official, "that each part of the world should be prosperous and well policed."[42]

In Burns's terms, Roosevelt believed a community of interest united Japan with the Western world. He wanted to entrust this new Asian power (along with certain nations in Europe and the Americas) with the same international police authority he had reserved for the United States in his corollary to the Monroe Doctrine. Accordingly, notes Bailey, "throughout the cruise the function of the navy as a police force and not as a threat was constantly emphasized."[43] (To be

sure, Roosevelt's narrative of the cruise as an innocuous venture was not universally embraced. Warned Commander Taniguchi Naomi, the Japanese naval attaché in Washington, "The cruise was aimed at not only enhancement of military efficiency in time of war but also implicitly at intimidating Japan.")[44] In a very real sense, then, the voyage presaged today's efforts to assemble a Global Maritime Partnership to police regional seas for terrorists, pirates, and traffickers in weapons-related goods.

Whether a fleet of armored, heavily gunned men-of-war built for Mahanian fleet actions offered the best tool for international police work was another question—hence Tokyo's ambivalence toward TR's foray into maritime leadership. Then as now, reconciling navies' war-fighting and constabulary functions was a delicate matter. However successful his attempt to organize international police efforts might be, Roosevelt realized that great-power policemen would themselves need policing should their realpolitik ambitions overreach. His solution was to build up countervailing power as a strategic hedge.[45] Demonstrating the U.S. Navy's capacity to fight in Asian waters, he believed, would deter Japanese adventurism while consolidating the shared interests he believed had coalesced with Japan's entry into the civilized world. Of the world cruise, he stated, "I regard it really as a peace measure."[46]

Encouraging Japan to assume a leadership role of its own while discouraging it from using maritime leadership as a pretext for territorial conquest was essential. Proving the United States could defend the islands wrested from Spain in 1898—in particular the Philippine Islands, the platform for American sea power in Asia—was central to Roosevelt's Japan policy and strategy. The islands brought great geopolitical advantages to an America jealous of its share of the China trade, but they also threatened to embroil the United States in controversies or even conflict. "The Philippines form our heel of Achilles," lamented TR. "They are all that makes the present situation with Japan dangerous." Possessing the Philippines without maintaining a fleet able to carry the fight into Asian seas would represent "a veritable national calamity."[47]

The need to convince Tokyo that the U.S. Navy could hold the Philippines imparted a distinct operational component to TR's exercise of maritime leadership. One of the president's foremost concerns was to dampen the euphoria with which the Japanese had celebrated their naval victory over Russia. Defeating a European great power, he feared, might strengthen the hand of militarists in Tokyo, emboldening them to attempt new conquests that would bring their nation into conflict with Western powers. Geography had conspired against Russia, compelling the tsars to divide their navy. The Imperial Japanese Navy had exploited Russia's fragmentary naval power, using local supremacy to defeat first the Russian Pacific Squadron, then the Baltic Fleet Moscow dispatched in relief.

Like Russia, the United States maintained fleets on opposite coasts, violating the Mahanian maxim that a fleet should operate as a unified whole. TR feared the Tsushima analogy would encourage Japan to embark on military expansion inimical to the Philippines, America's geostrategic Achilles' heel, or to U.S. commercial and diplomatic interests in continental Asia.[48] "If any one lesson is taught by the Russo-Japanese war, and indeed by naval history generally," Roosevelt asserted, "it is that in the effort to protect even two important points a division of force may mean the failure to protect either and the final loss of the war."[49]

He admitted there was some geostrategic risk to leaving American coasts unguarded during the world cruise, but he insisted that "I will not leave in one ocean a considerable fragment of the fleet, not enough to stand by itself, but enough to greatly weaken by its absence the remainder of the fleet." The virtues of concentration, he maintained, were "elemental."[50] To assure the Great White Fleet enjoyed a preponderance of force over the Imperial Japanese Navy,

> I want our fleet to be a unit. If there is war we must run the risk of raids on the Atlantic coast and accept the inevitable howl that will come, merely using such monitors and torpedo vessels as are available, together with any unarmored cruisers, to try to protect the Atlantic coast. When our fleet goes to the Pacific I want every battleship and armored cruiser that can be sent to go.[51]

President Roosevelt downplayed European predictions that Japan would attack the U.S. fleet as it passed, setting back the cause of American sea power. At the same time, he took this slight possibility seriously, asking Admiral Willard Herbert Brownson "whether, if a war was started, we could build battleships during the course of a year or eighteen months, so that if the war lasted that length of time we could begin to have ships take the place of those we should lose."[52] He also inquired whether the United States could stall for time, working around Japan's Mahanian naval strategy:[53]

> The German and English experts evidently believe that in the event of war, which they (as I hope and believe, wrongly) think inevitable, the Japanese would at first avoid a general engagement and trust to torpedo attacks and the like, and the long distance from our base, gradually to wear our fleet down. Under such circumstances I should like to know whether we could not ourselves play a waiting game by taking advantage of the delay and our enormous wealth to build up the fleet.[54]

TR understood there were economic, industrial, and geographic elements to a viable strategic-communications campaign vis-à-vis Tokyo. Japanese strategists expected the U.S. Navy to surge out across the Pacific in wartime, steaming toward a Tsushima-like fleet engagement in Asian waters. Roosevelt sought to deflate such expectations. If the United States deferred its offensive, it could exploit its vast material resources to build a navy capable of overcoming the

tyranny of distance in the Pacific—and Japan's attrition strategy—by virtue of numbers. So the world cruise was something of a gamble, but at least, reasoned TR, the fleet would be concentrated if trouble did come.[55] Employed wisely, a credible navy held major psychological potential, lending weight to his courteous yet firm Big Stick diplomacy.

A cautionary note is in order. The results of the world cruise vis-à-vis Japan remain a matter of some dispute among historians. As discussed before, Burns postulated an interactive relationship between leaders and led. This dynamic sort of relationship is even more evident in international affairs, a milieu in which the protagonists—nation-states—are formal equals possessing fewer incentives or disincentives than those available to leaders in an authority relationship.

The Japanese, in short, were not mere passive objects of American leadership, no matter how impressively or tactfully conducted. Whereas Bailey depicts the naval diplomacy carried on by the Great White Fleet as an almost unvarnished success, Howard K. Beale holds out the possibility that the fleet achieved only short-term diplomatic gains, and only at the cost of empowering Japanese militarists over the long term. Determined never again to see their nation overawed by the United States, this faction launched Japan into the militarized foreign policy that culminated in World War II.[56] Without taking sides in this debate, it is fair to say that practitioners of U.S. maritime strategy should recognize the limits to nautical diplomacy, not to mention its unforeseen—perhaps unforeseeable—consequences. What may look to Americans like a friendly yet firm display of naval force can look far different to foreign eyes.

LEADERSHIP IS FOR THE BOLD

Theodore Roosevelt saw seagoing forces as an instrument to help uphold vital American interests, discourage territorial aggrandizement on the part of rival great powers, and spread the blessings of civilization among the less advanced nations, primarily those adjoining important waterways. In James MacGregor Burns's formula for leadership, the journey of the Great White Fleet served dual transactional and transformational purposes. The U.S. Navy represented an important resource at TR's command. According to proponents of the cruise, port visits and exercises proved that the United States could project force not only throughout critical waters in the Western Hemisphere but also into Asia, where the rise of Japan might hold the islands wrung from Spain at risk. In short, the Navy offered a potent deterrent against European or Japanese pretensions, lending persuasive force to American diplomacy.

With regard to transformation, fostering wide acceptance of the concept that naval forces could perform constabulary duty, furthering the cause of

civilization, was central to TR's maritime leadership. His success depended on the existence of sentiments among the advanced powers favorable to the end-values expressed in his corollary to the Monroe Doctrine. Guarding against governmental incompetence or malfeasance in the less advanced world, believed Roosevelt, was an interest common to all advanced nations. During the voyage, accordingly, administration spokesmen stressed the capacity of great-power naval forces to police a nation's geographic environs. To ward off the perils implicit in codifying a right of international intervention, the president hoped a balance of naval power would check the ambitions of advanced nations tempted to pursue imperial expansion under the guise of police action.

It is fitting to round out an assessment of Theodore Roosevelt and the Great White Fleet with some observations about Roosevelt's personal leadership characteristics. While TR valued consensus in international affairs, he also reserved the option of acting alone—even preventively, under his corollary—should a lack of consensus obstruct what he saw as the correct course of action. He believed domestic and foreign audiences would ratify his policies if those policies yielded concrete accomplishments. His bias toward action—Henry Adams famously described him as "pure act," while Carl Schurz, vice president of the Anti-Imperialist League, marveled at his "master nature"—is worth bearing in mind when formulating and executing maritime strategy.[57] If conducted adeptly, naval diplomacy can advance transactional and transformational goals vis-à-vis both domestic and foreign audiences.

The armada, the largest ever to attempt to circumnavigate the globe, demonstrated an unprecedented naval capability.

Roosevelt's philosophy of decisive leadership manifested itself clearly in the cruise of the Great White Fleet. "I determined on the move," he recalled in his autobiography, "without consulting the Cabinet. A council of war never fights, and in a crisis the duty of a leader is to lead and not to take refuge behind the timid wisdom of a multitude of councilors."[58] He also dared congressional opponents of the voyage to make good on their threat to defund it. "The fleet is to go to the Pacific," proclaimed TR, and it would stay there if Congress declined to appropriate funds for its return.[59] Because of the factors examined previously—the need to show that the battle fleet could circumnavigate the globe, the need to conciliate Latin America and deter Japan—he acted with his customary vigor, leaving it to the American people and posterity to render judgment.[60]

TR professed confidence that history would vindicate his handling of American foreign relations. In his final message to Congress, delivered in December 1908, the president proclaimed that his approach had derived from "the theory that right must be done between nations precisely as between individuals." He

invited historians to scrutinize his and the nation's efforts at leadership, maintaining that "in our actions for the last ten years we have in this matter proven our faith by our deeds."[61] For architects of contemporary U.S. maritime strategy: scrutinize away. Some insights from the Roosevelt era worth factoring into today's strategic deliberations:

- *U.S. maritime power offers a solid foundation for multinational police work.* American seagoing forces, not only the U.S. Navy but the Coast Guard, can help Washington exercise transactional and transformational leadership. Despite its decline in numbers, the Navy remains preeminent in Asia, supplying the international public good of maritime security for rising powers like China and India as well as such lesser powers as those ringing the South China Sea. This frees Asian governments to apply national resources to economic development rather than large military forces. Over time, moreover, cooperation between the United States and the Asian nations on matters such as maritime counterterrorism and counterproliferation may give rise to an international norm opposing these universal scourges—much as TR hoped regional sea powers would police their neighborhoods.
- *National interests and perspectives intersect with police work.* U.S. naval leaders should keep Burns's apt depiction of leadership as an interactive process squarely in view. While it might seem uncontroversial to Americans, for example, policing regional waters for items usable for building nuclear, biological, or chemical weapons or ballistic missiles poses problems for some governments. As China becomes more and more dependent on the seas for energy security, Chinese leaders are increasingly wary of entrusting the security of vital sea lanes to the perhaps-fleeting goodwill of the United States. Even India, which appears amenable to a strategic maritime partnership with the United States and certainly covets the operational and tactical benefits of working with the U.S. Navy and Coast Guard, would likely balk at any arrangement implying that New Delhi had accepted junior status in the Indian Ocean—its rightful sphere of predominance, in Indian eyes. Assent in putatively universal ideals such as counterproliferation is far from a foregone conclusion—much as U.S.-Japanese cooperation proved elusive in the early twentieth century.
- *Show how high-end capabilities contribute to police efforts.* U.S. leaders should consider the psychological impact of big-deck aircraft carriers—the latter-day counterparts to TR's battleships—on foreign audiences. Explaining the uses of these behemoths for endeavors that promote common interests would advance U.S. strategic communications—and thus the cause of American maritime

leadership.[62] TR mentioned, but only in passing, that the Great White Fleet had paused on its homeward voyage to render assistance to earthquake victims in Messina.[63] This was an uncharacteristic oversight on his part. Today's Navy should make better diplomatic use of its nontraditional missions. The 2004–2005 tsunami relief operation, for example, underscored the multiple missions entrusted to U.S. naval forces. The future of any American-led seagoing partnership could depend as much on diplomatic skill as on operational and tactical proficiency.

Effective strategic communications is the common denominator in transactional and transformational leadership. Deterring foreign sea powers while conciliating them is a delicate task. In Burns's terms, arousing, engaging, and satisfying the motives of skeptical powers such as China will challenge even the best practitioners of strategic communications. Nor is success guaranteed. If China, India, or some other prospective partner repeatedly rejects American overtures, other motives may be at work. Even failed efforts to exercise maritime leadership, however, can produce useful results. Whatever the case, there is no substitute for sustained, painstaking diplomacy on the part of statesmen and naval leaders. International police work depends on it.

NOTES

The author gratefully acknowledges the research assistance of Lt. Cdr. Pat Thien, U.S. Navy. The views in the article are, however, the author's alone.

1. At first the president wanted to send the U.S. Navy's entire fleet of twenty battleships, making a bold statement about keeping the fleet unified. He settled for sixteen when informed that four vessels were undergoing extensive repairs and were unfit for prolonged deployment. Theodore Roosevelt to Lawrence Fraser Abbott, 13 September 1907, in *The Letters of Theodore Roosevelt,* ed. Elting E. Morison, John M. Blum, and Alfred D. Chandler (Cambridge, Mass.: Harvard Univ. Press, 1952–54), vol. 6, p. 791 [hereafter *Letters*].
2. See Thomas A. Bailey, *Theodore Roosevelt and the Japanese-American Crises* (Stanford, Calif.: Stanford Univ. Press, 1934), pp. 261–303; Howard K. Beale, *Theodore Roosevelt and the Rise of America to World Power* (Baltimore: Johns Hopkins Univ. Press, 1956), pp. 326–34 [hereafter *Rise of America*]; James R. Reckner, *Teddy Roosevelt's Great White Fleet* (Annapolis, Md.: Naval Institute Press, 1988); and Gordon Carpenter O'Gara, *Theodore Roosevelt and the Rise of the Modern Navy* (New York: Greenwood, 1969).
3. President Roosevelt intended to put the cruise of the U.S. Navy battle fleet to dramatic effect. He viewed it as an exercise in "strategic communications," to use current parlance, with audiences domestic and foreign. "The people I hope will be interested in it, and in no way can their interest be better stimulated, with better result to the Navy, than by properly writing it up." Accordingly, choosing friendly news correspondents to document the voyage was critical. Theodore Roosevelt to Truman Handy Newberry, 10 August 1907, in *Letters,* vol. 6, p. 745.
4. Roosevelt brokered an end to the Russo-Japanese War (1904–1905), helping manage the negotiations at the Portsmouth Peace Conference from afar. He was awarded the Nobel Peace Prize for 1906 but did not accept

the award until 1911. Frederick Marks documents the moral dimension of Roosevelt's statecraft. Theodore Roosevelt, *Theodore Roosevelt: An Autobiography,* intro. Elting E. Morison (New York: Charles Scribner's Sons, 1913; repr. New York: Da Capo, 1985), p. 563 [hereafter *Autobiography*]; Frederick W. Marks III, *Velvet on Iron: The Diplomacy of Theodore Roosevelt* (Lincoln: Univ. of Nebraska Press, 1979).

5. Theodore Roosevelt to Henry L. Sprague, 16 January 1900, in *Letters,* vol. 2, p. 1141.
6. James MacGregor Burns, *Leadership* (New York: Harper and Row, 1978), pp. 18–19.
7. Ibid., p. 425.
8. Ibid., p. 426.
9. Ibid. [emphasis original].
10. Bailey, *Theodore Roosevelt and the Japanese-American Crises,* pp. 261–303; Beale, *Rise of America,* pp. 327–30.
11. Theodore Roosevelt, "True Americanism," *Forum* (April 1894), in *Works of Theodore Roosevelt: National Edition,* ed. Hermann Hagedorn (New York: Charles Scribner's Sons, 1926), vol. 13, *American Ideals,* pp. 13–26 [hereafter *Works*]; and "The Strenuous Life," speech before the Hamilton Club, Chicago, 10 April 1899, in Theodore Roosevelt, *The Strenuous Life: Essays and Addresses* (New York: Century, 1900), available at www.bartleby.com/58/1.html.
12. A fruitful area for future research would be to determine how national leadership relates to "soft power" and "public goods," concepts pioneered by Harvard scholar Joseph Nye. See Joseph S. Nye, *Soft Power: The Means to Success in World Politics* (New York: PublicAffairs, 2004); and Joseph S. Nye, "The American National Interest and Global Public Goods," *International Affairs* 78, no. 2 (April 2002), pp. 233–44.
13. On the importance of shaping public attitudes and factoring these attitudes into affairs of state, see Carnes Lord, *The Modern Prince: What Leaders Need to Know Now* (New Haven, Conn.: Yale Univ. Press, 2003), esp. pp. 215–24.
14. TR proclaimed that the "Golden Rule should be, and as the world grows in morality it will be, the guiding rule of conduct among nations as among individuals"; however, "the Golden Rule must not be construed, in fantastic manner, as forbidding the exercise of the police power [articulated in the "Roosevelt Corollary" to the Monroe Doctrine]." Theodore Roosevelt, "Message of the President to the Senate and the House of Representatives," 5 December 1905, in U.S. State Dept., *Foreign Relations of the United States, 1905* (Washington, D.C.: U.S. Government Publishing Office, 1906), pp. xxxii–xxxiii [hereafter *FRUS: 19xx*].
15. *Autobiography,* p. 564.
16. TR heralded Mahan's writings. "I can say with perfect sincerity," he wrote to Mahan in 1890 after reading *The Influence of Sea Power upon History, 1660–1783,* "that I think it very much the clearest and most instructive general work of the kind with which I am acquainted." He informed Mahan in 1897, "I suppose I need not tell you that as regards Hawaii I take your views absolutely, *as indeed I do on foreign policy generally*" (my emphasis). Theodore Roosevelt to Alfred Thayer Mahan, 12 May 1890, in *Letters,* vol. 1, pp. 221–22; Roosevelt to Mahan, 3 May 1897, in *Letters,* vol. 1, pp. 607–608; Alfred Thayer Mahan, *The Influence of Sea Power upon History, 1660–1783* (Boston: Little, Brown, 1890; repr. New York: Dover, 1987).
17. "Nothing," writes Commager, "is more impressive than the speed and the lavishness with which Americans provided themselves with a usable past," manifest in history, legends, and heroes, not to mention cultural artifacts such as paintings and patriotic ballads. Henry Steele Commager, *The Search for a Usable Past and Other Essays in Historiography* (New York: Knopf, 1967), pp. 3–27.
18. TR lavished praise on Root for his skill as a statesman. "There are some good reasons which could be advanced to show that Root would be a better President than Taft, or me, or anyone else I know. I could not express too highly my feeling for him." Philip C. Jessup, *Elihu Root* (New York: Dodd, Mead, 1938), vol. 1, p. 423; Theodore Roosevelt to William Allen White, 30 July 1907, in *Letters,* vol. 6, p. 735.
19. Elihu Root, "Roosevelt's Conduct of Foreign Affairs," in *Works,* vol. 16, *American Problems,* pp. xiii–xv.

20. On the anti-imperial movement, see Robert L. Beisner, *Twelve against Empire: The Anti-Imperialists, 1898–1900* (New York: McGraw-Hill, 1968).
21. Mahan, *Influence of Sea Power,* p. 71.
22. A nation's ability to realize high-minded ideals while defending its own interests ultimately depended on sufficient armed force. Declared President Roosevelt's 1905 message to Congress, "If the United States alone, or in company only with the other nations that on the whole tend to act justly, disarmed, we might sometimes avoid bloodshed, but we would cease to be of weight in securing the peace of justice—the real peace for which the most law-abiding and high-minded men must at times be willing to fight." Roosevelt, "1905 Annual Message," pp. xxx–xxxi.
23. Root, "Roosevelt's Conduct of Foreign Affairs," pp. xiv–xv.
24. Bailey, *Theodore Roosevelt and the Japanese-American Crises,* p. 294.
25. *Autobiography,* pp. 564–65.
26. The standard account is Dexter Perkins, *A History of the Monroe Doctrine* (Boston: Little, Brown, 1963), esp. pp. 228–75 [hereafter *History*].
27. Theodore Roosevelt, "Message of the President to the Senate and the House of Representatives," 6 December 1904, in *FRUS: 1904,* p. xli; Perkins, *History,* pp. 228–75. See James R. Holmes, *Theodore Roosevelt and World Order: Police Power in International Relations* (Dulles, Va.: Potomac Books, 2006).
28. Theodore Roosevelt to Elihu Root, 7 June 1904, in *Letters,* vol. 4, pp. 821–23.
29. Alfred Thayer Mahan, *Naval Strategy, Compared and Contrasted with the Principles and Practice of Military Operations on Land* (Boston: Little, Brown, 1911), p. 111.
30. David Healy, among others, would contest assertions that the doctrine represented an exercise in international philanthropy. David Healy, *Drive to Hegemony: The United States in the Caribbean, 1898–1917* (Madison: Univ. of Wisconsin Press, 1988).
31. Karl Walling, to name one scholar, accepts the interpretation of the Monroe Doctrine as a defensive measure rather than a bid for U.S. hegemony in the Western Hemisphere. Karl Walling, "Hamiltonian Grand Strategy, American Constitutionalism, and the Future of the United Nations System," paper presented at American Political Science Association Annual Conference, Chicago, 1 September 2007.
32. Roosevelt bemoaned the difficulty of reconciling liberal institutions with consistent foreign policy. Only ingrained traditions such as the Monroe Doctrine could transcend factional squabbling. Thus foreign policy in a liberal democracy was necessarily somewhat opportunistic. Theodore Roosevelt to Cecil Arthur Spring Rice, 27 December 1904, in *Letters,* vol. 4, pp. 1082–88.
33. Richard Olney to Thomas F. Bayard, 20 July 1895, in *The Record of American Diplomacy: Documents and Readings in the History of American Foreign Relations,* ed. Ruhl J. Bartlett, 4th ed. (New York: Knopf, 1964), pp. 341–45.
34. Theodore Roosevelt to Silas McBee, 27 August 1907, in *Letters,* pp. 774–75.
35. Theodore Roosevelt to Joseph Bucklin Bishop, 23 February 1904, in *Letters,* vol. 4, pp. 734–35.
36. Ibid.
37. Bailey, *Theodore Roosevelt and the Japanese-American Crises,* p. 299.
38. Theodore Roosevelt, "Message of the President to the Senate and the House of Representatives," 3 December 1906, in *FRUS: 1906,* pp. xlvii–xlviii.
39. "Japan has a glorious and ancient past," enthused TR, but "fifty years ago Japan's development was still that of the Middle Ages. During that fifty years the progress of the country in every walk in life has been a marvel to mankind, and now she stands as one of the greatest of civilized nations," not only in military efficiency but in industry, literature, and the arts. "The Japanese have won in a single generation the right to stand abreast of the foremost and most enlightened peoples of Europe and America; they have won on their own merits and by their own exertions the right to treatment on a basis of full and frank equality." He went on to rebuke Americans who abused Japanese students and workers residing in the United States. Ibid., pp. xli–xlii.
40. Theodore Roosevelt to Cecil Arthur Spring Rice, 16 June 1905, Theodore Roosevelt Papers (Washington, D.C.: Library of Congress Microfilm, 1967–69), series 1, reel 55.

41. Roosevelt to Spring Rice, 20 July 1900, in *Letters,* vol. 2, pp. 1358–59.
42. Roosevelt to Spring Rice, 13 June 1904, in *Letters,* vol. 4, pp. 829–33.
43. Bailey, *Theodore Roosevelt and the Japanese-American Crises,* p. 301.
44. Taniguchi Naomi, in Sadao Asada, *From Mahan to Pearl Harbor: The Imperial Japanese Navy and the United States* (Annapolis, Md.: Naval Institute Press, 2006), p. 19.
45. "I do not believe we shall ever have trouble with Japan," he confided to George Kennan, "but my own theory is to keep our navy so strong and so efficient that we shall be able to handle Japan if ever the need arises, and at the same time to treat her with scrupulous courtesy and friendliness so that she shall have no excuse for bearing malice toward us." Theodore Roosevelt to George Kennan, 6 May 1905, in *Letters,* vol. 4, pp. 1168–69.
46. Roosevelt to Newberry, 6 August 1907, in *Letters,* vol. 6, p. 743.
47. Theodore Roosevelt to William Howard Taft, 21 August 1907, in *Letters,* vol. 6, pp. 761–62.
48. Beale, *Rise of America,* 331–34; Roosevelt to Taft, 21 August 1907, p. 762.
49. Roosevelt to Newberry, 6 August 1907, p. 743.
50. Ibid., p. 744.
51. Ibid., p. 743. See also Bailey, *Theodore Roosevelt and the Japanese-American Crises,* pp. 302–303.
52. Theodore Roosevelt to Willard Herbert Brownson, 26 July 1907, in *Letters,* vol. 6, p. 730.
53. On Mahan's influence in Japan, see Asada, *From Mahan to Pearl Harbor;* David C. Evans and Mark R. Peattie, *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887–1941* (Annapolis, Md.: Naval Institute Press, 1997), pp. 24, 134–35, 514–16.
54. Roosevelt to Brownson, 26 July 1907, p. 730.
55. Bailey, *Theodore Roosevelt and the Japanese-American Crises,* pp. 302–303.
56. Ibid., pp. 293–303; Beale, *Rise of America,* pp. 331–34.
57. Henry Adams, *The Education of Henry Adams,* intro. James Truslow Adams (New York: Modern Library, 1931), p. 417; Claude M. Fuess, *Carl Schurz: Reformer* (New York: Dodd, Mead, 1932), pp. 370–71.
58. *Autobiography,* p. 563.
59. Roosevelt to Newberry, 30 July 1907, p. 734; *Autobiography,* p. 568.
60. His rejection of leadership by committee likely dates to his service on the New York Police Board of Commissioners, where representation was divided evenly among Republicans and Democrats—allowing partisanship or petty jealousies to stymie action even on routine matters. To avoid deadlock and diffusion of responsibility, TR believed, authority should be concentrated in the hands of a few officials accountable to the public. "The danger to American democracy," he insisted, "lies not in the least in the concentration of administrative power in responsible and accountable hands. It lies in having the power insufficiently concentrated," that is, "among a variety of men who work in secret, whose very names are unknown to the common people," so that "no one can be held responsible to the people for its use." H. Paul Jeffers, *Commissioner Roosevelt: The Story of Theodore Roosevelt and the New York City Police, 1895–1897* (New York: Wiley, 1994); Theodore Roosevelt, "Message of the President to the Senate and the House of Representatives," 8 December 1908, in *FRUS: 1908,* p. xvi.
61. Roosevelt, "1908 Annual Message," p. xliv.
62. Bruce A. Elleman, *Waves of Hope: The U.S. Navy's Response to the Tsunami in Northern Indonesia,* Newport Paper 28 (Newport, R.I.: Naval War College Press, 2007), esp. pp. 27–42.
63. *Autobiography,* p. 565.

CHINESE EVALUATIONS OF THE U.S. NAVY SUBMARINE FORCE

Gabriel Collins, Andrew Erickson, Lyle Goldstein, and William Murray

The U.S. Navy submarine force has set the standard in undersea warfare for at least half a century. America's submarines made a vital contribution to victory in the Second World War, and they formed an elite force of truly innovative capabilities during the "cold war at sea" with the Soviet Navy. Since the end of the Cold War, the submarine force has been a leader among U.S. military warfighting communities in transforming itself to remain relevant against militant Islamist extremism and other emerging threats.

In such missions, the submarine force conducts strategic deterrence, intelligence and surveillance, extended-range land attack, and insertion of special forces, in addition to forming the essential backbone of the Navy's mission of sea control—the all-important, enabling task of maintaining command of the seas for the U.S. armed forces. With the launch of the first of the *Virginia* class in 2003, the Navy's position at the forefront of global submarine forces was set for the foreseeable future.

Perhaps partly inspired by the great successes of U.S. submarine force, navies around the world have invested heavily in undersea warfare, especially in submarine capabilities. China stands out among these as an emerging submarine power. Over the last decade, Beijing has been building four different classes of boats while importing the Kilo-class diesel submarine from Russia in large numbers. Indeed, China's intense focus on undersea warfare has led some to speculate that a trans-Pacific rivalry is already under way, at least with respect to submarine capabilities. As policy makers in Washington grapple with the challenge of China's rise,

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Naval War College Review Winter 2008, Vol. 61, No. 1

therefore, it may be wise to consider how Beijing is approaching its evolving naval strategy dilemmas. This article examines Chinese views of the American submarine force. As that submarine force constitutes one of the most vital elements of Washington's overall strategy for establishing and maintaining sea control in times of conflict, Beijing's assessment of those capabilities may be critical to uncovering the future evolution of this nascent rivalry.

More specifically, then, this research was undertaken for three reasons:

- The U.S. Navy submarine force is thought to represent a key capability for conflict scenarios involving China.
- This part of the U.S. Navy has undertaken major efforts at transformation within a new geostrategic and technological environment.
- The American submarine force represents a rather well-defined warfare area and thus lends itself to a bounded research effort.

{FLUSH PARA} Over the last decade, there has been an explosion of publishing in China on all subjects, including strategic and military-technical research. Thus, there are at least five serious journals devoted to naval warfare and dozens of more technically oriented journals.[1] In this project, well over a thousand Chinese articles were surveyed, of which approximately 150 were judged worthy of closer scrutiny and analysis by the research team. The danger of circularity—attributing to Chinese analysts ideas that have simply been translated from original English-language sources into Chinese—is real, but one that the research team carefully considered throughout. Most Chinese journals now openly attribute English-language articles to their original sources. By and large, this kind of material (direct translation from English) was not evaluated in this study, in favor of articles that appeared to represent the actual opinions of Chinese naval and defense analysts.

This article is divided into five parts. The first section surveys Chinese reactions to a variety of current issues in the U.S. submarine force, including recent deployments and incidents of special interest. A second section examines Chinese evaluations of specific submarine force capabilities, focusing especially on new factors (e.g., the development of SSGNs) that have been central to transformation efforts. Section three considers some critical historical issues, particularly Chinese perceptions of U.S. submarine operations during the Cold War. A fourth section considers how Chinese analysts believe their antisubmarine forces would match up against the U.S. submarine force. Section five reviews Chinese perceptions regarding the overall future trajectory of the U.S. submarine force. A conclusion summarizes the article and offers policy recommendations.

Overall, this article finds that Chinese naval analysts study the U.S. submarine force in excruciating detail, as concretely manifested in thousands of both strategic and technical articles that focus on it.[2] As one Chinese naval analyst put it, "Nuclear attack subs are the most worthwhile weapons investments because they are the most survivable weapons platforms. . . . During a regional conflict, [U.S.] nuclear attack submarines are the first in and last out."[3] Nevertheless, there is also a keen appreciation that the U.S. Navy is focusing primarily on ongoing military operations in Iraq and Afghanistan. Writing in the official PLA journal {SINOGRAPH—SHOULD BE 4 CHARACTERS—SAME IN NN 19, 25} "– 'ãŠC? *(Modern Navy),* one analyst declares, "The U.S. Navy's capabilities to wage war at sea are gradually declining, and open ocean warfare is already not a focal point."[4] Recognizing the potentially major role of the U.S. submarine force in China contingencies, another analyst suggests: "On the basis of a great quantity of research, the PLA [People's Liberation Army] believes that U.S. nuclear submarines are very quiet, and difficult to discover and counterattack; at the same time, [their] attack power is great, [and] must [be] restrain[ed]."[5] Such assessments underline the importance of a closer examination of Chinese perspectives concerning the American submarine force.

{A-HEAD}CURRENT DEVELOPMENTS

IN ORDEr to give a sense of what Chinese analysts believe to be the trajectory of U.S. submarine force development, it is useful to examine their assessment of two significant recent events: the grounding of the *Los Angeles*–class submarine USS *San Francisco* (SSN 711) and the stationing of nuclear-powered submarines in Guam.

{B-HEAD}The Grounding of USS San Francisco

The collision of *San Francisco* with an underwater mountain on 8 January 2005 greatly interested China's naval press. The articles published then, which prominently feature official U.S. photos of the damaged vessel, express admiration that a submarine that received such damage could have returned to port. This respect is couched in terms of the fundamental strength designed and built into the ship, however, not in terms of the critical factors of crew training and damage control. Author Qi Yaojiu, for example, wrote approximately four months after the incident in a typical article, "In order to investigate battle damage strength, the U.S. undertook strength tests [for submarines] under the conditions of nuclear weapons detonation." Additionally, "Almost every U.S. submarine, before entering into active service, undergoes tests that use underwater explosives to evaluate resistance to battle damage."[6]

Notwithstanding this apparent respect, the author recognized that the damage *San Francisco* incurred would have amounted to a "mission kill," stating: "If the *San Francisco* collision had occurred during wartime, and crew members had experienced such wounds, the *San Francisco* would essentially lose its basic combat effectiveness."[7] A realization that submarines do not have to be destroyed in order to lose combat effectiveness could influence Chinese operational calculations.

Also characteristic of Chinese discussions of *San Francisco*'s grounding is an undercurrent of bewilderment, asking in effect, "Why were they going so fast?" The tone of analysis implies that such a high-speed transit is somewhat reckless. Thus, one Chinese analyst states that "a nuclear submarine in the process of underwater high speed transit is confronting serious danger" and that "even some U.S. Navy officials expressed that they could not understand the incident."[8] Another author declares, "It is well known in all navies that as soon as a submarine enters international waters in order to protect its stealth, the submarine will not rely on its active sonar. Objectively speaking, a submarine at high speed that is not operating its active sonar is in danger comparable to a vehicle without headlights traveling in the pitch dark."[9] Perhaps because China's submarine force consists primarily of diesel submarines that rarely make high-speed, long-distance transits, the circumstances surrounding the collision seem peculiar to Chinese naval analysts.

Chinese analyses of the *San Francisco* incident recognize the United States as a world leader in submarine rescue.[10] As one author observes, "Overall, the USN employs the best submarine rescue vehicles and has the most extensive exercises, so its submarine rescue capability leads the world."[11] This appraisal is corroborated in *Modern Navy*: "Over the last few years, the U.S. Navy has continuously explored submarine rescue methods, and thus strengthened international cooperation, enhancing submarine rescue exercises with its allies. For us this represents a certain inspiration." Moreover, the Chinese author states, "Small groups at various bases are alternatively ready for war or ready to go out and undertake the rescue of an American or allied submarine at any time."[12] Even though the Chinese navy evidently has extreme respect for the U.S. submarine force, the *San Francisco* incident appeared to show awareness that even this elite force can make errors and must invest in cutting-edge rescue technologies.

SSNs in Apra Harbor

As might be expected, China's naval press has watched the military buildup on Guam with great interest, particularly that of the American submarines.[13] A 2004 article in *Modern Navy* suggested, "The U.S. Navy has stationed three nuclear-powered *Los Angeles*–class attack submarines on Guam. At present, the

U.S. military has considered dispatching an additional 6 nuclear submarines. . . . Deployment of such weapons would give the U.S. military considerable capacity to 'gain the initiative by striking first' at us from the sea."[14]

The same journal a year later described the basing of nuclear-powered attack submarines (SSNs) on Guam in greater detail, observing that the United States officially reestablished Submarine Squadron 15 in Guam under Submarine Group 7 in February 2001 and deployed three nuclear-powered attack submarines there: the first and second in fall 2002 and the third in summer 2004. Moreover, as administered by Commander, Submarine Force Pacific, the submarine group "on the basis of troop deployment plans regularly dispatches 4–5 submarines under its 7th fleet jurisdiction. The duty period of these submarines is ordinarily 6 months. Each submarine can execute missions independently, or can attach to a carrier battle group."[15]

The operational significance of stationing SSNs on Guam is not lost on Chinese naval analysts. One observes that "if [a submarine] sets out from Guam, especially in a Taiwan Strait crisis, it may only require 2 days or so."[16] A significant finding of the present study is that even in official journals, Chinese analysts are exploring Guam's vulnerabilities. The same author notes that Guam, in addition to conferring some advantages to the United States in a Taiwan crisis, also carries self-defense vulnerabilities having strategic implications:

> The U.S. military has still not established a defense system of anti-aircraft, anti-missile, and other defense systems on Guam—[there exists] only a pittance of coastal patrol forces. Once there are hostilities, Guam's defense can only rely on the U.S. Navy's sea-based missile defense system and Air Force joint operations. Consequently, in wartime, Guam's defense is still a problem; also, because it is in a special position surrounded on four sides by ocean at the intersection of three major international sea lanes, it is impossible to defend effectively. If the other side's long-range ballistic missiles, submarine-launched cruise missiles, long-range bombers or maritime special forces operations units, etc., can break through Guam's peripheral warning and defense, [to] destroy or seriously damage its naval port, airfield, munitions warehouse, and communications system, [then] the entire operational system of America in the Pacific Theater can become ineffective, its sustained warfare capability can greatly fall short of requirements [and] its resolution and dynamics of military intervention would have to change.[17]

Regardless of the validity of their specific claims, then, it is clear that some Chinese analysts perceive Guam to be vulnerable to offensive attacks.

U.S. NAVY CAPABILITIES

Having set the scene by reviewing major submarine force developments noted by Chinese analysts, we now turn to a more comprehensive survey of the major

American capabilities that have attracted their attention. These include nuclear-powered cruise missile–armed submarines (SSGNs) and Tomahawk cruise missiles, Trident submarines, fast attack submarines, sensors and systems, and research and development.

{B-HEAD}SSGNs and Tomahawks

Chinese analyses demonstrate interest in the Navy's four new SSGNs, their conversion from *Ohio*-class ballistic-missile submarines, and their mission areas.[18] A fairly typical article observes that

> Refitting focal points are refitting the first 1–2 of 24 ballistic missile launch tubes for the use of special forces; tubes 3–10 into special forces use or for Tomahawk cruise missiles; [and] tubes 11–24 for Tomahawk cruise missiles. After refitting, the submarine can carry 154 Tomahawk cruise missiles, and 66 special forces personnel, a dock/shipyard cover, a frogman transport ship (SDV), and an advanced Seal Transport System (ASDS).[19]

{INDENT}Although they clearly recognize the potential value of an SSGN's embarked special operations forces, Chinese analysts appear to be much more impressed by the implications of one SSGN's potentially large inventory of Tomahawk cruise missiles and the high readiness rate that SSGNs will be able to maintain. One perceptive article observes that these features will allow other ships to focus on different mission areas:

> After being refitted, SSGNs will be deployed 65% the time each year on average. . . . As such, the USN will always have at least 2 SSGNs ready for battle at any time, and in wartime, 1 SSGN can take over the duties of many attack submarines and surface ships. Once the SSGN goes into service, this will significantly reduce the land attack burden shouldered by the surface fleet and allow it to focus on providing air defense against missile threats. At the same time, the SSGN will reduce the land attack role of SSNs, enabling them to concentrate on anti-surface and ASW [antisubmarine warfare] missions.

{FLUSH PARA}The same analysis also recognizes with some alarm that "it is conceivable that in the future the arsenal ships could from a safe distance simultaneously rain 500 or more guided missiles upon several points of an enemy's territory. Using [the SSGN] would be stealthier and faster than an air raid by carrier based aircraft and would also avoid pilot losses."[20]

Chinese literature on SSGNs suggests anxiety regarding this capability and what it may mean for Chinese forces. One analyst calculates that SSGNs will allow the United States to engage in saturation attacks: "The ground forces that have relied on the traditional deception against air attack, such as fake targets and positions, will be severely tested under future conditions in which the U.S. armed forces are able to employ saturation attacks by low-cost [cruise

missiles]."[21] Another analyst, however, points out that Tomahawks are expensive, estimating that Tactical Tomahawks cost anywhere between 5.7 and 8 million dollars a round.[22] One Chinese lesson from the Kosovo conflict was that the United States does not possess an infinite inventory of Tomahawk cruise missiles; even in that relatively minor conflict, it adjusted its weapons stocks to cope with apparent resource limitations.[23]

{B-HEAD}Trident Submarines

Chinese writings about SSBN capabilities express concern about potential U.S. plans to place conventional warheads on submarine-launched ballistic missiles. One scholar writes that "The new Trident II D5 can achieve a CEP [circular error probable—generally, accuracy] of nine meters. Therefore, as far as point targets are concerned, there already exists the ability to achieve nuclear destruction with a conventional warhead." This accuracy, he worries, might raise the risk of war overall: "One can see that through lowering one's own barriers to war, one can more realistically deter the enemy. This undoubtedly reduces war's actual combat threshold."[24] This may reflect a Chinese concern that Trident conventionalization could give the United States more ability to coerce China in a variety of combat scenarios.

The nuclear deterrence provided by American nuclear-powered ballistic-missile submarines (SSBNs) is well recognized in the majority of Chinese writings, as is the significance of the shifting of five *Ohio*-class SSBNs (USS *Pennsylvania, Kentucky, Nebraska, Louisiana,* and *Maine*) from the Atlantic to Pacific fleets from 2002 to 2005. This transfer occurred as the four oldest *Ohio*-class SSBNs, which had all been stationed in the Pacific, were temporarily taken out of service for conversion to SSGNs; the two transactions effectively rebalanced the American SSBN force from a Pacific/Atlantic ratio of ten/eight to nine/five.[25]

{B-HEAD}Fast Attack Submarines

Chinese observers are intensely interested in and closely follow other modern U.S. nuclear submarines, including USS *Jimmy Carter, Seawolf,* and *Hawaii*. Highly detailed, full-page color photos of *Seawolf*- and *Virginia*-class submarines appear in China's most prominent naval journals. These photos are usually accompanied by articles that imply an advanced state of technology and advanced acoustic quieting. Thus, for example, *Seawolf* is described as having

> an X type stern, [*sic*] employ[ing] a non-circulating main pump SbW[*sic*] pressurized water reactor, rel[ying] on natural circulation [of cooling water], thereby reducing noise; us[ing] an advanced pump jet propulsor, [thereby] reducing noise, us[ing] anechoic tiles on the hull. Anechoic tiles can absorb the enemy's active sonar survey waves as well as both separate and reduce the submarine's own noise radiation.

> Moreover, this ship's own machinery power equipment also employs [sound isolation] technology. These measures reduce the *Seawolf*- class's noise level to 95 decibels, making it the world's quietest submarine (ocean background noise is 90 decibels, *Kilo* 636 noise is 105 decibels).[26]

{FLUSH PARA}Additionally, Chinese authors believe *Seawolf* possesses "beyond first-class performance" and is regarded as the most sophisticated and lethal submarine yet to go to sea, despite its "tortuous development history."[27]

The Chinese also respect *Virginia*-class submarines for their advanced technology and quietness. An author in *Modern Navy* states that "compared with the *Sea Wolf*–class submarine, the *Virginia* is slower and carries fewer weapons, but is just as quiet. Its acoustic signature is lower than that of the improved model of Russia's *Akula*-class attack submarine and Russia's fourth-generation attack submarine that will hereafter be in active service."[28] Another analyst, in discussing the *Virginia* class's acoustic achievements reports, "The *Virginia*-class has been called 'the world's quietest submarine,' with a cruising sound level that is only {FRACTION} 1/10 that emitted by a *Los Angeles* class boat pierside."[29]

The techniques used to build *Virginia* and its sister ships also evoke respect, with one author noting, "The use of modular construction has been a major breakthrough in the construction of the *Virginia*-class SSN. . . . This construction method is a revolutionary breakthrough compared to the methods used to build the *Los Angeles*–class."[30] Modular construction is widely perceived as a tremendous advantage, allowing the United States to "promptly design and build new nuclear submarines on the basis of new circumstances and requirements."[31] Plans for *Virginia,* it is implied, having been generated by computer-aided design tools and relying on modular construction, could be used as the basis of a new SSBN design.[32] Chinese authors argue that *Virginia*'s impressive technology allows it to "scout, reconnoiter, and keep watch from a concealed position using its modern sensors to gather intelligence; analyze it; fix radar positions, missile bases, and command centers; as well as watch and track warship movements."[33] The *Virginia* class is thus seen as "a completely new attitude emerging on the world military combat arena."[34] Some Chinese analysts believe "the U.S. will keep building *Virginia* class boats and the final number could exceed 30."[35]

Los Angeles–class submarines receive significant attention from Chinese authors. One article on this class notes, "The American Navy believes that: nuclear attack submarines are the most worthwhile weapons investments because they are the most survivable weapons platforms, have the advantage of being stealthy, and have become one of the premier threats at sea."[36] Another author rates their performance as "outstanding," with the reservation that although they have superior weaponry, they "might not [have proven] an effective counter to new types of Soviet nuclear submarines." This impending disparity, in turn, is

credited with precipitating U.S. follow-on designs.[37] Still another observer notes that *Los Angeles*–class submarines are aging: "By the year 2020, the U.S. military intends to have built 30 nuclear attack submarines. However, by the year 2016, all of the *Los Angeles*–class submarines will exceed 30 years of service life"; the writer emphasizes the great expense of replacing them with *Virginia*-class vessels.[38]

Chinese naval observers regard American torpedo technology highly. Noting an enviable six decades of torpedo experience, one Chinese author observes, "Since World War II and for a relatively long period, U.S. torpedo technology has always been among the best in the world."[39] With specific reference to the Mark 48 heavyweight torpedo, another analyst assesses that "the [Mark 48] torpedo's outstanding effectiveness in all combat circumstances has been proven and it can be used to attack surface ships, nuclear submarines, and also diesel electric submarines."[40] The same author describes the aggressive U.S. torpedo-testing program: "The USN has already carried out more then 6500 exercises and war-shot firings [with the Mark 48], in addition to 20,000 simulations and 9 million mathematical simulations, so that this torpedo reaches a high state of reliability." Perhaps in reference to the sinking of Russian Oscar-class submarine *Kursk,* and also as part of an overall effort to improve submarine safety consciousness, this analyst later observes that "the [Mark 48] system has been in active service since 1982 and there have been no safety accidents."

Not every Chinese analyst would readily agree that the Mark 48 torpedo or its Advanced Capability (ADCAP) variant is especially fearsome. In a 2005 article, a Chinese author flatly stated, "Traditional heavy-weight torpedoes practically have no way to cope with modern diesel submarines in shallow waters."[41] The author notes that "shallow waters constitute a very acoustically complex warfare environment" and that the U.S. Navy has allocated significant resources to developing sonars suitable for littoral combat against diesel submarines.[42] Another analyst, however, appreciates the U.S. Navy's ability to upgrade the weapon: "At the moment, [the Mark 48] torpedo is still being upgraded, so that it can correspond to the challenges associated with shallow water environments and threat—it is expected to be in service with the USN until 2025."[43]

{B-HEAD}Sensors, Systems, Research, Development, and Training

American efforts at exploiting advancements in commercial off-the-shelf technology have received attention. One article observes that "the updated (COTS) CCS MK II [fire control] system is not only used on the *Los Angeles* and *Ohio* classes, but is also used on the new *Seawolf* and *Virginia* class submarines";[44] another points out that "92% of the hardware and 90% of the software used in non-publicly available projects in fact come from popular commercially

available technologies."[45] China's intense interest in the U.S. Navy's use of COTS may stem in part from Beijing's effort to develop a world-class commercial information technology industry and to incorporate its products into the PLA.

Chinese analysts also monitor American submarine sensor development. One author notes, "At present, the U.S. is the world leader in developing periscope technology and using it on its submarines."[46] U.S. efforts to bolster the submarine force's mine warfare capabilities receive particular attention.[47] Moves to develop and acquire the Long Term Mine Reconnaissance System (LMRS) have been noted, with one researcher stating that "the U.S. is now buying 8 long-range mine scouting systems to be put on the *Los Angeles* and *Virginia* class nuclear attack submarines."[48]

Chinese observers pay fairly close attention to American submarine-related research and development efforts. For example, websites on Chinese naval matters frequently report on the awarding of Defense Advanced Research Projects Agency (DARPA) and Office of Naval Research (ONR) contracts.[49] Chinese journals take advantage of these announcements and also scour the U.S. open press for sources that can be exploited. For example, a rather lengthy article in the June 2002 issue of {SINOGRAPH} ÏÖ´ú½¢´¬ *(Modern Ships)* reprinted the "Submarine of the Future" briefing slides (complete with a logo in the upper left-hand corner of each) generated by the DARPA-sponsored, Lockheed Martin–led industrial consortium "TEAM 2020." These slides depict futuristic hull forms, sonar configurations, propulsors, weapons storage ideas, interfaces for unmanned underwater vehicles, and other elements of advanced submarine designs and concepts.[50] It seems that little, if any, publicly released information regarding U.S. submarine-related research and development escapes the attention of Chinese analysts.

In keeping with the technological dynamism of its platforms and their constant improvement, Chinese analysts also credit the American submarine force with an extremely rigorous selection and training process for commanding officers. In a coauthored article in *Modern Navy,* Rear Admiral Yang Yi, a PLA expert on the United States and former naval attaché in Washington, emphasizes that "the U.S. Navy's selection process for the commanding officers of nuclear submarines is very strict." Yang details the numerous education and training programs that successful candidates must attend, as well as the periodic qualifying tests they must undergo. A major emphasis of his article is the extent to which submarine commanders must periodically update their "specialized [technical] knowledge."[51]

{A-HEAD}HISTORICAL ISSUES

Although China is emerging as a submarine power, its submarine force, and indeed its navy overall, generally lacks blue-water experience, to say nothing of a combat history. Of course, this paucity of experience stands in stark contrast to the U.S. submarine force, and PLA Navy analysts are acutely aware of that disparity. In fact, Chinese naval analysts have expressed particular admiration for the record of American submarines in World War II, pointing out that "the U.S. submarine force had the fewest losses" of any major submarine force "but had high combat effectiveness. According to statistics, the U.S. submarine force destroyed 1,314 enemy ships during the war."[52] Moreover, Chinese sources indicate an appreciation for the accumulated knowledge that the U.S. Navy has achieved through decades of intense submarine operations. Another Chinese source observes: "The U.S. is a country with 100 years of experience in building submarines, and with so many years of experience the USN constantly emphasizes the ability of a submarine to take punishment [and survive]."[53]

While there are numerous Chinese writings on the U.S. Navy's submarine force's campaign against Japan, this article focuses on the Chinese perceptions of American submarine operations during the Cold War. Some of the observations made in this context may explain aspects of contemporary PLA Navy submarine doctrine. For example, an article in *Modern Ships* related an anecdote of a "Soviet Type 627 [known in the West as "November"] nuclear attack submarine [that] once went all out in a race with a U.S. Navy aircraft carrier, revealing the Soviet attack submarine's capabilities. [This revelation] apparently has had a major impact on the development of a new class of American submarines."[54] This appraisal of the peacetime interaction between the two navies may suggest that overly aggressive tactics employed by the Soviet Navy yielded too much information to the U.S. Navy. In general, it is quite clear that Chinese sources understand that a "main mission of [U.S.] nuclear attack submarines [during the Cold War] was to deal with the Soviet Navy's SSBNs."[55]

With respect to the Cold War at sea, one Chinese book published in 2006 is worthy of particular note.[56] The translation of a Russian book, *Secrets of Cold War Undersea Espionage,* it states that "U.S. nuclear and conventional submarines would often lurk along the routes of Soviet warships, and even within Soviet territorial waters, conducting intelligence activities."[57] It is noted that "the SOSUS [Sound Surveillance] system substantially helped the U.S. to cope with the capabilities of the Soviet submarine force."[58] The subject of acoustic signatures is also raised: "In the ocean, there are simply too many sources of noise. . . . In order to cope with this problem, the U.S. decided to build an acoustic signature catalogue (resembling a fingerprint) for Soviet submarines."[59]

{A-HEAD}CHINESE ASW AND THE U.S. NAVY SUBMARINE FORCE

When considering Chinese views of the American submarine force, it is certainly relevant to consider how China appraises its own antisubmarine warfare forces. Generally, China considers its ASW forces to be weak. One Chinese naval analyst observes: "[Chinese] people are focused on China's submarine force (both conventional and nuclear) development, but often neglect the threat we face from [U.S. Navy] submarines."[60] It is, moreover, suggested that "there is still a relatively large gap between [China's] ASW technology level and that of the world's advanced level."[61] In appraising the ASW capabilities of its own surface forces, another naval analyst notes, "Across the world, most naval ships are now equipped with towed array sonars, which has increased their ASW capabilities, but most of our ships only have hull mounted sonars."[62] Finally, there is a concern that these antisubmarine assets are themselves highly vulnerable: "Submarines can carry out ferocious missile attacks from tens or even 100–200km ranges, causing the submarine hunting vessels to become the hunted targets."[63]

Chinese aerial ASW is also highlighted as a particular weakness. One Chinese analyst judges that the Z-9 helicopter lacks adequate range and internal space for the ASW mission.[64] A second argues that while the Z-8 has better range and capacity, it is too big for most surface combatants to carry and chronic engine troubles have limited production.[65] The Russian-import Ka-28 ASW helicopter is reported to be capable but few in numbers.[66] As for Chinese maritime patrol aircraft, some designs have apparently been developed, including a variant of the Y-7 Fearless Albatross, but the outlook is said to remain bleak.[67] Thus, one evaluation of Chinese aerial ASW concludes, "Our country at the present stage does not have an ASW maritime patrol aircraft . . . but the number of submarines in our peripheral seas is increasing, and their technological sophistication is also increasing. This contradiction is becoming more obvious every day, creating a grim situation."[68]

In Chinese discussions of Russian ASW systems, there is a pointed recognition that the Soviets leaned heavily toward the use of tactical nuclear weapons (e.g., nuclear depth charges and torpedoes) in ASW operations.[69] Tactical nuclear weapons are also mentioned in the context of mine warfare. An article in the July 2006 issue of *Modern Navy,* in discussing possible PLA Navy use of sea mines, suggests the potential combat value of nuclear-armed versions.[70] It will be important to watch closely for any sign of Chinese efforts in this direction.

While the overall impression is that of Chinese ASW weakness, there is one notable exception. Significant prioritization appears to be given to the use of sea mines for the antisubmarine mission, as if to produce a "poor man's ASW capability."[71] One discussion explains, "Because of a tremendous change in the maritime strategic environment, since the early 1990s the PLA has made mobile ASW

sea mines a focal point of weapons development." The analysis continues, "[China] is energetically undertaking the research mission [of] using [mobile ASW sea mines] against U.S. nuclear submarines."[72] The same discussion also hints at a possible PLA Navy ASW role: "The major mission of self-guided sea mines is to isolate American nuclear submarines outside the First Island Chain."[73]

It is noteworthy for the future development of Chinese antisubmarine warfare that hydroacoustics has been called a "key point" technology for state investment.[74] The conventional wisdom has long been that the Chinese submarine force is focused entirely on the anti–surface ship mission. This assumption may have become outdated, perhaps especially after the PLA Navy received the last of eight new Kilo-class diesel submarines (and accompanying weaponry) from Russia in 2006. According to Professor Li Daguang of China National Defense University, these new Kilos have four missions: to blockade Taiwan, threaten carrier battle groups, employ land-attack cruise missiles as a "strategic weapon," and "form an underwater threat to the U.S. nuclear submarine force."[75] There is also preliminary evidence that China is moving toward deploying antisubmarine rocket weapons on its newest surface combatants.[76] This system is no "silver bullet," as the Chinese would still have severe, perhaps insurmountable, targeting and cueing problems, but successful acquisition and deployment of ASROCs would extend the engagement range of Chinese ASW weapons significantly. It is also worth noting that Chinese sources discuss "many openly published dissertations concerning underwater targeting for a homing depth charge."[77]

To reverse the equation: How do Chinese naval analysts appraise American ASW, and in particular the submarine force's part in it? Clearly, the PLA Navy understands the overall centrality of SSNs in U.S. antisubmarine warfare. Thus, an article in *Modern Navy* states: "The nuclear attack submarine . . . is the most effective tool for ASW."[78] However, some PLA Navy observers appear rather unimpressed by American efforts in ASW. The same official Chinese Navy journal observes: "The U.S. Navy actually has not had sufficient exercises in the [ASW arena] and also lacks experience."[79] In the same article, it is likewise noted that "conducting ASW in the littorals represents a special difficulty for the USN" and that "the combat advantage of the U.S. Navy nuclear submarine force in the littoral areas is far from obvious."[80] On this note, *Campaign Theory Study Guide*, a 2002 textbook written by Chinese National Defense University scholars that draws on a variety of high-quality doctrinal publications, emphasizes that "nuclear-powered attack submarines have difficulty operating in close proximity to shore due to natural conditions."[81] Another Chinese naval analysis suggests that "up to 2005, the USN has altogether 350 ASW platforms, just 11% of the number of [ASW] platforms it fielded in 1945. Moreover, many of these current

naval and air platforms are not specialized for ASW, but more often are multi-mission platforms."[82] This quantitative comparison across historical periods is crude in some ways, but there is no denying that inherent physical principles combined with the vast geographical area of the Pacific Ocean will likely keep ASW an asset-intensive mission, even in the age of "net-centric warfare."

THE U.S. NAVY SUBMARINE FORCE-LEVEL TRAJECTORY

Chinese discussions of the American submarine force focus heavily on the continuing decline in its size. As one article from a PRC naval-interest publication states, "The decline of U.S. submarine strength is inevitable."[83] Indeed, that a wide variety of Chinese naval sources share this evaluation suggests that this "decline" now passes for conventional wisdom within the PLA Navy. The Chinese naval community is likely paying close attention to internal U.S. debates, knowing that investments made (or foregone) today in submarine fleet modernization shape the future fleet.

Some Chinese assessments of the *Seawolf* program appear to point out indirectly the internal political tensions that hold down American submarine build rates now and perhaps in the future. One volume notes: "Although the *Sea Wolf*–class SSN gathers the era's most advanced technology in a single hull, and possesses beyond-first-class performance, the appraisals of 'Sea Wolf' by American public figures from all walks of life differ, with a roughly half-and-half split between praise and condemnation."[84]

Taking the long view, Chinese naval strategists recognize that force levels have dropped drastically from Cold War levels. One source observes, "Since 1989, the U.S. Navy's nuclear-powered attack submarine [force] has been reduced by half."[85] A more recent Chinese naval press article estimates that "[U.S.] nuclear attack submarines will decline in number by close to 40%, eventually reaching 30 boats."[86] This calculation is roughly consistent with a projection in *Modern Navy* that anticipated a sustained build rate of one boat per year.[87] Rear Admiral Yang Yi, writing in 2006 on the future size of the American submarine force, quoted one American analysis as follows: "China already exceeds [U.S. submarine production] five times over. . . . 18 [USN] submarines against 75 or more Chinese navy submarines is obviously not encouraging [from the U.S. perspective]."[88]

{A-HEAD}A Reputation for Mastery?

This article demonstrates that Chinese strategists are keenly interested in the U.S. Navy's submarine force. Thousands of articles have reviewed various aspects of American submarine capabilities, operations, and developmental trends. There is clear evidence that Chinese naval analysts have enormous respect for U.S. submarines, submariners, and their weapons. Certainly, China

aspires to be a submarine power and hopes to emulate certain aspects of American experience. However, it is equally clear in these writings that the U.S. submarine force is seen as a key challenge in any military confrontation between Beijing and Washington. It is significant in that regard especially that Chinese analysts are increasingly drawing attention to, and seeking to remedy, their anti-submarine warfare deficiencies. The study also reveals an apparent assumption within Chinese naval analytic circles that American submarine force levels are on a downward trajectory.

{SPECIAL HEAD}NOTES

1. This article draws extensively on five of the serious PRC professional publications concerned with naval warfare: µ±´ú°£¾ü *(Modern Navy),* È˪Ãñ°£¾ü *(People's Navy),* ½¢´¬Ö³Ê¶ *(Naval and Merchant Ships),* ½¢ÔØÎäÆ÷ *(Shipborne Weapons),* and ÏÖ´ú½¢´¬ *(Modern Ships). Modern Navy* is a monthly magazine published by the official PLAN newspaper *People's Navy,* which is the daily newspaper published by the Political Department of China's Navy. *Modern Navy* offers articles that are often concrete and revealing of important capabilities, initiatives, and exercises. See, for example, Ðì°ìÃ÷, ÁõÐÂÃñ [Xu Hongming and Liu Xinmin], "'µÐ°ó'²¼À×—ÖÐ¹ú°£¾üÄ³Ç±ÍŞÍ»ÆÆ·´Ç±±à¶ÓÑµÁ·Ä¿»÷¼Ç" [Lay Mines 'In the Enemy's Rear Area': An Eyewitness Account of a Certain PLAN Submarine Exercise Involving Breaking Through Anti-Submarine Formations], µ±´ú°£¾ü [Modern Navy], no. 4 (2003), p. 38. ½¢´¬Ö³Ê¶ *(Naval and Merchant Ships),* a semitechnical monthly publication of the Chinese Society of Naval Architecture and Marine Engineering, has directly involved a retired PLA Navy rear admiral, Zheng Ming, formerly head of the PLA Navy's Equipment Department, in its publication activities. See "ÎÒ¿¯ÕÙ¿ª×÷Õß, ¶ÁÕß, ±àÕß×ùÌ¸»á" [Our Journal Convenes a Discussion among Writers, Readers and Editors], ½¢´¬Ö³Ê¶ [Naval and Merchant Ships] (August 2006), p. 8. An active-duty PLA Navy admiral has contributed to the journal. SeeÑîÒã [Yang Yi], "Ë–µÄÇ±ÍŞ½ñ°óËµÁËËã?" [Who Can Estimate the Future Number of Submarines?], ½¢´¬Ö³Ê¶ [Naval and Merchant Ships] (July 2006), p. 28. *Shipborne Weapons* and *Modern Ships* are both monthly journals published by the state-owned China Shipbuilding Industry Corporation (CSIC), China's largest designer, manufacturer, and trader of military and civilian vessels and related engineering and equipment. In addition to these naval-oriented publications, ÖÐ¹ú¾üÊÂ¿ÆÑ§ *(China Military Science)* is published by the PLA's Academy of Military Sciences.

2. Because of the difficulty in conclusively identifying the authors of many Chinese writings on naval issues, this article will use a very broad definition of "naval analyst"—namely, one who engages in research and publication concerning naval affairs.

3. Ç®½ú [Qian Jin], "Ó°×Ó 'Ç°·æ' ÂåÉ¼í¶: ÎÒ°é°½Ä¸×ßÌìÑÄ" [The Shadowy Vanguard *Los Angeles* Class: Escorting Carriers to the Far Corners of the Earth], ½¢´¬Ö³Ê¶ [Modern Ships] (August 2002), pp. 38–41.

4. ÕÅ½¨Æ½, ¸ßÒÐÌì [Zhang Jianping and Gao Yitian], "Í¸ÊÓÃÀ°£¾ü2035Äê: Ô¶¾°¹æ»®" [Perspective on the U.S. Navy in 2035: Prospective Plans], µ±´ú°£¾ü [Modern Navy] (August 2005), p. 37.

5. ÁÖ³¤Ê¢ [Lin Changcheng], "Ç±ÁúÔÚÔ¨: ½â·Å¾üË®À×±øÆ÷µÄÏÖ×´Óë·¢Õ¹" [The Hidden Dragon in the Deep: The Present Situation and Development of PLA Mine Weaponry], ¹ú¼ÊÕ¹Íû [World Outlook], no. 9 (May 2005), p. 32.

6. ?—s‹v [Qi Yaojiu], "'‹Œ‹à R ' †Šj ö'ø G Ê – ŒÌ"I Ä v l" [Reflecting Again on the *San Francisco* Nuclear Submarine Collision

Accident], ?‘ã?‘D [Modern Ships] (July 2005), p. 41.

7. Ibid., p. 42.

8. Ibid., pp. 41–42.

9. ~œ÷ [Zhi Ge] “ ‘‹Œ‹à R ’ †Šj ö ’ø –ŒÌ•ª Í” [Analysis of the *San Francisco* Nuclear Submarine Accident], ?‘D’m? [Naval and Merchant Ships] (March 2005), p. 59.

10. ???, ?‘´• [Sun Yefei and Nie Qiwu], “˜¸”üŠj ö ’ø o –: ? ö ’ø”ñ?? –ŒÌ?—¥” [Looking at Patterns of Nonwar Submarine Accidents, from the Perspective of the U.S. Nuclear Submarine Incident], “–‘ãŠC? [Modern Navy] (March 2005), p. 20.

11. ÁÙºÓ [Lin He), “³£±¸²»Ð¸— ÃÀ¹úº£¾üÇ±Í§¾ÈÉú¼°ÆôÊ¾” [Always Prepared: The Inspiration of the U.S. Navy’s Submarine Rescue Cooperation], ÏÖ´ú½¢´¬ [Modern Ships] (May 2004), p. 11.

12. Ibid., pp. 9–11.

13. Among the many articles that examine the U.S. military buildup on Guam are‘ä? [Tai Feng], “’† ‘ ù—v”½ ö „?Š÷??” [Does China Need Antisubmarine Patrol Aircraft?], ??• Ší [Shipborne Weapons], no. 3 (2005), pp. 70–75; “”ü ‘?•º??ŒÕ?‘äŠC” [U.S. Troops Deployed in Guam Vigorously Watch the Taiwan Strait], ¢ŠE V?? [World News Report], 15 February 2001; “”üŠj U? ö ’ø—~???`Ó‰½?” [Why America Stations Nuclear Attack Submarines in Guam], M‘§“ú? [NewsDaily], 3 November 2000, p. 22; “”ü ‘Šj ö ’ø?? G Ê” [U.S. Nuclear Submarine Strikes a Reef Near Guam], ?‹…?? [World Times], 20 January 2005; Zhao Xiaozhuo, “The United States Does Not Want to Get Involved in a Crisis in the Taiwan Strait,” *Huanqiu Shibao,* 3 January 2005, FBIS CPP20050114000176; “Šj ö ’ø??? ”ü ‘‹ S??” [Nuclear Submarines Enter Guam: The U.S. Harbors Unfathomable, Evil Intentions], ’† ‘ ‘–h? [China National Defense News], 2 April 2002, p. B04.

14. —› ^ [Li Jie], “?”üŒn—ñŠC ã‰‰?”V v l” [Reflections on the Series of U.S. Exercises at Sea], “–‘ãŠC? [Modern Navy] (September 2004), pp. 20–21.

15. ?‰F [Zhao Yu], “‘SŒi?•`: ”ü‘¾•½— m‘æ µ???—Í, ’†•”” [Scanning the Entire Panorama: The Combat Power of the U.S. Pacific Seventh Fleet (middle part)], “–‘ãŠC? [Modern Navy] (February 2005), pp. 53–57.

16. ?]”g [Han Jiangbo], “??—”ü? T § ¼ ‘¾•½— m ì?‘ÌŒn“Ì?’” [Guam: The ‘Key Link’ in the U.S. Military System to Control the Western Pacific], “–‘ãŠC? [Modern Navy] (December 2006), p. 33.

17. Ibid., p. 34.

18. For the SSGN program and related operational opportunities and issues, see Charles D. Sykora, “SSGN: A Transformation Limited by Legacy Command and Control,” *Naval War College Review* 59, no. 1 (Winter 2006), pp. 41–62.

19. Ñî C … [Yang Xiushui], “2010, ¢ŠE ‘å— m“I V ¶ ‘ã—Šj ö ’ø•Ñ” [In 2010, a New Era on the World’s Oceans: Writing on Nuclear Submarines], “–‘ãŠC¾ü [Modern Navy], no. 9 (September 2004), pp. 50–55.

20. “V? [Tian Ying], “SSGN ‘¦ «–Ê ¢“I …‰º• ??” [The SSGN Will Soon Be the World’s Premier Underwater Arsenal], ??• Ší [Shipborne Weapons] (December 2004), p. 67.

21. —›•¶ ·, ’öŒš—Ç [Li Wensheng and Cheng Jianliang], “^Ð? ©ŠC ã—^: ”üŠC???‰Î— Í“Ë?”\—Í“I?“W“Á“_‹y‰œe?” [Threat from the Sea: Development and Implications of Development Trends in the U.S. Navy’s Surprise Strike Firepower against the Land], ??• Ší [Shipborne Weapons] (March 2003), p. 20.

22. “”ü ‘ŠC??•” ??‘?• ’??” [U.S. Navy Intends to Deploy Tactical Tomahawk], ??• Ší [Shipborne Weapons] (January 2000), p. 36.

23. See Li Wensheng and Cheng Jianliang, “Threat from the Sea,” p. 17.

24. Both quotes in this paragraph are from¶–Â¶, ¹ù¸Ù, ÀíÎÄÊ¤ [Dong Lu, Guo Gang, and Li Wensheng], “ÎöÃÀ¹úÕ½ÂÔµ¼µ¯³£¹æ¸Ä×°µÄ¶¯Òò¼°Ó°Ïì” [Analysis on the Motives and Effects of U.S. Strategic Missiles Armed with Conventional Warheads], ÖÐ¹úÓîº½Ñ§»á [China Space Institute] (paper distributed but not presented at Tenth PIIC Beijing Seminar on International Security, Program for Science and National Security Studies and Institute of Applied Physics and Computational Mathematics, Xiamen, China, 25–28 September 2006).

25. See, for example, éÎ° [Zhu Wei], “”ü‚XäzÕ½—ªŠj ö’øãÚ W‘¾•½—m” [Nine U.S. Strategic Nuclear-Powered Submarines Assembled in the Pacific Ocean], “–‘ãŠC¾ü [Modern Navy] (November 2005), pp. 58–59. In addition to commenting on the significance of the United States transferring SSBNs and SSNs from the Atlantic to the Pacific oceans, this lengthy, wide-ranging article also devotes substantial space to alleged aging problems in the W76 nuclear warhead, criticizes as overly large and unstable the U.S. nuclear stockpile, and decries the negative effects of all this on Asia-Pacific security.

26. Ñî C … [Yang Xiushui], “2010, ¢ŠE ‘å—m“I V ¶ ‘ã—Šj ö’ø•Ñ” [In 2010, A New Era on the World’s Oceans: Writing on Nuclear Submarines], “–‘ãŠC¾ü [Modern Navy], no. 9 (September 2004), p. 50.

27. ÍôÓñ, Ò¦Ò«ÖÐ [Wang Yu and Yao Yao, eds.], ÊÀ½ç°£¾üÇ±Í§ [World Naval Submarines] (Beijing: ¹ú·À¹¤Òµ³ö°æÉç [National Defense Industry Press], 2006), p. 127.

28. °ÓÉ½ [He Shan], “‘¸¥¼ªÄáÑÇ’°ÅÄÜ·ñ³ÉÎªÐÂÊÀ¼Í°£ÉÏ°ÔÍõ?” [Can the *Virginia* Class Become the New Century’s Oceanic Hegemon?], µ±´ú°£¾ü [Modern Navy] (October 2004), p. 21.

29. “‘•¤‹g“ò?’ ö’ø•, o …–Ê” [Launching of the *Virginia* Class], ?‘ã? – [Contemporary Mili - tary Affairs] (October 2004), p. 23.

30. Only three *Sea Wolf*–class submarines were ever built. The Cold War’s end made it impossible to justify construction of additional hulls, because this submarine had been optimized for combating the Soviet Navy. Wang Yu and Yao Yao, eds., *World Naval Submarines,* p. 129.

31. Ibid., p. 29.

32. ?ˆÊ Ý [Chen Weihao], ”ü ‘ŠC?? ®•” : ”ü ‘Šj ö’ø‰] W‘¾•½—m–Ï?ˆÐ?’† ‘ [The U.S. Navy Adjusts Deployment: U.S. Submarines Converging in the Pacific Vainly Attempt to Deter China], ‘?“W–] [World Outlook], no. 6 (March 2006), p. 13.

33. ²Ü¼ÒÎ° [Cao Jiawei], “Ê±Ïò½ü°£—ÃÀ°£¾ü¸¥¼ªÄáÑÇ¼¶ÐÂÐÍ¹¥»÷ÐÍ°ËÇ±Í§

[Fighting into the Littoral: The U.S. Navy’s *Virginia*-Class Nuclear Attack Submarine], »·Çò¾üÊÂ [Global Military], no. 18 (2004), pp. 26–29.

34. Ibid.

35. He Shan, “Can the *Virginia* Class Become the New Century’s Oceanic Hegemon?” p. 21.

36. Qian Jin, “The Shadowy Vanguard *Los Angeles* Class,” pp. 38–41.

37. Wang Yu and Yao Yao, eds., *World Naval Submarines,* p. 121.

38. ¢‰æ [Shi Hua], “ ¢ŠE–¢—ˆ ö ’ø?“W‘OáÛ” [World Submarine Development Prospects], ŠC – ‘å? [Maritime Spectacle] (January 2007), p. 86.

39. ‰©?? [Huang Longhua], “ ö’ø ¯: ¢ŠE”½ ö?—‹ŠT?” [The Star for Subduing Submarines: A Survey of World ASW Torpedoes], ?‹…? – [Global Military Affairs] (August 2006), p. 48.

40. ›Á•ô [Cui Feng] “Mk48 ADCAP: ”ü ‘ŠC? å? dŒY?—‹” [The Mk 48 ADCAP: The U.S. Navy’s Primary Combat Heavyweight Torpedo] , ?‘ã?‘D [Modern Ships], no. 4, 2004, p. 31.

41. ??[Liu Wei], “ŠO?“I?—‹‹y?—‹–hŒä‹Z?” [Foreign Torpedo and Torpedo Defense Technology], ?‘ã? – [Contemporary Military Affairs] (May 2005), pp. 34–37.

42. Ibid.

43. Ibid. This three-page article is accompanied by full-color pictures of Mark 48 ADCAP circuit boards, torpedo body sections, detailed propulsion system schematic diagrams, and tables with performance criteria.

44. “ÃÀ¹úÀ×Éù¹«Ë¾ÄâÓÃÉÌÓÃÁ÷ÐÐ¼¼Êõ¸üÐÂÇ±Í§×÷Õ½ÏµÍ³” [U.S. Raytheon Corporation Draws Up a Plan to Use COTS to Upgrade Subs’ Systems], Çé±¨Ö¸»Ó¿ØÖÆÏµÍ³Óë·ÂÕæ¼¼Êõ [Intelligence, Command Control, and Simulation Technologies], no. 10 (2003), p. 19.

45. ´÷Î¬ [Dai Wei], “ESM¶ÔÇ±Í§Ö§³ÖµÄÐÂ×÷ÓÃ” [ESM’s New Role in Submarine Support], Çé±¨Ö¸»Ó¿ØÖÆÏµÍ³Óë·ÂÕæ¼¼Êõ [Intelligence, Command, Control, and Simulation Technology], no. 7 (1999), p. 19.

46. —›•½ ?àz“N [Li Ping and Lu Bingzhe], “”ü ‘‹•? ö–]?Œ¤‹†‹y?“W” [Research and Progress of the American Virtual Periscope], ‘D”•? q H ’ö [Ship Electronic Engineering] 26, no. 5 (2006), p. 199.

47. This article does not analyze Chinese examinations of U.S. sonar, navigation, combat control, ESM, or radio systems.

48. —›?•á [Li Shufu], " …‰º Ù l q sŠí" [UUVs], ??• Ší [Shipborne Weapons] (April 2003), pp. 57–60.

49. See, for example, the "US Submarines, Anti-Submarine Warfare and All News" section of the China Defense.Com Forum at www.china-defense.com/forum/index.php?showtopic=1541.

50. ÍõÐ÷ÖÇ [Wang Xuzhi], "Ç±Í§´ó¸ïÃü—½ü°¶×÷Õ½´ßÉúÃÀ¹úÍÂ—´ú¶àÓÃÍ¾ºËÇ±Í§" [The Submarine Revolution: Littoral Warfare Will Drive the Multirole Nature of America's Next Generation Nuclear Submarine, ÏÖ´ú½¢´¬ [Modern Ships] (June 2002), pp. 30–33.

51. ÑîÒã, ÕÔÖ¾¾ü [Yang Yi and Zhao Zhijun], "ÃÀ¹úºËÇ±Í§Í§³¤ÊÇÔõÑùÑ¡ºÎµÄ?" [How Are American Submarine Commanding Officers Selected?], µ±´úº£¾ü [Modern Navy] (December 2001), p. 17.

52. ¶Å³¯Æ½ [Du Zhaoping], "ÃÀ¹úÍªÊ²Ã´²»×º±¸³£¹æÇ±Í§" [Why the U.S. Is Not Equipped with Conventional Submarines], ½¢ÔØÎäÆ÷ [Shipborne Weapons] (January 2004), p. 19.

53. Qi Yaojiu, "Reflecting Again on the *San Francisco,*" p. 41.

54. Ibid.

55. Du Zhaoping, "Why the U.S. Is Not Equipped with Conventional Submarines," p. 21.

56. ºÝ¿Æ·ò, ¼Ã¿Æ·ò [Zykov and Baikov—in Russian], Ë®ÏÂ¼äµýÕ½µÄÃØÃÜ [Secrets of Undersea Espionage] (Shanghai: Shanghai Translation, 2006).

57. Ibid., p. 10.

58. Ibid., p. 12.

59. Ibid.

60. Ì¨·ç [Tai Feng], "ÖÐ¹úÐèÒª·´Ç±Ñ²Âß»úÂð?" [Does China Need an ASW Patrol Aircraft?], ½¢ÔØÎäÆ÷ [Shipborne Weapons] (March 2005), p. 70.

61. ¹Ü´ø [Guan Dai], "×ßÏòÎ´À´µÄÖÐ¹ú·´Ç±×÷Õ½" [Looking toward Future PLA Navy Antisubmarine Warfare], ½¢ÔØÎäÆ÷ [Shipborne Weapons] (August 2005), p. 33.

62. À¶½Ü±ó [Lan Jiebin], "ÖÐ¹ú·´Ç±×º±¸µÄ·¢Õ¹" [China's ASW Equipment Development], ½¢ÔØÎäÆ÷[Shipborne Weapons] (February 2004), p. 29.

63. Ñ²¸§ [Xun Fu], "ÖÐ¹úº£¾ü·´Ç±Î䯷÷µÄ·¢Õ¹" [PLA Navy Antisubmarine Weapons Development], ½¢ÔØÎäÆ÷ [Shipborne Weapons] (August 2005), p. 29.

64. Tai Feng, "Does China Need an ASW Patrol Aircraft?" p. 73.

65. Xun Fu, "PLA Navy Antisubmarine Weapons Development," p. 30.

66. Tai Feng, "Does China Need an ASW Patrol Aircraft?" p. 73.

67. Ibid., p. 75.

68. Ibid., p. 73.

69. See, for example, ibid., p. 72, and Xun Fu, "PLA Navy Antisubmarine Weapons Development," p. 30.

70. ÁõÑÜÖÐ ÀîÏé [Liu Yanzhong and Li Xiang], "ÊµÊ©ÖÇÄÜ¹¥»÷µÄÏÖ´úË®À×" [Carrying Out Intelligent Attacks with Modern Mines], µ±´úº£¾ü [Modern Navy] (July 2006), p. 29.

71. For a much more detailed discussion of this issue, see Andrew Erickson, Lyle Goldstein, and William Murray, "China's Undersea Sentries: Sea Mines Constitute Lead Element of PLA Navy's ASW," *Undersea Warfare* (Winter 2007), pp. 10–15.

72. ÁÖ³¤Ê¢ [Lin Changcheng], "Ç±ÁúÔÚÔ¨: ½â·Å¾üË®À×±øÆ÷µÄÏÖ×´Óë·¢Õ¹" [The Hidden Dragon in the Deep: The Present Situation and Development of PLA Mine Weaponry], ¹ú¼ÊÕ¹Íû [World Outlook], no. 9 (May 2005), p. 30.

73. Ibid., p. 31. The "first island chain" comprises Japan, its northern and southern archipelagos, South Korea, Taiwan, the Philippines, and the Greater Sunda Islands. See Xu Qi, trans. Andrew S. Erickson and Lyle J. Goldstein, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-first Century," *Naval War College Review* 59, no. 4 (Autumn 2006), passim pp. 47–67, esp. note 11.

74. Xun Fu, "PLA Navy Antisubmarine Weapons Development," p. 28.

75. ³ÂÎ»Îå [Chen Weiwu], "½â·Å¾üÐÂ»ùÂå" [The PLA's New Kilos], ¹ú¼ÊÕ¹Íû [World Outlook] (July 2006), p. 25.

76. Xun Fu, "PLA Navy Antisubmarine Weapons Development," p. 29.

77. Ibid., p. 32.

78. ÐíÊÀÓÂ [Xu Shiyong], "ÃÀº£¾üÊµÊ©ÍøÂç·Ç±ÐÂÕ½ÂÔ" [The U.S. Navy's New Network ASW Strategy], µ±´ú º£¾ü [Modern Navy] (September 2006), p. 44.

79. Ibid. For an equally unimpressed American view, see John R. Benedict, "The Unraveling and Revitalization of U.S. Navy Antisubmarine Warfare," *Naval War College Review* 58, no. 2 (Spring 2005), pp. 93–120.

80. Ibid.

81. åLÐË—Ñ [Bi Xinglin], ed., Õ½–ð— ÂÛŠwÏ° w"ì [Campaign Theory Study Guide] ('–h'åŠw o"Å Ð [National Defense University Press], 2002), vol. 3, p. 261.

82. Ê¯½–ÔÂ[Shi Jiangyue], "'ÖÐ¹úÇ±ÍŠÍþÐ²'ÓëÃÀ¾ü·´Ç±Õ½µÄ¸´ÐË" ['The Chinese Submarine Threat' and the Revival of the U.S. Military's ASW], ÏÖ´ú½¢´¬ [Modern Ships] (May 2007), p. 17.

83. º ú½õÑó [Hu Jinyang], "ÍâÃ½: ÖÐ¹úº£ÉÏ'ÀÇÈº'ÌôÕ½ÃÀ¾üÇ±Í§°ÔÈ¨" [Foreign Media: China's 'Wolf Pack' at Sea Challenges American Submarine Hegemony), º£ÊÂ´ó¹Û [Maritime Spectacle] (July 2006), p. 45.

84. Wang Yu and Yao Yao, eds., *World Naval Submarines,* p. 127.

85. ÃÏÕÑÕä, ÕÅÄþ [Meng Zhaozhen and Zhan Ning], "Ç±Í§³Ðµ£µÄÐÂÈÎÎñ" [Submarines Assuming New Missions], Çé±¨Ö¸»Ó¿ØÖÆÏµÍ³Óë·ÂÕæ¼¼Êõ [Intelligence, Command and Control Systems, and Simulation Technology] (April 2003), p. 12.

86. Ê¯½–ÔÂ[Shi Jiangyue], "ÃÀ¹úº£¾üÐèÒªÊ²Ã´ÑùµÄ½¢¶Ó?" [What Kind of Fleet Does the U.S. Navy Require?], ÏÖ´ú½¢´¬ [Modern Ships] (December 2006), p. 12.

87. ÕÅÏþ¶«,ÍõÀÚ [Zhang Xiaodong and Wang Lei], "ÃÀ¹úº£¾üÎ´À´20Äê·¢Õ¹æ»®" [The 20-Year Development Program of the U.S. Navy], µ±´ú º£¾ü [Modern Navy] (August 2006), p. 51.

88. ÑîÒã [Yang Yi], "Ë–µÄÇ±Í§½ñºóËµÁËËã?" [Who Can Estimate the Future Number of Submarines?], ½¢´¬Öª Ê¶ [Naval and Merchant Ships] (July 2006), p. 28.

BUILDING MARITIME SECURITY IN SOUTHEAST ASIA

Outsiders Not Welcome?

Major Victor Huang, Republic of Singapore Navy

Today's globalized economy is intricately interconnected and is heavily dependent on maritime trade in order to sustain the movement of energy, raw materials, and finished goods. The arteries of global trade include the narrow waterways of Southeast Asia, with about a third of the world's trade and half its oil transiting through the Straits of Malacca and Singapore alone.[1] As China and India continue their strong growth, sea trade through the straits is expected to increase correspondingly.[2] Major economies such as the United States, China, Japan, and India all have stakes in ensuring the safe passage of shipping through the region. The littoral states of Southeast Asia may be the most concerned of all; any interruption in shipping would heavily impact their economies by disrupting port operations and the smooth flow of raw materials and finished products. Armed robbery at sea is a persistent problem in the area, and maritime hijackings and kidnappings continue to occur.[3] There are fears that the straits could become a target for terrorism and a haven for illegal trafficking of people and weapons.[4] Many states are interested in the strengthening of maritime security in Southeast Asia in order to protect their trade and prevent illegal activity.

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While the littoral states have recently overcome historical mistrust sufficiently to engage in basic maritime cooperation, the efforts of extraregional players to introduce security frameworks from without have been met with ambivalence or outright rejection. For example, the Regional Maritime Security Initiative (RMSI), proposed by the United States, was strongly

criticized after the media incorrectly reported that U.S. high-speed vessels would conduct antiterrorist patrols in the Strait of Malacca;[5] similarly, the Proliferation Security Initiative (PSI) continues to be viewed with suspicion.[6] Resistance to the establishment of security frameworks can arise from outside Southeast Asia as well. In 1999, a proposal of the Japanese prime minister, Keizo Obuchi, that a regional coast guard be created as an antipiracy measure was strongly opposed by China.[7]

The resulting absence of extraregional states in operational maritime security initiatives is depriving the region of important resources and capabilities such as information sharing and responsive multinational decision making, which are especially important in view of the multinational nature of maritime trade.[8] The rejection of outside help by the littoral states is puzzling, since its presence would contribute to the shared goal of improving overall security. Are outsiders simply not welcome in Southeast Asian maritime security cooperation?

This article argues that effective maritime security cooperation in Southeast Asia can be achieved only under a neutral multinational framework. The effort must be largely led and implemented by the littoral states themselves, in order to avoid power rivalries. At the operational level, effective cooperation can be achieved through information sharing and operational coordination among states.[9] However, the conduct of patrols and enforcement actions within a littoral state's territorial seas must remain the responsibility of that state, in order to protect coastal state sovereignty.

To date, effective operational cooperation has been achieved only under regional agreements that are limited in scope and goals, whereas extraregional efforts have been hobbled by politics. By studying these efforts as case studies and recognizing the issues that inhibit or facilitate regional cooperation, extraregional states can devise strategies to increase their participation in regional security cooperation and apply lessons to promote such international frameworks as PSI and the "thousand-ship navy."

This article evaluates how the willingness of the littoral states to cooperate varies according to differing threat perceptions, concern over sovereignty, and a desire for geostrategic nonalignment. It surveys recent attempts at maritime cooperation and analyzes the factors for success or failure. Finally, the article discusses how extraregional players could contribute toward meaningful maritime security cooperation without causing affront to regional sensitivities.

THE LITTORAL STATES

We begin by examining the littoral states that border the Malacca and Singapore straits (see map), which are the waterways in the region that have attracted the greatest attention.

THE MALACCA AND SINGAPORE STRAITS



Singapore

The city-state of Singapore is heavily dependent on maritime trade to fuel its export-driven economy and its hub status in the transshipment trade and in oil refining. Among the three littoral states, Singapore's economy would be most severely affected by a disruption in the free flow of shipping through the region. Singapore also keenly feels the threat of maritime terrorism. First, its advanced infrastructure—including its container port, its petrochemical refineries, and the city itself—would suffer the greatest economic damage from a terrorist attack. Second, its city center and critical industries are situated on its southern coast adjacent to the busy Singapore Strait, exposed to possible maritime attack with minimal time and space for reaction should one of the vessels in the busy waterways have hostile intent. This heightens Singapore's desire for advance warning through information sharing. Third, Singapore is an ideologically attractive target because of its close links with Western states, which offend radical religious fundamentalists.[10] This threat environment has heightened Singapore's sense of vulnerability; Teo Chee Hean, Singapore's minister for defense, has consistently maintained that maritime terrorism remains "a clear and present danger."[11] A recent article in *Pointer*, the official journal of the Singapore Armed Forces, reasoned that terrorist organizations have the "capability, intent and opportunity" to conduct a maritime attack.[12] Singapore is eager to enhance further international and interagency cooperation in order to defend against the threat of maritime terrorism.

Recognizing the importance of maritime security, Singapore has built a modern and capable navy and police coast guard that effectively protect the sixty-mile-long Singapore Strait. In 2003, Singapore established the interagency Maritime and Port Security Working Group, which brings together the navy,

police coast guard, and the maritime and port authority. The group implemented regulatory measures to improve port security and control the movement of shipping within the port.[13] Singapore also monitors the vessels that pass through the Singapore Strait, via its vessel traffic information system.[14] This system uses coastal radars to track up to five thousand vessels; it is integrated with electronic navigational chart displays and synchronized voice, track, and data recording, allowing historical and real-time traffic analyses.[15] Within the region, Singapore is one of the most vocal advocates of international cooperation;[16] it enjoys close ties with regional countries, as well as with the United States, China, and Japan.[17]

Malaysia

Like Singapore, Malaysia is dependent on maritime trade. Eighty percent of its trade passes through the Strait of Malacca, and major Malaysian ports are situated on the strait itself. Malaysia is also concerned with protecting its fishing and tourism industries, which would be adversely affected by collisions and groundings and any oil spills that might result. Accordingly, Malaysia is focused on ensuring navigational safety and protecting against environmental threats, in addition to countering piracy.[18] Previously, Malaysian policy makers had downplayed the threat of maritime terrorism and argued that no proof existed of a "concrete nexus" between piracy and terrorism.[19] Recently, however, Malaysia has warned of the possibility of terrorist attacks using hijacked ships, including those carrying dangerous materials. In June 2007, Malaysia's top police official stated that maritime terrorism was a "real and possible" threat that could "devastate Southeast Asia's economic environment and severely disrupt trade."[20] The Malaysian deputy prime minister, Najib Razak, has called for greater vigilance and intelligence sharing to combat piracy and prevent terrorism along the Malacca Strait.[21]

To improve its effectiveness at policing its own waters, Malaysia took the major step of reorganizing its five maritime agencies to form the Malaysian Maritime Enforcement Agency, which was established in May 2004 and officially launched in March 2006. The agency will buy new vessels, refurbish many of its seventy-plus existing craft, and acquire six helicopters for surveillance, enforcement, and search-and-rescue duties.[22]

Malaysia contends that the littoral states themselves have the capacity to safeguard the straits. Nonetheless, the Malaysians "find it difficult to accept that while international users consider the straits as an international sea lane which they have the right to use," the effort and heavy financial cost of securing the straits and ensuring navigational safety are regarded as the responsibilities of the littoral states.[23] Therefore, "modalities for burden sharing" should be explored.[24]

This will become more important in the future, as traffic volumes are expected to increase. Malaysia is wary, however, of "internationalization" of the straits, which would impinge upon regional security interests.[25]

Indonesia

Indonesia has a smaller economic stake than Singapore or Malaysia in the safety of the Malacca and Singapore straits, because the majority of its trade is conducted through the Lombok and Sunda straits.[26] Indonesia's attention is more focused on such domestic issues as economic development, political reform, territorial integrity, and militant Islamism.[27] For the Indonesian navy, countering piracy may also be less important than patrolling its extensive maritime borders; handling maritime border disputes; and countering smuggling, illegal fishing, and environmental degradation.[28] Indonesians are particularly sensitive to border disputes after the painful experience of losing two small islands off eastern Borneo, Sipadan and Ligitan, to Malaysia as the result of an International Court of Justice decision in 2002.[29] The adjoining oil-rich Ambalat region of the Celebes Sea is still disputed;[30] it is highly valued by Indonesia, which sent seven warships and four F-16s there in March 2005 after alleged incursions by Malaysian warships and aircraft.[31]

In addition, Indonesia's enforcement capacity is stretched by lack of funding and poor maintenance of its ships. According to the Indonesian defense minister, Juwono Sudarsono, only 60 percent of Indonesia's fleet of 124 ships is operational;[32] in contrast, the chief of staff of the Indonesian navy, Admiral Slamet Soebijanto, estimates that at least 302 ships and 170 aircraft are required to protect the nation's archipelago of seventeen thousand islands.[33] Although Indonesia is acquiring new patrol boats, it has asked the United States for military assistance in the form of training and support in order to build its enforcement capacity.[34] Indonesia has stressed, however, that foreign military presence is out of the question.

Indonesia's incentive to protect the straits is to demonstrate sovereignty over its waters, while promoting good international relations, especially since it receives security assistance and counterterrorism funding from the United States and Australia and aid from Japan.[35] Indonesia has also promoted cooperation between the littoral states;[36] held biannual coordinated patrols with India since September 2002;[37] and signed agreements with Australia, Japan, and India to increase cooperation in security matters, including maritime security. Indonesia also expanded its defense interactions with the United States after the restoration of U.S. international military education and training (IMET), and operational exchanges, such as the annual "Cooperation Afloat Readiness and Training" (CARAT) exercises, were broadened to build understanding and interoperability

further. For example, the sea phase of exercise CARAT was lengthened to five days in July 2006, more than double the length of the previous year's exercise.

ATTEMPTS AT REGIME BUILDING

There have been several efforts to involve the littoral states in maritime cooperation. These efforts can be split into two types: top-down frameworks proposed by extraregional stakeholders, and bottom-up efforts agreed among the littoral states themselves. These efforts are aimed at shaping the regional maritime security environment, and some states hope that they will result in regional maritime regimes favorable to their interests.

An *international regime* implies "regulated patterns of practice on which expectations converge [that] govern state behavior in specific areas of international relations."[38] There are many maritime regimes that cover the rights of states in the protection of shipping, fishing, marine resources, and other areas. The most comprehensive and important maritime regime today is the UN Convention on the Law of the Sea (UNCLOS). In the Malacca and Singapore straits, all three littoral states are party to UNCLOS, which specifies the rights and obligations of international-strait states in their territorial seas versus the right to transit passage of foreign states.

The idea of a maritime regime is an appealing one. Since the regional states have a common interest in enhancing maritime security, it would be in the national interest of each of them to participate.[39] In 1991, Michael Leifer, for example, envisaged a stable and peaceful maritime regime in East Asia whereby states could pursue their interests and manage their resources in accordance with the principles of international law and without the risk of conflict.[40] While many conferences have been held to improve understanding and build confidence, the region's states have been reluctant to move beyond the status quo.[41] Nevertheless, the ideal of building a maritime security regime has remained attractive to the present day, especially for the stakeholders with the most to gain, such as the United States, Japan, and Singapore. The U.S. *National Strategy for Maritime Security,* published in 2005, states that "regional maritime security regimes are a major international component of this Strategy and are essential for ensuring the effective security of regional seas."[42] Let us now survey several initiatives aimed at maritime security regime building, beginning with those initiated by extraregional stakeholders and aimed at direct operational cooperation.

Top-Down Frameworks

Southeast Asia is a region of not only many diverse states but also of overlapping spheres of influence between rival extraregional powers. Attempts by one to

introduce a security regime have been rebuffed by others who perceive them as upsetting the regional balance.

Japan's Ocean Peacekeeping Force concept is an example of an initiative by an extraregional power that was stifled.[43] Throughout the 1990s, Japan tried to increase regional cooperation and enhance security by providing much-needed training and assistance to the littoral states. Building upon these efforts, Prime Minister Keizo Obuchi formally proposed, at the Association of Southeast Asian Nations (ASEAN) Plus Three (Japan, South Korea, and China) summit in 1999, the formation of a regional coast guard to combat piracy. It was to be based on multilateral patrols by forces from Japan, South Korea, China, Malaysia, Indonesia, and Singapore. The proposal was immediately and strongly opposed by China, which saw in it a Japanese move to extend its security role in East Asia and contain Chinese maritime influence.[44] Subsequent Japanese-proposed initiatives, like the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP), have been much less ambitious in scope, covering only voluntary information submission, and funded by voluntary contributions. This episode suggests that, in general, attempts by extraregional powers to exert leadership are likely to trigger unfavorable reactions from rivals. Since the littoral states can ill afford to offend any of the extraregional powers, externally led efforts at leading change are unlikely to meet with success.

Another difficulty faced by externally led efforts is that they may raise sovereignty concerns. This was the situation faced by the Regional Maritime Security Initiative, a conceptual framework proposed by the United States in 2004 for neutral, multilateral maritime security cooperation. RMSI was intended to be a voluntary partnership of regional states to share information and provide cueing (early warning) to counter transnational threats.[45] Unfortunately, the media incorrectly reported that Admiral Thomas Fargo, Commander, U.S. Pacific Command (USPACOM), had testified to Congress on 31 March of that year that American Special Forces and Marines would patrol the Malacca Strait in high-speed vessels.[46] Although this was untrue, RMSI was permanently tainted by this misunderstanding, even in academic papers.[47] RMSI was immediately blasted by the leaders of Malaysia and Indonesia, who condemned the proposed deployment of U.S. forces in the strait as a direct affront to their sovereignty.[48] (While Chinese analysts wondered whether RMSI was designed to contain China, Chinese officials said little and seemed content to stand aside in this diplomatic fracas.)[49] As a result of widespread condemnation, USPACOM allowed the RMSI concept to wither away, and "RMSI" vanished from the command's official communications in 2005.[50]

Even when considered under its true spirit, RMSI would likely not have succeeded. While Admiral Fargo pitched it as a voluntary partnership of the willing, it appeared that the United States would take a leadership role in concept development and implementation. That would have raised fears that it sought to assume the initiative in the region, especially in light of the U.S. history of hub-and-spoke military diplomacy (notably in the organization of the Iraq invasion of 2003). This would surely have provoked the ire of China and other powers. As it happened, no objections were raised, because the issue of U.S. forces stationed in the Malacca Strait proved much more sensitive, and sovereignty concerns in that connection provided a convenient diplomatic "out" for the rejection of RMSI. China was wise to keep silent, because its concerns over American leadership would have seemed insensitive next to the more important issue of sovereignty.

Concern about international law and U.S. leadership was also evident in the region's response to the Proliferation Security Initiative. The PSI is a U.S.-led global initiative to prevent traffic of weapons of mass destruction (WMD). PSI requires the political cooperation of many other countries to succeed; flag-state permission is often necessary for interdiction at sea. PSI is an interesting test case for the region, because it has the appearance of a top-down framework designed to achieve the common goal of nonproliferation, and the obligations of PSI "participants" (as opposed to "members") are recommendatory and legally nonbinding. To emphasize this, PSI is deliberately marketed as an "activity" and not an "organization." Although PSI participants have declared that they are committed to certain principles to impede and stop shipments of WMD, including searching in their waters vessels "reasonably suspected" of carrying such cargoes, they are not obliged to take part in any specific activities that they oppose. Also, they need only "seriously consider" providing consent for their vessels and aircraft to be searched when suspected of carrying WMD. All in all, PSI could be seen as an effort to facilitate operational cooperation and by which participants can signal political support for nonproliferation. It attempts to promote multilateral cooperation without a cumbersome treaty apparatus.[51] In addition, the spirit of PSI was emphatically affirmed by the passage on 28 April 2004 of UN Security Council Resolution (UNSCR) 1540, requiring all states to take measures to prevent proliferation.[52]

Nonetheless, participation in PSI by Asian states was initially very low. Only Japan and Singapore expressed early public support and formally signed on. Other states might have refrained from participating because of concern about its "ad hoc, extra–United Nations, U.S.-driven nature."[53] In September 2004, the Malaysian prime minister, Abdullah Badawi, declared to the UN General Assembly that while Malaysia was committed to nonproliferation, there was a need for multilateral negotiations for "universal, comprehensive and non-discriminatory

agreements and arrangements."[54] This statement reflects fears that American leadership would be nonconsultative and unilateral, that implementation of PSI would "constitute a major shift from negotiated multilateralism of the post-war system to cooperative unilateralism under post–Cold War American hegemony."[55] There were also concerns that the United States would use the Proliferation Security Initiative in an inequitable manner against countries, such as Iran and North Korea, that it designates as "rogue states."[56]

Some countries cited concern over the legality of the initiative as well. Since the U.S. national security strategy states that the United States will, if necessary, act preemptively against WMD threats, some states are concerned that it would use the PSI to conduct interdictions in ways that violate international law.[57] In September 2005 China declared that it would not join PSI due to concerns over legality.[58] In March 2006, Indonesia declined Secretary of State Condoleezza Rice's request that Indonesia join the PSI.[59] Subsequently, on 10 June 2006, the Indonesian minister of defense, Juwono Sudarsono, wrote in the *Jakarta Post* that Indonesia would not join PSI because it "contravenes provisions of [UNCLOS]."[60] He further explained in his official "weblog" that "it was impossible for Indonesia in strictly legal terms to accept the total package of the PSI, as it endorsed interdiction of vessels passing through Indonesia's territorial waters [as] in the high seas."[61] In fact, PSI is intended to operate in a manner "consistent with national legal authorities and relevant international law and frameworks."[62] This example shows how concern over legality and neutrality can persist even over an initiative that has been deliberately designed to be legal and neutral.

While the Proliferation Security Initiative has had some successes, until very recently it appeared unable to make further inroads into Southeast Asia after its rejection by China and Indonesia.[63] American statements aimed at depoliticizing PSI and emphasizing its multilateral, voluntary nature failed to produce new participants in Asia willing to declare their support publicly. Paradoxically, the passage of UNSCR 1540 in April 2004 made open participation in PSI less politically attractive, in that the resolution *requires* states to conduct counterproliferation. Participating in PSI would no longer signal support for counterproliferation in general but support for U.S.-led operational cooperation in particular. This situation was exacerbated by the fact that the founding PSI members were the United States and other Western nations. Following an apparent U.S. lead in an initiative supported by only two states within Asia was something that most regional states, in particular Malaysia and Indonesia, were unwilling to do, as it might have antagonized China.

Many states took the politically expedient option of being a "supporting" country without making a "public statement of support," as encouraged by the United States.[64] From 2003 to 2007, such states took part in PSI conferences but

their identities were not known.[65] This situation changed on 1 May 2007, when the United States published a list of participants—eighty-two countries;[66] this was a staggering increase from the seventeen countries listed in September 2006.[67] Within Southeast Asia, Brunei, Cambodia, Papua New Guinea, and the Philippines are now listed by the United States as participants, although they have not made public declarations of support.[68] It remains to be seen whether the large number of participants will confer an air of neutrality on PSI and pave the way for the recruitment of more participants. Also, the commitment level of these "revealed" PSI supporters remains in doubt in the absence of public statements of support.

Several lessons can be drawn from these three attempts at regime building. First, ambitious attempts at regime building by extraregional powers are unlikely to succeed, because of major-power rivalries. This leads to inaction on the part of regional states who wish to preserve their nonalignment. China's economic influence in the region and suspicion toward American and Japanese motives in particular will continue to deter smaller states from allowing any of the major powers to play too great a role in regional regime building.

Second, offers of external operational assistance run up against sovereignty concerns related to direct intervention by foreign powers. The littoral states do not wish their waters patrolled by other countries, desiring to prevent major-power rivalries and to retain tight control over their territorial seas. Some of this reluctance can be attributed to enduring postcolonial nationalism and to popular antagonism toward the United States.[69] Extraregional players should also keep in mind that Indonesia, the world's fourth-most-populous country, has historically regarded itself as a regional power and remains fiercely nationalistic.

Third, there is evidence of a strong desire to preserve the status quo under existing international law and of resistance to new precedents that might compromise future actions or negotiations. Thus, Indonesia has taken a "wait and see" stance toward PSI since 2003; while it has declined to become a participant, it has not ruled out partial adherence to PSI provisions on an ad hoc basis, thereby keeping its diplomatic options open without compromising any of its interests.[70]

In summary, if a littoral state is to participate in a formal maritime security regime, it must be prepared to give up some of its political freedom of action in exchange for greater security. At present, the threats are not sufficiently compelling, and the political costs, both foreign and domestic, are too great for Malaysia and Indonesia to do so.

Bottom-Up Building Blocks

An alternative approach to deliberate regime building is to put in place mechanisms or even institutions to perform the tasks necessary for operational

cooperation. For example, coordinating patrols and sharing information are relatively simple, unobjectionable actions that can be undertaken by the littoral states among themselves. A long tradition of confidence building through bilateral, coordinated antipiracy patrols, bilateral and multilateral exercises, and personnel exchanges and interactions has built a firm foundation from which the region might progress to noncoalition operational cooperation.[71] An additional benefit of these relatively humble initiatives is that they tend to originate within the region itself (an exception was ReCAAP, initiated by Japan).

The Malacca Straits Patrols was the first multilateral initiative to be implemented in the region.[72] It was deliberately designed to be modest, originating from and limited to the three littoral states, and restricted in scope so as to avoid sovereignty issues. The three littoral states, expanding on long-standing bilateral coordinated patrols in order to enhance operational cooperation, launched trilateral coordinated patrols on 20 July 2004.[73] Since the sea patrols are coordinated, not joint, each littoral state's force patrols only within its own territorial seas, with no right of pursuit across territorial sea boundaries; the states rely on a hand-off mechanism to handle cross-boundary enforcement. Therefore, they gained in operational effectiveness without the issues of legality that would arise from intrusion into other states' waters. A conceptually linked but officially unrelated boost to the initiative's effectiveness was Project SURPIC, a technical system that allows information sharing between Singapore and Indonesian command and control (C2) centers in order to achieve a common operating picture in the Singapore Strait, facilitating communication and enforcement.

An "Eyes in the Sky" initiative to enhance surveillance by combined maritime air patrols was launched by the littoral states and Thailand on 13 September 2005.[74] Previously, each state had conducted air surveillance patrols only within its own airspace. This new program allows combined air patrols across territorial boundaries, allowing for better effectiveness in the narrow straits as well as promoting operational cooperation. A foreign liaison on board each aircraft controls actions over the waters of that officer's state, assuaging concerns over sovereignty and ensuring that states do not abuse the flights for other purposes, such as intelligence gathering. The use of air assets, which have less psychological "presence" than surface craft, also alleviates sensitivity about sovereignty. Since the aircraft can conduct only surveillance, not enforcement—in fact, they carry no weapons that could be used for enforcement purposes—there is no possibility of one state enforcing laws in another state. Overall, such efforts as these have no impact on foreign-power rivalries or international law, and they demonstrate the ability of the littoral states to police their own waters and airspace under initiatives limited in scope and purpose.

Similarly, working under the principles of regional inclusiveness, neutrality, and noninterference, Japan managed to refashion its Ocean Peacekeeping (known as OPK) concept into the more conservative and ultimately successful ReCAAP proposal made by Prime Minister Junichiro Koizumi in 2001. ReCAAP is a broadly based initiative, involving all the ASEAN nations plus Bangladesh, China, India, Japan, South Korea, and Sri Lanka.[75] ReCAAP, which came into force on 4 September 2006, is "the first regional government-to-government agreement to promote and enhance cooperation against piracy and armed robbery at sea in Asia."[76] The operational heart of ReCAAP is its Information Sharing Centre (ISC), located in Singapore, which reports and coordinates responses to incidents at sea. The member states also agree to cooperate in capacity building, legal assistance, and extradition.

The establishment of ReCAAP was a breakthrough. It is an international institution to fight piracy, not merely a set of multilateral arrangements and exercises. The inclusion of regional powers such as China, India, Japan, and South Korea and the basing of the ISC in a littoral state have also given the initiative neutrality and inclusiveness. Malaysia and Indonesia have not yet ratified the agreement, though they are expected to do so.[77] Their hesitation is attributed to concern over the location of the ISC in Singapore;[78] this concern, in turn, reflects rivalry among the littoral states, as well as fear that the ISC would publish reports unfair to other member states.[79] This delay suggests that the neutrality of such initiatives is important not just among powers but also among the littoral states themselves.

On 27 March 2007, Singapore announced that it would construct a command and control center to "house the Singapore Maritime Security Centre (SMSC), an Information Fusion Centre (IFC), and a Multinational Operations and Exercise Centre (MOEC)."[80] The IFC will facilitate information fusion and sharing among "participating militaries and agencies," and the MOEC will provide the infrastructure for multinational exercises, maritime security operations, and humanitarian assistance and disaster relief should the need arise.[81] In essence, Singapore is offering a ready-made capability that can be leveraged for regional cooperation at any time. This will allow a rapid operationalization of cooperation initiatives should the political environment be conducive. Singapore's action could also reflect the hope that the existence of an additional C2 facility will spur international cooperation. While it is still too early to see the impact of Singapore's announcement, Singapore's command and control center looks to be an important seed crystal for future cooperation when it becomes operational in 2009.

TOWARD WIN-WIN SOLUTIONS

When it comes to maritime security cooperation in Southeast Asia, are outsiders not welcome? The evidence shows that extraregional stakeholders *are* welcome

in Southeast Asia. The littoral states appreciate the assistance of outside states—but only within limits that are highly circumscribed and not politicized. The region is unreceptive to regime building that sets off power rivalries and sovereignty concerns. In contrast, the efforts of the littoral states themselves have been more modest in scope, characterized by bottom-up cooperation that incrementally builds operational cooperation.[82] This cooperation has been facilitated by the absence of an overarching framework, which would be political baggage. ReCAAP, for its part, was successful only because it was seen by extraregional powers as neutral and was limited to operational information sharing and low-level, nonmilitary assistance.

Such experience suggests several options extraregional states could take to strengthen regional maritime security. These are in line with the need for multilateralism and neutrality. First, they can share ideas and build understanding through multilateral forums. The annual Shangri-La Dialogue in Singapore, attended by defense ministers, has proved useful for exchanging viewpoints and building understanding.[83] The Western Pacific Naval Symposium is similarly valuable at the operational level. Second, they can support intraregional initiatives. Support of such existing initiatives as ReCAAP would improve the prospects for security. Although the United States is not a member of ReCAAP, it can assist that effort by not establishing parallel or competing initiatives. Singapore's new C2 center is also a possible nexus for future multilateral cooperation.

Extraregional powers can promote confidence and increase interoperability through exercises. Bilateral and multilateral exercises build the operational expertise of local navies, improving their abilities to secure the straits. Such exercises also increase interoperability, which would facilitate future operational cooperation should the opportunity arise. These exercises include CARAT and SEACAT between the U.S. and Southeast Asian navies, and the Five Power Defence Arrangements exercises among the United Kingdom, Australia, New Zealand, Malaysia, and Singapore.* PSI exercises and discussions should continue to be inclusive in order to build understanding of that initiative.

They can offer technical assistance to build capacity. Such help is welcome in the region, especially by Indonesia.[84] Outside assistance would render Indonesia, with its limited budget and other priorities, better able to promote maritime security. Japan has installed navigational aids in the Malacca Strait and, through the Nippon Foundation, donated a training ship to Malaysia in June 2006.[85] While such assistance is not multilateral in nature, it takes place within normal bilateral frameworks, and outside powers have not protested such interactions; political sensitivities can also be somewhat lessened by rendering the assistance

* SEACAT (Southeast Asia Cooperation against Terrorism) promotes information sharing and multinational cooperation in maritime interception scenarios.

in low-key, behind-the-scenes ways. Goodwill can also be built through humanitarian civic assistance. Political and operational payoffs accrued to the United States, Japan, and other nations from the tsunami humanitarian relief mission in northern Indonesia, and humanitarian civic assistance should be continued in peacetime.[86] Humanitarian aid does not directly strengthen regional maritime security, but it can promote mutual understanding and goodwill.

Finally, external powers can work through international organizations. New international frameworks established through the UN and International Maritime Organization would be the most effective way of introducing new norms to the region. Security Council resolutions are difficult to bring to adoption, but the legal authority of such resolutions and the moral authority arising from such focused expressions of international opinion make them highly effective. For example, many of the goals of the Proliferation Security Initiative, as we have seen, were achieved with the passage of UNSCR 1540. In this regard, ratification by the United States of the UN Convention on the Law of the Sea would increase the legitimacy of that vehicle and facilitate the success of future initiatives.

There has been considerable progress in international understanding and cooperation in Southeast Asia. The norms for acceptable participation by outside actors in the region have become more clearly defined through the region's experience with OPK, RMSI, PSI, and ReCAAP. Future cooperation initiatives can thereby be tailored to avoid regional sensitivities. Although the main focus of such initiatives has been the Malacca and Singapore straits, the inclusion of Thailand in combined air patrols and the establishment of ReCAAP, involving sixteen countries, suggest a potential to increase the geographical scope of regional cooperation. Ultimately, extraregional players need to appreciate the differing needs and preferences of the littoral states and other extraregional powers and to act accordingly to find a win-win solution for all parties.

NOTES

The author wishes to thank Professor Peter Dutton of the Naval War College for his help as course paper adviser, and Mr. and Mrs. Gilson B. Gray III for generously sponsoring the Zimmerman-Gray Naval Staff College International Prize, which is dedicated to the memory of their fathers, Cdr. Donald S. Zimmerman, Jr., USN, and Cdr. Gilson B. Gray, Jr., USNR, both of whom were Navy pilots.

The views expressed herein are those of the author and are not necessarily endorsed by the Republic of Singapore Navy.

1. *The National Strategy for Maritime Security* (Washington, D.C.: White House, 2005), p. 15, www.whitehouse.gov/homeland/maritime-security.html.
2. Teo Chee Hean (speech at RSN fortieth anniversary and commissioning of RSS *Formidable,* Changi Naval Base, Singapore, 5 May 2007).

3. According to the International Maritime Bureau of the International Chamber of Commerce, the annual rates of reported piracy incidents in the Malacca Strait have varied over the years: sixteen in 2002, twenty-eight in 2003, thirty-eight in 2004, twelve in 2005, and eleven in 2006. These rates have been falling in recent years and the level of violence has decreased, but it is too early to conclude that they would continue to trend downward. Also, there is concern that pirates will resort to "more violent and sophisticated operations." Jane Chan and Joshua Ho, "Piracy and Armed Robbery against Ships," *RSIS Commentaries,* 21 March 2007, p. 2, available at www.rsis.edu.sg/publications/Perspective/RSIS0182007.pdf.
4. See Catherine Zara Raymond, "The Malacca Straits and the Threat of Maritime Terrorism," *Power and Interest News Report,* 24 August 2005, www.pinr.com.
5. John F. Bradford, "The Growing Prospects for Maritime Security Cooperation in Southeast Asia," *Naval War College Review* 58, no. 3 (Summer 2005), p. 75.
6. David Rosenberg, "Dire Straits: Competing Security Priorities in the South China Sea," *Japan Focus,* 13 April 2005.
7. Donald E. Weatherbee, *International Relations in Southeast Asia: The Struggle for Autonomy* (Lanham, Md.: Rowman and Littlefield, 2005), p. 175. The term "piracy" will be used to refer broadly to piracy in international waters as well as to acts of armed robbery within territorial seas. However, strictly speaking, under UNCLOS definitions, piracy takes place only on the high seas.
8. The situation improved recently when the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) entered into force in September 2006. Malaysia and Indonesia have signed but have not yet ratified the agreement.
9. In addition, useful cooperation can be achieved among governmental agencies, such international organizations as the International Maritime Organization, and the shipping industry. These modes of cooperation will not be discussed in this article.
10. These fears proved well founded in 2003, when local members of the terrorist group Jemaah Islamiyah were caught plotting bomb attacks on American sailors on shore leave and small-boat attacks on U.S. warships transiting off Changi.
11. Teo Chee Hean (speech at groundbreaking ceremony for the Changi Command and Control Centre, Changi Naval Training Base, Singapore, 27 March 2007). This phrase was also used in Teo's previous speeches.
12. Serene Chua, "Maritime Security: Possibilities for Terrorism and Challenges for Improvement," *Pointer* 32, no. 2 (September 2006), pp. 31–32.
13. Ibid., p. 33.
14. Ibid.
15. Maritime and Port Authority of Singapore, "Safety & Environment: Introduction," *Building an International Maritime Center,* www.mpa.gov.sg/safetyenvironment/intro/intro.htm.
16. Singapore has been vocal in urging the region to "move beyond principles" in terms of military cooperation. For example, in 2005 Singapore's defense minister, Teo Chee Hean, expressed the nation's interest in introducing joint military activities under the Association of Southeast Asian Nations (ASEAN) Regional Forum (ARF) umbrella (Robert Karniol, "Singapore Calls on Allies to 'Move beyond Principles,'" *Jane's Defence Weekly,* 15 June 2005). In January 2007, Singapore hosted the first ARF maritime-security shore exercise ("Singapore Hosts First Ever ASEAN Regional Forum Maritime Security Shore Exercise," *Ministry of Defence, Singapore,* 23 January 2007, www.mindef.gov.sg/imindef).
17. Notably, it was the first country within ASEAN to conclude, in 2003, a free-trade agreement with the United States, which was in part a reward for its partnership in the war on terrorism. Weatherbee, *International Relations in Southeast Asia,* p. 37.
18. Dato' Sri Mohd Najib Tun Abd Razak, "The Security of the Straits of Malacca and Its Implications to the South East Asia Regional Security" (speech, Seoul, 13 March 2007), available at www.pmo.gov.my/WebNotesApp.
19. Ibid.

20. Agence France-Presse, "Experts Warn of Terrorism, Piracy in Malacca Straits," 13 June 2007, www.taipeitimes.com.
21. Agence France-Presse, Bernama, "Share Data to Fight Piracy: Najib," 3 September 2007, www.straitstimes.com.
22. "Malaysia's MMEA to Acquire Air Assets," *DefenseNews,* 5 February 2007, p. 18.
23. Najib, "The Security of the Straits of Malacca."
24. According to UNCLOS article 43, "User States and States bordering a strait *should by agreement* [emphasis added] cooperate: (a) in the establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation; and (b) for the prevention, reduction and control of pollution from ships." However, according to article 38, the right of transit passage through international straits cannot be infringed upon by coastal states. Therefore, there is no legal obligation for user states to engage in burden sharing, and participating in such initiatives would set an uncomfortable precedent that might encourage other international-strait states to demand burden-sharing agreements also. At present, the subject is under study and negotiation. The Nippon Foundation has limited its appeals for burden sharing to voluntary contributions, stating, "Shipping companies and other users should recognize their corporate social responsibility toward the promotion of navigational safety and environmental protection of the Straits and voluntarily provide the necessary assistance to the littoral States." See Agence France-Presse, "Malaysia Urges Burden-Sharing to Protect Malacca Strait," 13 March 2007, available at bpms.kempen.gov.my.
25. Najib, "The Security of the Straits of Malacca." This point is also made in Yoichiro Sato, "U.S. and Japan in the Malacca Strait: Lending Hands, Not Stepping In," *GloCom Platform: Japanese Institute of Global Communications,* 13 July 2004, www.glocom.org/debates/20040713_sato_us/index.html.
26. Barrett Bingley, "Security Interests of the Influencing States: The Complexity of Malacca Straits," *Indonesian Quarterly* 32, no. 4 (December 2004), p. 362.
27. A fledgling democracy formed after the downfall of General Suharto's authoritarian government in May 1998, followed by the fall of three presidents through 2004, Indonesia is still struggling to recover from decades of corruption and policy stagnation. Weatherbee, *International Relations in Southeast Asia,* pp. 30–31.
28. Stefan Eklöf, "Piracy in Southeast Asia," *IIAS Newsletter* 40 (Spring 2006), p. 29. Indonesia has sent patrol ships to prevent border crossings from independent East Timor into Indonesian-held western Timor (Xinhua, "Indonesian Warships Still Patrolling Border Waters with Timor-Leste," 7 June 2006, available at english.people.com.cn). Indonesian patrol ships also patrol its maritime border with Australia, to prevent Indonesian fishing vessels from infringing into Australian waters ("Indonesian Navy Send Two War Ships to Patrol Boundry Near Australia [*sic*]," *AntaraNews,* 27 January 2006, www.antara.co.id).
29. Azhar Ghani, "Jakarta Using S'pore, KL as Bogeymen?" *Straits Times,* 17 March 2007, available at app.mfa.gov.sg. ("KL" refers to Kuala Lumpur, the capital of Malaysia.)
30. See "Malaysia Minister Denies He Apologized over Ambalat," *AntaraNews,* 30 March 2007, www.antara.co.id.
31. Bill Guerin, "Sulawesi Sea Row Dredges Up Defenses," *Asia Times Online,* 9 March 2005, www.atimes.com.
32. Coordinating Ministry for Economic Affairs, Republic of Indonesia, "Trade and Investment News," 24 July 2006, www.jjc.or.id/picture/10332006133543TIN20060724.pdf.
33. Agence France-Presse, "Tsunami Opens Door for Normalization of US-Indonesia Military Ties," 13 February 2005, www.channelnewsasia.com.
34. Ibid.
35. Frederick Chew, *Piracy, Maritime Terrorism and Regional Interests,* Geddes Papers (Canberra: Australian Defence College, 2005), p. 78.
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37. "RI, Indian Navies Conducting Coordinated Patrols in Andaman Sea," *PR Newswire,* 20 March 2007, available at www.zibb.com.
38. Sam Bateman, "Maritime 'Regime' Building," in *The Best of Times, the Worst of Times: Maritime Security in the Asia-Pacific,* ed. Joshua Ho and Catherine Zara Raymond (Singapore: World Scientific, 2005), p. 263.
39. Arthur Stein, "Coordination and Collaboration: Regimes in an Anarchic World," in *Neorealism and Neoliberalism: The Contemporary Debate,* ed. David A. Baldwin (New York: Columbia Univ. Press, 1993), pp. 309–11.
40. Michael Leifer, "The Maritime Regime and Regional Security in East Asia," *Pacific Review* 4, no. 2 (1991), pp. 126–36.
41. Mark Valencia, "Regional Maritime Regime Building," *Ocean Development and International Law* 31 (2000), p. 241.
42. *National Strategy for Maritime Security,* p. 15.
43. Weatherbee, *International Relations in Southeast Asia,* p. 175.
44. Ibid.
45. "Regional Maritime Security Initiative," *U.S. Pacific Command,* 21 June 2004, available at web.archive.org/web/20051018030410/www.pacom.mil/rmsi.
46. Bradford, "Growing Prospects for Maritime Security Cooperation in Southeast Asia," p. 75.
47. For example, the account of RMSI in Weatherbee's *International Relations in Southeast Asia* reflects this misunderstanding. For an example media report, see "Crack U.S. Troops May Be Used to Flush Out Terrorists in Key Southeast Asian Waterway," *Channel NewsAsia,* 5 April 2004, available at web.archive.org/web/20040405202704/www.channelnewsasia.com.
48. C. S. Kuppuswamy, *Straits of Malacca: Security Implications,* Paper 1033 (India: South Asia Analysis Group, 18 June 2004), available at www.saag.org/papers11/paper1033.html.
49. Denny Roy, *Lukewarm Partner: Chinese Support for U.S. Counter-Terrorism in Southeast Asia* (Honolulu, Hawaii: Asia-Pacific Center for Security Studies, March 2006).
50. A search of Commander, USPACOM's speeches shows no references to RMSI after 2004, and its RMSI (www.pacom.mil/rmsi) website has been removed. According to Archive.org, the site was last accessible in October 2005.
51. Mark R. Shulman, *The Proliferation Security Initiative as a New Paradigm for Peace and Security* (Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, April 2006), p. 8.
52. Henry Low, "The Proliferation Security Initiative Dilemma: To Join or Not to Join?" (research paper, U.S. Naval War College, Naval Staff College, Newport, R.I., 10 May 2005), p. 8.
53. Mark J. Valencia, "Is the PSI Really the Cornerstone of a New International Norm?" *Naval War College Review* 59, no. 4 (Autumn 2006), p. 128.
54. Abdullah bin Haji Ahmad Badawi (address at General Debate of the fifty-ninth session of the General Assembly of the United Nations, New York, 27 September 2004).
55. Rosenberg, "Dire Straits."
56. Mark J. Valencia, *The Proliferation Security Initiative: Making Waves in Asia,* Adelphi Paper 376 (London: International Institute for Strategic Studies, October 2005), p. 69.
57. *The National Security Strategy of the United States of America* (Washington, D.C.: White House, 2006).
58. Center for Nonproliferation Studies, Monterey Institute of International Studies, "Proliferation Security Initiative (PSI)," *Inventory of International Nonproliferation Organizations and Regimes,* 28 September 2006, cns.miis.edu/pubs/inven/index.htm.
59. Ibid.
60. Yuwono [*sic*] Sudarsono, *Jakarta Post,* opinion, 10 June 2006, available at www.thejakartapost.com.
61. Juwono Sudarsono, "US Secretary of Defense," *Juwono Sudarsono: Integrity in the Strict Sense,* 13 June 2006, www.juwonosudarsono.com.
62. Office of the Press Secretary, White House, "Proliferation Security Initiative: Statement of Interdiction Principles," available at www.state.gov/t/isn/rls/fs/23764.htm.
63. PSI has been successful in that the major flag states and all the permanent members of the UN Security Council, except China, are full participants. UNSCR 1540 was also a spin-off success from the general acceptance of PSI, as

it encapsulates many PSI principles, except for the authorization of maritime interdiction, which was opposed by China. Indonesia, although it would not join PSI, is sympathetic to its aims. President Susilo Bambang Yudhoyono has assigned the chief security minister, Widodo Adi Sutjipto, to study the possibility of undertaking PSI provisions on a partial and ad hoc basis. Sudarsono, "US Secretary of Defense."

64. See Valencia, "Is the PSI Really the Cornerstone of a New International Norm?" and Bureau of Nonproliferation, "Proliferation Security Initiative Frequently Asked Questions (FAQ)," *U.S. Department of State,* 26 May 2005, www.state.gov/t/isn/rls/fs/46839.htm.

65. Valencia, "Is the PSI Really the Cornerstone of a New International Norm?"

66. Bureau of International Security and Nonproliferation, "Proliferation Security Initiative Participants," *U.S. Department of State,* 1 May 2007, www.state.gov/t/isn/c19310.htm.

67. Sharon Squassoni, *Proliferation Security Initiative (PSI)* (Washington, D.C.: Congressional Research Service, 14 September 2006), p. 2, available at www.fas.org/sgp/crs/nuke/RS21881.pdf. Although it was known that other states had publicly declared themselves PSI participants, for a total of more than twenty, the Department of State's PSI website was not updated, resulting in some confusion over the actual number.

68. Bureau of International Security and Nonproliferation, "Proliferation Security Initiative Participants."

69. According to the Pew Global Attitudes Project report of 13 June 2006, favorable opinions of the United States among Indonesians had fallen from 36 percent to 30. In comparison, Indonesians hold generally favorable opinions of other major nations, such as Germany (56 percent), France (52 percent), Japan (78 percent), and China (62 percent). *Pew Global Attitudes Project,* pewglobal.org/reports.

70. In the *Jakarta Post* of 10 June 2006, the Indonesian defense minister wrote, "On June 7, President Susilo Bambang Yudhoyono merely requested that Chief Security Minister Widodo, Foreign Minister Hassan Wirajuda and I consider the possibility of Indonesia's partial and ad hoc adherence to the PSI on a case by case basis, within the framework of maintaining Indonesia's legal sovereignty over its land, territorial waters and airspace."

71. Exercises include the three annual bilateral events undertaken between the three littoral states (Malaysia/Indonesia, Malaysia/Singapore, Indonesia/Singapore), as well as multilateral interactions such as the Five Power Defence Arrangements (Malaysia, Singapore, the United Kingdom, Australia, and New Zealand) and Western Pacific Naval Symposium exercises.

72. The term "Malacca Straits" was introduced as a verbal shorthand in such initiatives as "Malacca Straits Security Initiative" and "Malacca Straits Patrols" to mean the Straits of Malacca and Singapore.

73. The Indonesia-Singapore Co-ordinated Patrol was started in 1992. Also see "Launch of Trilateral Coordinated Patrols—MALSINDO Malacca Straits Coordinated Patrol," *Ministry of Defence, Singapore,* 20 July 2004, www.mindef.gov.sg.

74. "Launch of Eyes in the Sky (EiS) Initiative," *Ministry of Defence, Singapore,* 13 September 2005, www.mindef.gov.sg.

75. As of the time of writing, all the nations had ratified the agreement except for Malaysia and Indonesia.

76. Singapore Ministry of Foreign Affairs, "Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)," press release, 4 September 2006, available at app.mfa.gov.sg.

77. Vijay Sakhuja, "Regional Cooperation Agreement on Anti-Piracy," *Strategic Trend IV,* 10 July 2006.

78. Ibid.

79. John Bradford, *Southeast Asian Maritime Security in the Age of Terror: Threats, Opportunity, and Charting the Course Forward,* Working Paper 75 (Singapore: Institute of Defence and Strategic Studies, April 2005), pp. 8–9.

80. According to a press release, "The Changi C2 Centre will advance multi-agency co-operation and inter-operability amongst national maritime agencies, to enhance Singapore's maritime security capabilities. The Centre will also

enable international co-operation and interoperability between countries to promote maritime security in the region." "New Maritime Command and Control Centre at Changi," *Ministry of Defence, Singapore,* 27 March 2007, www.mindef.gov.sg.

81. Ibid.

82. For example, the trilateral coordinated patrols and combined air patrols are relatively simple and were implemented in a step-by-step, task-by-task manner. First, surface patrols were coordinated to improve response. Air surveillance was then added, to improve surveillance.

83. The countries represented at the 2007 Shangri-La Dialogue were Australia, Bangladesh, Brunei, Cambodia, Canada, China, France, Germany, India, Indonesia, Japan, Malaysia, Mongolia, Myanmar, New Zealand, Pakistan, the Philippines, the Republic of Korea, Russia, Singapore, Sri Lanka, Thailand, Timor-Leste (East Timor), the United Kingdom, the United States, and Vietnam.

84. Indonesia has accepted American and Japanese military and technical assistance and has been reinstated on the U.S. International Military Education and Training program.

85. James L. Huffman, "The Nippon Foundation Donates Training Ship to Malaysia," *Nippon Foundation,* 1 June 2006, www.nippon-foundation.or.jp.

86. For the U.S. tsunami response and the goodwill that resulted, see Bruce A. Elleman, *Waves of Hope: The U.S. Navy's Response to the Tsunami in Northern Indonesia,* Newport Paper 28 (Newport, R.I.: Naval War College Press, February 2007).

MINES AND UNDERWATER IEDS IN U.S. PORTS AND WATERWAYS

Context, Threats, Challenges, and Solutions

Scott C. Truver

A broad spectrum of nontraditional and asymmetric threats challenges U.S. maritime homeland security.[1] The smuggling of drugs, arms, and people; vesselborne improvised explosive devices, like that used by terrorists against the guided-missile destroyer USS *Cole* in October 2002; proliferation of chemical, biological, radiological, nuclear, and high-explosive weapons of mass destruction and disruption; piracy and organized crime; overexploitation of marine resources and the destruction of marine habitats; environmental attacks and trade disruption; political and religious extremism; mass migration flows; global health threats (e.g., the spread of infectious diseases like SARS and avian flu)—all these and more pose far-reaching dangers for American security interests at home and abroad. Under the cloak of legal activity, groups that would do us harm can enter the U.S. homeland anywhere along more than ninety-five thousand miles of coastlines and through some 360 ports from Maine to Guam.

"The challenge is enduring," Admiral Thad W. Allen, Commandant, U.S. Coast Guard, wrote in his foreword to the Coast Guard's 2007 maritime security strategy.[2] "The threats of the Cold War are gone, and we again find ourselves operating in an environment where piracy, illegal migration, drug smuggling, terrorism, arms proliferation and environmental crimes are carried out by anonymous, loosely affiliated perpetrators."

Naval mines and underwater improvised explosive devices (UWIEDs, or minelike "booby traps") are among these threats to U.S. maritime interests.[3] A true "sleeper threat," mines and UWIEDs can with great effect attack the good order of American ports and

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Naval War College Review, Winter 2008, Vol. 61, No. 1

waterways. They are the quintessential asymmetric naval weapons, used for more than two centuries by weak naval powers against the strong, regardless of whether they were "unworthy of a chivalrous nation," as Rear Admiral David G. Farragut, of "Damn the torpedoes!" fame, declared.[4] If left unaddressed, they could constitute an Achilles' heel for U.S. homeland security.

Until very recently, naval mines and UWIEDs, if included in domestic maritime threat assessments at all, have usually been relegated to the status of a "lesser included" problem.[5] If we can deal, it is argued, with what planners believe are the more likely maritime threats, especially vesselborne devices, we can certainly handle mines and *underwater* IEDs. But the history of naval and terrorist mining since 1945 challenges this assumption, and the stakes are high if it turns out to be wrong. Indeed, the assessments and planning that *have* focused on the M/UWIED threat underscore critical weaknesses in how federal, regional, state, and local actors charged with ensuring America's maritime security, as well as private entities whose assets are at risk, must respond to weapons that can easily be deployed in U.S. ports and waterways.

THE NATURE OF THE M/UWIED THREAT

In the American experience, the first use of UWIEDs came in September 1776, when the patriot (or, in English eyes, terrorist) David Bushnell attempted to fix a limpet mine on Lord Howe's flagship HMS *Eagle* in the Hudson River.[6] Bushnell's attack was frustrated by bad luck and the "passive protection" of the ship's iron fittings. Fifteen months later, Bushnell used floating kegs of gunpowder fitted with contact-firing mechanisms against the British fleet above Philadelphia; four British sailors died trying to retrieve the kegs from the Delaware River—an early example of explosive ordnance disposal (EOD) against an unknown threat—but the fleet was unscathed.[7]

More than two centuries on, terrorists can use or threaten to use mines and UWIEDs for a variety of political, economic, or military ends, often with psychological effects foremost in mind. While small devices might have no more than nuisance value, as a way to exacerbate anxieties (Boston's reaction to "guerrilla marketing" in early 2007 comes to mind), larger mines can be placed surreptitiously in channels and harbors to achieve spectacular effects—against, for example, the Staten Island Ferry, crammed with 2,500 commuters during an evening rush hour, or a cruise ship with four thousand vacationers and crew on board leaving Miami or Seattle.[8] The tragedy of hundreds of bodies floating in a port would intensify the psychological message about the true security of America's home waters.

Mines can directly attack the nation's waterborne trade. More than 90 percent of American exports and imports by volume transits U.S. ports, and the efficient

and safe movement of our foreign, coastal, and inland-waters trades is critical for America's globalized, just-in-time, and just-enough economy. The economic consequences of just a few mines in our ports could be catastrophic, as the two-week West Coast labor slowdown in the fall of 2002 implies—a $1.95 billion impact per day. According to a University of California at Berkeley analysis, the direct and indirect economic impacts of a twenty-day longshoremen's work action would cost the U.S. economy more than $50 billion (in 2002 dollars).[9] Even if no ships were sunk or damaged and no channels were blocked, explosions in a few key ports on East, Gulf, and West coasts and in the Saint Lawrence Seaway—clearly not an impossible feat, as September 11th tragically proved—would have a chilling effect on commercial shipping in terms of increased insurance costs and vessel lay days. The economic tremors would reverberate throughout the nation and to trading partners overseas.

There could be serious military impacts, as well. Mines in critical waterways could slow the movement of military cargoes in crisis and conflict. During World War II, the port of Charleston, South Carolina, was closed for sixteen days by mines from German submarines. In all, U-boats managed to lay 327 mines from Halifax, Nova Scotia, to the Mississippi Delta, closing several ports for a total of forty days and sinking or damaging eleven ships. Today, while mines might not be "showstoppers," they would certainly be "speed bumps"; just a few weapons in the approaches to the port of Savannah, Georgia; the Houston Ship Channel; and one or two other waterways could hamper the military sealift that undergirds war plans.[10]

Mines and underwater IEDs are easy to acquire or build, and they are cheap, ranging from a few tens of dollars to thirty thousand dollars for the most advanced, multiple-influence weapons.[11] But their low cost belies their potential for harm. They can be deployed by submarines, surface warships, small craft, commercial vessels, dhows, fishing vessels, pleasure boats, fixed-wing aircraft, and helicopters. They are designed for operations from the surf zone (less than ten-foot water depth) to deep water (greater than two hundred feet). Their payloads can range from a few pounds to several tons of high explosive, and they can have a variety of firing mechanisms: remote control and command; contact; and magnetic, acoustic, seismic, pressure, or combinations of some or all such "influence" signatures of ships.

Mines can be buoyant and suspended in the water column, close tethered to the bottom, resting on the bottom, or even buried under sediments to confound minehunting and sweeping. Some mines are mobile, capable of being launched from submarines thousands of yards from intended minefields, while others have torpedo or rocket-propelled warheads that dramatically expand potential damage zones against submarine and surface targets. Limpet mines are designed

to be placed directly on targets by combat swimmers or, perhaps even today, unmanned undersea vehicles (UUVs). Old mines can be refitted with modern, highly sophisticated components, and any mine can be equipped with counter-countermeasure features to frustrate EOD, sweeping, and hunting. They can be fabricated from fiberglass and plastic, making them extremely difficult to detect, identify, or counter—once in the water.

More than that, mines are a broad-spectrum, global threat. According to Navy data, more than a quarter-million naval mines of more than three hundred types are in the inventories of more than fifty navies, not counting American weapons. More than thirty countries produce, and more than twenty countries export, mines. Even highly sophisticated weapons are available on the black market, usually on a cash-and-carry basis. Worse, these Navy figures are for mines proper; they do not include UWIEDs, which can be fabricated easily and cheaply, as an Iraqi "bicycle"-type, floating, anti-small-boat mine encountered during Operation DESERT SHIELD proved. As then–Chief of Naval Operations (CNO) Admiral C. A. H. Trost, USN, remarked in July 1989, at the height of the Persian Gulf "Tanker War" mine strikes:

> Very little sophistication is required to manufacture and deploy mines. Any nation with either money to buy mines on the open market, or the capability to forge metal and make explosives, can become an active participant in mine warfare. Minefields can be seeded by anything that flies or floats. And again, crude but effective mines are cheap, easy to stockpile, and easily concealed in holds of ships and fishing boats.[12]

THE POST–WORLD WAR II MINE EXPERIENCE

Winston Churchill once remarked, "The farther backward you look the farther forward you can see." The U.S. Navy's post–World War II mines and mine countermeasures experience underscores the cost-effectiveness of these weapons that wait and the need to counter them.[13]

At the outset of the Korean War, in September–October 1950, some three thousand Soviet and Chinese mines kept a 250-ship amphibious task force at bay off the coast of Wonsan for a week. Three minesweepers were lost and more than a hundred men killed during the initial minesweeping operations through early November. Overall, though the U.S. mine force accounted for just 2 percent of the UN naval forces during the three-year "police action," it suffered 20 percent of the casualties.

Two U.S. Navy warships suffered mine strikes during the Vietnam War, while the Vietcong and North Vietnamese army used a bewildering variety of UWIEDs and mines—from antipersonnel floating-basket booby traps with a handful of explosive to a two-thousand-pound command-detonated weapon—in the rivers and deltas. (Another one or two Navy ships might have been victims

of "friendly fire" from USN converted-bomb Mark-62/63/64 Destructor mines—themselves essentially very sophisticated UWIEDs.) As the Navy continues to stand up its new Naval Expeditionary Combat Command and squadrons, the experiences of task forces 116 and 117 in Vietnam can provide important lessons for future "riverine" and "brown water" MCM operations.[14]

During the Tanker War, the guided-missile frigate USS *Samuel B. Roberts* almost sank, with potentially great loss of life, after striking a Soviet-designed World War I–era contact mine on 14 April 1987.[15] Only heroic efforts kept the ship afloat. Repairs cost about $96 million, from a $1,500 weapon. On 18 February 1991, in the same waters, the helicopter assault ship USS *Tripoli* encountered an Iraqi contact mine, which blew a hole twenty-three feet by twenty-five in its starboard side. Four hours later, the Aegis guided-missile cruiser *Princeton* was almost broken in half by an Italian-made Manta bottom mine in approximately sixty-five feet of water. *Princeton* had to be taken out of the war, and the total cost to repair came to more than $110 million—all from a single mine costing about fifteen thousand dollars. The presence of some 1,300 Iraqi mines laid by barges and tugs in the northern Persian Gulf utterly frustrated plans for a Marine amphibious task force to open up a second front east of Kuwait City. Finally, the posthostilities mine clearance took eight navies' mine countermeasures (MCM) forces nearly two years to confirm that ten mine-danger areas had been made safe for naval and maritime traffic. The U.S. Navy still homeports several MCM vessels in Bahrain, just in case a quick response is needed.

Since the end of World War II, then, mines have damaged or sunk four times more U.S. Navy ships than have all other means of attack: mines, fifteen ships; missiles, one; torpedoes/aircraft, two; small-boat terrorist attack, one (and this last, the attack on *Cole,* can be seen as a "terrorist in the loop" mobile-mine strike).

In addition to the U.S. Navy's experiences with mines since September 1945, mines have been used or threatened in a wide variety of scenarios that are harbingers of terrorist dangers yet to come. In October 1946, during a "freedom of navigation" operation, two Royal Navy warships were severely damaged by Soviet-made mines laid by Albania in the Corfu Channel. In 1974–75, the U.S. Navy assisted in clearing the Suez Canal and its approaches of mines and unexploded ordnance left from the October 1973 Arab-Israeli War.

The "patriotic scuba diver" mine crisis of January 1980 showed that a terrorist threat of mines—in this case "mining" the Sacramento River during the Soviet grain embargo announced by President Jimmy Carter—could have dramatic effects on maritime trade. An unknown person identifying himself as the "patriotic scuba diver" claimed by telephone to have placed a mine in the waterway; all shipping movement ceased almost immediately. Once on scene, the

Navy minesweeper USS *Gallant* required four days of intensive minehunting to determine the channel was safe. No mines were discovered, but the cost in merchant vessel lay days caused by the hoax was estimated in the hundreds of thousands of dollars.

Since the 1970s, the Tamil Tigers have been particularly vicious in mine attacks against Sri Lankan government ships, commercial vessels, and private boats. In 1982, the Argentine military used mines during the Falklands War. Reports have the Nicaraguan Contras using limpet mines to damage two ships in Corinto Harbor in 1984, in a direct challenge to the Sandinistas.

But it was the "Mines of August" crisis in the summer of 1984 that showed most vividly how easily mines can be used as weapons of maritime terror.[16] From 19 July to 13 September as many as twenty-three vessels reported damage from underwater explosions in the Red Sea and Gulf of Suez, a rash of attacks that generated a massive multinational mine countermeasures response. Egypt, France, Great Britain, Italy, the Netherlands, the Soviet Union, and the United States helped clear the waterway. Only one new mine was recovered and rendered safe, by Royal Navy divers—a 1,700-pound, multiple-influence Soviet bottom mine completely unknown in the West. (The British and French MCM forces also detected, identified, and destroyed a two-thousand-pound bomb, a practice torpedo, and numerous old mines, some dating to World War II.) Later it was proved that Libyan naval personnel aboard the commercial ferry *Ghat* had rolled off the mines as the vessel meandered throughout the waterway, completely unchallenged, for more than two weeks. This experience prompted Admiral Trost to comment that

> five years ago mine warfare entered the age of indiscriminate terrorism and international blackmail. . . . No country claimed responsibility for this act, but that did not change the reality that mines were there impeding the flow of commerce in this major waterway. . . . The bottom line is simple. Mine warfare may not be considered glamorous, some even call it ugly. But it works well. For the most part, a mine doesn't care who or what you are, and usually gives little warning of its presence.[17]

Finally (although more incidents might well remain unreported), on 21 April 2004 a tugboat operator on Lake Pontchartrain, Louisiana, spotted a suspicious floating bag and called the Coast Guard.[18] The Coast Guard contacted the Jefferson Parish bomb squad, which fished the bag out of the water. It proved to be a UWIED, a couple of pounds of explosive in plastic pipes with a timer, wrapped in trash bags to keep it afloat. One possible target was Senator John Kerry, a presidential hopeful who had been scheduled for a campaign trip on the lake. The bomb squad used a water cannon to neutralize the device.

In addition to showing how easily a UWIED can be built, this incident highlights the challenges of deciding who is in charge of response to a mine crisis in American ports and waterways: the Coast Guard or the Navy? What are the roles and responsibilities of local police bomb squads or fire departments? In some jurisdictions, even natural-resources police could be involved. Most fundamentally, is an M/UWIED incident a homeland security or a homeland-defense "problem," and who makes the call, one way or the other, when the first weapon fires?

FRAMEWORK AND RESPONSIBILITIES

At the federal level, domestic mine/UWIED responsibilities seem to be clear. Under the 2002 Maritime Transportation Security Act, the Coast Guard, in the Department of Homeland Security (DHS), is the lead federal agency for maritime homeland security (MHLS).[19] The Federal Bureau of Investigation, in the Department of Justice, is the lead agency for terrorism/counterterrorism; Justice's Bureau of Alcohol, Tobacco, Firearms and Explosives also figures prominently in investigations involving explosives. The Navy, in the Department of Defense, is the lead for mine countermeasures expertise and operations. Below this strategic context, however, relationships remain murky, and the frameworks—let alone the formal requirements—for responding to a mine or UWIED threat at the operational and tactical levels need work.

Under the 2005 *National Strategy for Maritime Security,* the National Response Plan, the National Incident Management System and the National Incident Command System, and the Maritime Operational Threat Response (MOTR) Plan provide the going-in architecture for MHLS operations. But regional, state, local, and commercial partners must also be closely integrated and informed. Indeed, a multiagency, multiple-governmental command, control, communications, intelligence, reconnaissance, and surveillance architecture and response system is needed for each U.S. port—or at least the seventeen "tier one" facilities having significant military or economic importance—within the overall maritime homeland security and maritime domain awareness (MDA) framework. Mines and UWIEDs collectively represent just one set of the many threats to the nation's maritime homeland security, but they are particularly treacherous, insidious, and deadly—and at this writing in mid-2007 were not yet included in the Defense Department's MDA concept of operations. Nevertheless, the Joint Chiefs of Staff *Homeland Defense* publication in numerous places does address the threat from mines in U.S. ports and waterways and outlines the supported and supporting roles in domestic countermining and mine countermeasures operations.[20]

The U.S. Coast Guard's sector commanders, in their roles as "Captains of the Port" (COTPs) and local Federal Maritime Security Coordinators, will be

crucial to mine/UWIED defense. Among other vital security and safety functions, COTPs:

- Establish the port maritime security plans for their respective areas of responsibility
- Conduct risk-based area security assessments
- Develop area maritime transportation plans
- Have command-control-communications responsibilities and authorities for MHLS incidents
- Can close ports in the event of emergency
- Provide a vital "bridging function" among the Defense and Navy departments and regional, state, local, and commercial partners, as a result of the Coast Guard's inherent military, civilian, maritime, law enforcement, and humanitarian character and authorities.

But a Captain of the Port has no capability—or even desire—actually to conduct MCM operations. Vice Admiral James D. Hull, USCG (Retired), who served as Atlantic Area Commander, understood well the need to deal with mines and UWIEDs in American waters, "but that's primarily the Navy's responsibility," as he later explained.[21] "The Navy has the expertise and equipment to do the job. The real question is whether the Navy's MCM forces can respond in the appropriate time to neutralize a no-notice threat." Of interest in this regard is the fact that the Coast Guard's 2007 *Strategy for Maritime Safety, Security, and Stewardship* in only two places mentions "water-borne IEDs," and even there it limits the concept to a small-boat/bomb threat like the one that attacked the USS *Cole* and nowhere mentions mines or underwater IEDs.[22] Likewise, the Coast Guard's Underwater Terrorism Protection Plan of mid-2007 does not address mine/UWIED threats or defense requirements.

Since 2003, the Navy and Coast Guard have, however, come together at the "grassroots" levels to address the mine and UWIED threat. The three LEAD SHIELD exercises on the West Coast have uncovered surprising capabilities and strengths but also many more areas that need close attention, especially command-and-control relationships involving nonmilitary participants.[23] Other war games conducted by the Office of Naval Research and by the mine warfare program at the U.S. Naval Postgraduate School during 2006–2007 have identified technological, system, and platform issues that also need focused attention and sustained funding.[24]

More, a 2005 memorandum of agreement between the Department of Defense and the Department of Homeland Security for the inclusion of the Coast

Guard in support of Maritime Homeland Defense (MHLD) established for MHLD operations a Defense Department joint command and control structure that includes Coast Guard forces and identified that service's MHLD roles, missions, and functions.[25] It recognizes that the Coast Guard "is at all times a military service and a branch of the armed forces of the United States," is charged with maintaining a state of readiness "to function as a specialized service in the Navy in time of war," and is "authorized to work closely and cooperatively with the Navy during peacetime." The memorandum of agreement also underscores the Coast Guard's role "in support of the *National Security Strategy* while maintaining its identity as an armed force." Recognizing also that maritime homeland defense missions "required flexibility, time-critical response, and immediate access to a broad spectrum of capabilities and associated forces to ensure mission success," it "establishes a standing DoD [Department of Defense]/DHS working relationship and operational C2 [command and control] construct for conducting MHLD missions under the authority and command of DoD."

The next year, the secretaries of Defense and Homeland Security signed a memorandum of agreement for Defense support to the Coast Guard for maritime homeland security.[26] That memorandum identified and documented appropriate MHLS capabilities, roles, missions, and functions for the Defense Department and arrangements to facilitate the rapid transfer of tactical control of forces to the Coast Guard in support of MHLS operations generally. The memorandum recognized the constraints on Defense Department support to law enforcement operations, a consequence of the 1878 *Posse Comitatus* Act, which does not affect the Coast Guard.[27] It also laid down that the Coast Guard would have the predominant MHLS role and be the lead federal agency for exercising law enforcement authorities on waters subject to American jurisdiction (from inland waters to the extent of the exclusive economic zone) and on, under, and over the high seas.[28] In addition, the memorandum of agreement underscored the Coast Guard's role in the armed deterrence of as well as response to acts of terrorism in the maritime environment. Although it granted the Coast Guard tactical control over Defense Department forces in maritime homeland defense operations, it noted that this would not confer "type command" authority;[29] all DoD forces operating under Coast Guard tactical control would remain under DoD command.

The Maritime Operational Threat Response Plan and its outline of supported/supporting relationships are particularly important for defending against mines and UWIEDs. The plan includes mines in its catalog of threats to U.S. maritime security and identifying Defense as "the lead MOTR agency for tactical response and resolution of nation-state threats within the maritime domain," as well as for "maritime terrorist threats that occur in the forward maritime areas of

responsibility." Further, while the Coast Guard has the lead in responding to maritime terrorist threats in U.S. waters, clearly the Defense Department has a major role as a supporting agency.

For domestic MCM operations, then, the Navy's airborne, surface, and underwater MCM forces and EOD mine countermeasures assets, particularly the shallow-water Naval Special Clearance Team (NSCT) 1, with its marine mammals and UUV MCM systems, will be "chopped" (operationally turned over) to USCG sector commanders/Captains of the Port, as they have overall command and control responsibilities for maritime homeland security.

These dedicated MCM forces are being concentrated in Norfolk, Virginia, and San Diego and Coronado, California; EOD MCM mobile unit detachments are also based at Charleston, South Carolina, and Whidbey Island, Washington. In October 2006, the Navy disestablished the Commander, Mine Warfare Command, in Corpus Christi, Texas, and began moving staff to the revamped Naval Mine and Anti-Submarine Warfare Command in San Diego. All air, surface, and underwater MCM and explosive-ordnance-demolition assets will be operating out of southern Texas in the next few years. That needs to be borne in mind, because although the airborne MCM helicopter squadrons, EOD MCM mobile units, and NSCT 1 can be airlifted anywhere in the world within seventy-two hours or so, assuming overtaxed American strategic airlift assets are available, and while the helos can self-deploy within the United States, the surface vessels have top speeds of only ten or twelve knots, making a quick response in most scenarios problematic.

Under the still-operationalizing "National Fleet" policy, both the Navy and Coast Guard are looking to innovative solutions to meet current and future requirements across the spectrum of both services' roles, missions, and tasks. (First promulgated by Commandant Admiral James M. Loy and Chief of Naval Operations Admiral Jay Johnson in September 1998, the National Fleet policy has since been formally expanded and embraced by subsequent commandants and CNOs, in 2002 and 2006.)[30] For example, the Navy is addressing domestic MCM requirements and capabilities, and Navy and Coast Guard planners are developing a joint domestic MCM concept of operations within the MOTR planning process. But perceptions of the threat and requirements to deal with it are uneven: in mid-2007, for example, the Department of Defense concept of operations for maritime domain awareness did not even mention mines, much less UWIEDs, and there were no formal operational DoD requirements for domestic mine countermeasures operations.

One of the Coast Guard's contributions to the National Fleet will be a new Deployable Operations Group (DOG), championed by Admiral Allen. The concept calls for a close integration of the Coast Guard's port security units, the

National Strike Force, maritime safety and security teams, the Maritime Security Response Team, and the tactical law enforcement teams into adaptable force packages that can be surged domestically and internationally to meet emergency requirements.[31]

Moreover, these forces will be available not only to Coast Guard operational commanders but also to other federal agency operational commanders for missions throughout the United States and overseas high-interest areas. If the new DOG can be taught some old (and new) MCM tricks, even if no more than mine-awareness training, the group's adaptable force packages could be the Coast Guard's "surge responders"—complementing the first-responder sector and COTP personnel already on scene—to an M/UWIED incident well in advance of Navy mine countermeasures forces that might require several days if not longer to respond, unless the threat presents itself in or near Charleston, Norfolk, San Diego, or Whidbey Island.

"But, I'm not sure we've done all our homework concerning who could or should hunt for real weapons," says Captain Thomas B. Davilli, USN (Retired), who has extensive air MCM operational and command experience.[32] "One thing I do know, AMCM, SMCM, and UMCM [airborne, surface, and underwater MCM] assets are designed and prepared for and take specific procedural measures to allow them to operate safely in the presence of the threat. Whether others will have the capability is doubtful," he continues. "Some players in a recent war game pointed to a local law enforcement organization that has an EOD-like response dive team. It might be able to handle an underwater IED, but they are not diving in low-influence gear. And, the presence of an antitamper countermeasures device on the mine or UWIED certainly complicates consideration of manned operations." Further, "Others have suggested hunting for actual mines from small craft towing commercial side-scan sonars. The helmsman and other crew would indeed be patriots! The thought of sending crewed assets into a mined threat area without signature silencing or some sort of 'safe track' procedures is foolish."

In July 2007, the Coast Guard announced that it had been training as many as six hundred police and rescue scuba-team divers to help protect the nation's ports, harbors, and waterways against terrorists.[33] "For the first time in the industry, we have a malicious threat to manage," Steven Orusa of the International Association of Dive Rescue Specialists has noted. "Any place that has water in its jurisdiction may have a risk—recreational, commercial, shipping or industrial." Some teams have received new equipment, such as underwater robots and sonar systems. In Jacksonville, Florida, the sixteen-member dive team responsible for underwater security is part of the sheriff department's homeland security division. In the past two years, the team received $596,000 from the Department of

Homeland Security to buy equipment, including boats, a sonar system, and an underwater remotely operated vehicle. Kenneth McDaniel, chief of underwater port security for the Coast Guard, comments that his unit has worked with the Department of Homeland Security intelligence division to develop a course that teaches divers how to search for and identify "underwater hazardous devices" or explosives that might have been placed on ship hulls, bridges, or piers. "We do underwater hull searches, and we sweep ports," Orusa, leader of a dive team that covers Chicago and other Midwest towns, explains. "There's a whole layer of skill sets we've developed."

There are concerns, however, should anything but the simplest limpets or UWIEDs be encountered. Underscoring the importance of appropriate equipment, preparation, and training, Captain Davilli concludes, "clearly, this is not a job for well-intentioned amateurs."

THE M/UWIED DEFENSE CHALLENGE

The United States confronts the daunting task of protecting, as noted, some ninety-five thousand miles of coastlines, as well as thousands of miles of inland and Great Lakes waterways, 361 ports, and a territorial sea/exclusive economic zone that comprises more than 3.4 million square miles of ocean space and at any time is cluttered with thousands of warships, commercial vessels and fishing boats, tugs and ferries—not to ignore millions of private pleasure craft. Sorting the legal from the illegal in such a complex maritime domain is a Herculean task that challenges federal, regional, state, and local agencies, as well as commercial entities and other nongovernmental organizations, to work hand in glove and also to collaborate with allies and friends to safeguard maritime security at home and abroad.

Maritime domain awareness—what the 2005 *National Strategy for Maritime Security* describes as the "effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of the United States, and identifying threats as early and as distant from our shores as possible"—will thus be absolutely necessary for success against a broad spectrum of maritime threats, including mines and underwater IEDs.[34]

Exacerbating the M/UWIED challenge for federal, state, and local actors is the fact that no two ports are alike. Each differs in geography, channel layout, bathymetry, wind, tide, current, bottom sediment, turbidity, climate, and critical infrastructure—piers and wharves, moorings, navigation markers, cables, pipelines, and more, with most bottom infrastructure uncharted or its location long forgotten. That fact will make the already complex problem of detecting, identifying, and defeating M/UWIEDs even more daunting. Questions begging answers include:

- What is already on the bottom?
- How do we know when something new is there?
- What is the local oceanographic and environmental situation?
- What port or waterway infrastructure needs to be protected from M/UWIEDs, as well as from the Navy's countermine operations?
- In a crisis, could we quickly and effectively tell the difference between a refrigerator or a fifty-five-gallon drum—what in the MCM trade is called a "nonmine/minelike bottom object" (or "NOMBO")—and the real thing?

The best MCM is to interdict the minelayers before the weapons can be put in the water. If that fails, the Coast Guard, Navy, FBI, Bureau of Alcohol, Tobacco, Firearms and Explosives, and other federal and nonfederal first responders will need to understand what the Naval Oceanography Program describes as the "intelligence preparation of the environment."[35]

First, strategic, operational, and tactical intelligence about the mine/UWIED threat is absolutely essential: What terrorist groups are active? What weapons might they have? Are there any indications and warning that they are planning single or multiple strikes in U.S. waters? What tactics might they employ? In addition to good strategic and operational intelligence, existing and future MDA vessel surveillance, identification, and tracking systems and organizations, such as the Coast Guard/Navy Joint Harbor Operations Centers, need to be "attuned" at the tactical level to the potential need to detect, control, and engage minelayers before they start their tasks.

Second, and of equal but different importance, there must be environmental awareness of potential mining areas and data of sufficient quality and currency to support MCM operations. At least for each of the seventeen tier-one ports these data must be available and up to date:

- Port geography and infrastructure from the high-water mark seaward
- Climatic, environmental, and oceanographic factors and their daily/monthly/yearly variations
- Detailed sonar bottom maps and surveys, at high precision and accuracy, to determine clutter and known NOMBO contacts for change detection and possible channel conditioning *before* a crisis erupts.

It has been years since the U.S. Navy, developing port-breakout concepts in the Cold War, conducted routine bottom surveys and mapped "Q-routes" to ensure the safe egress of warships and auxiliary and sealift vessels in support of national strategies and war plans. While there might well be databases for selected ports, waterways, or estuaries that could satisfy some (but certainly not all) port

geography and environmental data needs, the reality, as former defense secretary Donald H. Rumsfeld acknowledged, is that "we don't know what we don't know."

Who has what data and information today? The Oceanographer and Navigator of the Navy? The Meteorology and Oceanography Command? The Coast Guard? National Oceanic and Atmospheric Administration (NOAA)? The Corps of Engineers? State or local agencies, or regional authorities? Local pilots and the maritime transportation industry? Sea Grant colleges and marine environmental groups? Whoever has these data, are they good enough to support MCM operations? Where are the gaps in our knowledge? Who should have the responsibility to fill them?

Some have suggested that the Navy revisit its port-breakout model for key commercial and military ports to identify critical routes and other areas needing attention and to conduct channel-conditioning operations that would in essence wipe clean selected areas to facilitate subsequent change detection. (By 2006, the Royal Navy had already embarked on such an effort in several British ports.) Others have proposed resurrecting the ill-fated COOP—Craft of Opportunity—program of the mid-1990s and having Navy Reserve units conduct periodic surveying and sonar mapping of bottoms. Still others have recommended that the maritime transportation industry and port authorities take the lead for local areas. Or the survey and mapping responsibilities could be outsourced to commercial contractors. In short, in mid-2007 there was no coherent plan, staffing, or program—except perhaps for references to the USCG's sector/COTP responsibilities for port maritime security plans, area security assessments, and area maritime transportation plans, in addition to the efforts of the Maritime Security Policy Coordination Committee—to address this threat and port geography and environmental data requirements. Even then, Captain Davilli's concerns loom large.

Collecting such MCM data for even a handful of ports and keeping it up to date will not be inexpensive. In May 2007, for example, NOAA estimated that it could conduct a survey program that would support draft Navy–Coast Guard operational concepts—twenty ports per year and relooking every three years—at a cost of approximately $14 million per year. This figure is well below an "educated guess" that Los Angeles/Long Beach alone would require about $10 million annually, raised during a December 2006 technology war game.[36] In any case, compared to the $60 billion economic impact if major ports were closed for a couple of weeks or more, several million dollars each year seems to be an insurance premium that the nation could and should afford.

Still, the operational challenge should not be underestimated. An April–May 2007 San Diego mine warfare harbor survey conducted by Third Fleet and supported by the Naval Oceanography Operations Command, the Naval

Oceanographic Office, EOD Group 1, U.S. Coast Guard Sector San Diego, and NOAA provided a real-world look at the complexity of the problem. According to Captain James Berdeguez, Director, Oceanography Operations for Mine Warfare at the Naval Oceanography Operations Command, the survey of eleven nautical miles of channel and secondary areas required nearly six hundred man-hours to complete—350 hours for the actual survey and about 230 hours for analysis of the data collected on the more than six hundred minelike and nonminelike contacts detected.[37] Clutter, bottom roughness, sediment burial, in situ optics, currents, bathymetry, sound-velocity profiles, and infrastructure significantly complicated the survey effort.

However any focused domestic mine survey program is undertaken, a consensus is growing that there must be a central database of American port infrastructure and environmental survey data that can "set data standards, conduct critical analysis to produce tactical decision aid products, and hold this information centrally," according to Commander Robert Witzleb, Deputy Director, Oceanography Operations for Mine Warfare.[38] "Such a centralized data repository exists in practice at the Naval Oceanographic Office, which has the largest oceanographic holdings in the world, but is nonetheless very weak in US waters. For that reason," he continued, "Navy METOC [the Meteorology and Oceanography Command] has prepared a draft technical instruction, Mine Warfare Survey in Support of Maritime Homeland Defense, that explicitly details how we would collect environmental data to support domestic MCM operations."

"We need that information now, not when the act takes place," Tony Fuller, who supports concept development and experimentation for Navy mine warfare sea trial initiatives, noted in a March 2007 e-mail exchange. "There is a significant amount of gap analysis that will need to be conducted, probably followed by substantial programmatic issue work. In simplest deck-plate terms, the direction as to what has to be brought to bear in a port to begin MCM in how much time, culminating with what has to be accomplished, in how much time, to make the call that all, or part, of a port is 'open' is needed."

Finally, there are operational and tactical issues that need to be addressed. The Coast Guard and Navy in the spring of 2007 were developing a domestic MCM concept of operations within the MOTR framework. These concepts and associated response plans, which will involve relevant state and local actors, must be specific to and in place for selected ports and waterways well in advance of the first "flaming datum." The two services are building upon recent war games and exercises—for example, LEAD SHIELD III in 2005, which brought together a broad spectrum of federal, state, and local agencies and organizations to deal with terrorist mines in the port of Los Angeles/Long Beach—and upon the Navy's real-world experiences of clearing the port of Umm Qasr, Iraq, in 2003.

Coast Guard, Navy, and other participants must equip for, train to, and exercise the plans; analyze and share the results of the exercises and war games; refine concepts of operations and "TTPs" (tactics, techniques, and procedures); incorporate new technologies and systems—and then plan and train and exercise again, and then again.

"The Umm Qasr port MCM ops show what we might confront in a domestic mining incident," said Captain Terry Miller, who has more than twenty years' experience as a surface mine warfare officer and commander, including in DESERT STORM mine-clearance operations.[39] An international MCM force comprising Royal Australian Navy and Royal Navy explosive-ordnance-demolition and mine countermeasures specialists and American NSCT 1 divers, aided by marine mammals and UUVs, cleared some nine hundred square miles to enable the landing ship RFA *Galahad* to deliver much-needed humanitarian-relief supplies at the outset of Operation IRAQI FREEDOM.

"The Australians worked in some very confined areas, alongside piers, and among numerous obstacles and clutter," Miller noted, "and were aided by their extensive HLS planning and training for the 2000 Sydney Olympics." The lack of prior knowledge of the port and its approaches, however, contributed to the fact that nine days of intensive underwater MCM operations were needed to clear the channel for *Galahad* and follow-on shipping. Closing Los Angeles/Long Beach for nine days could cost the American economy as much as $18 billion.

These domestic plans and concepts of operations should also identify where the Navy can sweep and where it must hunt. Constrained airspace and water space and extensive port infrastructures will certainly affect the ability to use traditional airborne and surface sweeping gear or to neutralize mines/UWIEDs by hunting or sweeping. While in some cases it will be appropriate to "blow in place" weapons that are discovered, in others critical port assets could be damaged severely by a detonation. When "BIP" is not feasible, the Navy would have to raise and neutralize or render safe the mines, a process that would also support intelligence exploitation of the weapons and law-enforcement evidentiary needs. It would also, however, increase the danger and the duration of the countermine process.

There are, as well, logistical concerns that arise unless the mine crisis occurs near Navy MCM bases or home ports. Transit times will affect responses and contribute to economic hardships until ports and waterways are declared safe. If mine countermeasures helicopters had to self-deploy across the country, they might require maintenance before getting gear in the water, unavoidably extending the duration of the crisis. The physical security of MCM assets—helicopters at nearby commercial airports and vessels in commercial berths—must also be assured, which could put additional strains on local capabilities. Finally, the plans must

consider "hotel" sustainment for crews—including the marine mammals, if they deploy—and support people and maintenance support for platforms and systems if the crisis goes on for long. In short, the Coast Guard and the Navy must start planning notional "time-phased force deployment data" for domestic MCM operations.

"Until we have an approved HLS/MCM CONOPS [concept of operations] it's hard to say what level of capability is missing," Captain Miller offered. "Most certainly confined waters inside an inner harbor pose challenges for the current force construct, although we did adapt and overcome the Umm Qasr challenge with some innovations in systems and TTPs. Plus we have quite extensive lessons learned from 'Down Under' during the Sydney Olympics," he continued. "Sydney had an extensive harbor defense plan that accounted for mines and floating IEDs and is a blueprint for any mine/UWIED scenario and domestic MCM planning."

In the spring of 2007, Rear Admiral John J. Waickwicz, Commander, Naval Mine and Anti-Submarine Warfare Command, directed his staff to brief him on the operational environment and all salient issues and requirements relating to the Navy's support to Northern Command, the Department of Homeland Security, and the Coast Guard in response to a mining or IED attack in U.S. ports or waterways.[40] A predecisional brief underscored the impression that the Navy's mine warfare community is taking this threat seriously. Indeed, for the last several years—via conferences, full-scale exercises, and national-level command-post exercises—the mine force has been working to define operational response requirements sufficiently to allow concepts of operations and port-specific response plans to be developed and put in place. Meanwhile, "joint" Navy and Coast Guard planning continues within the MOTR framework.

It continues in other venues as well. For one, "Charleston has created Project Seahawk to address and implement port-security capabilities against terrorism," Rear Admiral Charles "Chuck" Horne, USN (Retired), has noted.[41] Horne, who served as Commander, Mine Warfare Command in Charleston and still resides there, is helping the SEAHAWK Team to include the terrorist mine threat. "Project SEAHAWK will be looking at ways to prevent as well as respond to a mine threat by addressing it well ahead of time."

"The harbor and port MCM problem will not ultimately be resolved using traditional AMCM, SMCM, UMCM assets," Rear Admiral Deborah A. Loewer, USN (Retired), cautions, "as these tactics won't work in the confined waters of ports, harbors, and approaches."[42] Loewer, who was the last commander of Mine Warfare Command before its stand-down on 1 October 2006, explained, "This problem will be solved using a combination of small vessels and helos, towed sensors, UUVs, EOD, change detection and a variation of the tools currently under development for the MCM mission package for the Littoral Combat Ship."

"Admiral Loewer's comments are right on the mark," Rear Admiral Richard D. Williams III, USN (Retired), underscores.[43] "The breadth and complexity added to the mine problem in an in-port/near-port home-waters situation, as compared to the blue-water or assault-breaching situation, are significant. Not only are U.S. Navy ship and aircraft MCM assets of limited utility in in-port/near-port roles, but operationally useful environmental, bottom, and port infrastructure data and prearranged logistical and support procedures for each individual port of major importance will be critical to a timely, successful, and safe response to an in-port mine/UWIED scenario." Admiral Williams notes further, "The most important issue [for] current efforts—as well as supporting efforts at all levels and across all boundaries that need to proceed with appropriate priority—is to define action responsibilities so that requirements can be clearly determined and articulated and budgets aligned to ensure that the right tools and operational support are acquired and put in place *before* they are needed."

In short, once formal requirements for domestic MCM operations are established, operational concepts and concepts of operations agreed upon, risk assessments conducted, and priorities among and timelines for the various ports articulated, capabilities strengths and gaps identified, and time-phased force deployment data laid out, government and industry programs can be put in place to ensure that strategic, operational, and tactical objectives will be met.

"Such a capability would have a deterrent effect," Vice Admiral Hull has underscored, "and could make our adversaries think twice before attempting to mine U.S. waters. Why make the attempt if it will be for naught?"

A TERRIBLE THING THAT WAITS . . .

The "anonymous, loosely affiliated perpetrators" who would strike America's ports and waterways have no qualms about "unchivalrous" attacks against any target that would serve their causes. As Rear Admiral Farragut understood, "it does not do to give your enemy such a decided superiority over you."[44]

In 1950, after three thousand mines stymied plans for an amphibious assault on Wonsan, the Chief of Naval Operations, Admiral Forrest Sherman, declared, "We've been plenty submarine-conscious and air-conscious. Now we're going to start getting mine-conscious—beginning last week!"[45] Four decades later the CNO, Admiral Frank Kelso, underscored fundamental lessons relearned in the northern Persian Gulf and called for renewed mine consciousness: "I believe there are some fundamentals about mine warfare that we should not forget. Once mines are laid, they are quite difficult to get rid of. That is not likely to change. It is probably going to get worse, because mines are going to become more sophisticated."[46] Writing on the eve of Operation IRAQI FREEDOM, Admiral Robert J. Natter, Commander, U.S. Atlantic Fleet and Fleet Forces Command,

warned: "Our first priority must be improving our near-term capabilities, but it is also important to keep an eye on our long-term vision of mine warfare. . . . Given the growing threat to our fleet and the current state of technology, we are fools if we don't."[47]

Eight thousand foreign-flag ships enter American ports each year. Millions of other vessels and pleasure boats ply America's waterways. But only a few come under close scrutiny by the Coast Guard or the Navy or state and local marine police. This is troubling, as the Libyan ferry *Ghat* proved beyond reasonable doubt that any ship can be a mine-*layer* once—if not many times. In short, as we address America's "threat-rich" maritime security problems we must become mine and UWIED conscious, if not "last week" then certainly *before* a terrorist's weapon ruins our day.

NOTES

Earlier drafts of this article were the baselines for presentations at the December 2006 meeting of the Heritage Foundation Maritime Security Group; the January 2007 Maritime Security Awareness Seminar, sponsored by the Defense Threat Reduction Agency and the U.S. Merchant Marine Academy; the March 2007 NDIA Joint Undersea Warfare Technology Conference; and the May 2007 Mine Warfare Association Panama City Conference. The author thanks several people who helped him think through this topic: George Croy, Tom Davilli, Tony Fuller, Chuck Horne, Bill Key, Deb Loewer, Kenney McDaniel, Terry Miller, Bob O'Donnell, George Parisi, John Pearson, George Pollitt, Scott Price, Paul Ryan, Scott Savitz, Tim Schnoor, Ed Whitman, Ray Widmayer, Rick Williams, and Robert Witzleb.

1. *National Strategy for Maritime Security* (Washington, D.C.: White House, September 2005), pp. 1–6. See also Bruce B. Stubbs and Scott C. Truver, "Towards a New Understanding of Maritime Power," in *The Politics of Maritime Power: A Survey,* ed. Andrew T. H. Tan (London: Haines House, 2007), pp.6–7; and *America's Coast Guard: Safeguarding U.S. Maritime Safety and Security in the 21st Century* (Washington, D.C.: U.S. Coast Guard, January 2000), pp. 34–51, available at www.uscg.mil/news/AmericasCG/index.html.
2. U.S. Homeland Security Dept., *The U.S. Coast Guard Strategy for Maritime Safety, Security, and Stewardship* (Washington, D.C.: U.S. Coast Guard, 2007), p. i.
3. IEDs have been one of the most treacherous and deadly means of insurgent attacks in Iraq, for example, accounting for about 40 percent of all casualties through mid-2007. During a meeting on 1 June 2007, Under Secretary of Homeland Security for Science and Technology Jay M. Cohen listed the "domestic IED" along with communications interoperability as his two highest priorities.
4. Tamara Moser Melia, *"Damn the Torpedoes": A Short History of U.S. Naval Mine Countermeasures, 1777–1991* (Washington, D.C.: Naval Historical Center, 1991), p. 144; and Gregory K. Hartmann and Scott C. Truver, *Weapons That Wait: Mine Warfare in the U.S. Navy,* updated ed. (Annapolis, Md.: Naval Institute Press, 1991), p. 36.
5. See, for example, *Maritime Operational Threat Response for the National Strategy for Maritime Security* (Washington, D.C.: Maritime Security Policy Coordination Committee, June 2006), pp. 5–11.
6. Moser Melia, *"Damn the Torpedoes,"* p. 7; and Hartmann and Truver, *Weapons That Wait,* pp. 17–18.
7. In the summer of 1777, Bushnell rigged a double line of "torpedoes" to attack the

British warship *Cerberus.* The British prize crew of a captured American schooner saw the mines and attempted to haul them on board, which caused them to fire, killing most of the crew and sinking the schooner, while *Cerberus* was unharmed. Mine warfare pundits point to this incident as the origin of the phrase "Any ship can be a minesweeper, once."

8. For the Boston incident, "Two Held after Ad Campaign Triggers Boston Bomb Scare," CNN.com, 1 February 2007. Turner Broadcasting System Inc. and its advertiser, Interference Inc., paid Boston two million dollars in restitution and other compensation for the "hoax," which shut down key roads and the Charles River; "On Deadline," *USA Today,* available at blogs.usatoday.com/ondeadline/2007/02/turner_guerrill.html.

9. Stephen S. Cohen, "Economic Impact of a West Coast Dock Shutdown" (Berkeley Roundtable on the International Economy, University of California at Berkeley, January 2002), pp. 11–12; and Jon D. Haveman and David Hummels, *California's Global Gateways: Trends and Issues* (San Francisco: Public Policy Institute of California, 2004), pp. 59–62.

10. Numerous publications and reports are useful for understanding the mining and mine countermeasures "problem" and the history of mine warfare, including U.S. Navy Dept., *Mine Warfare Plan: Meeting the Challenges of an Uncertain World* (Washington, D.C.: Office of the Chief of Naval Operations [hereafter CNO], 29 January 1992), and subsequent mine warfare plans published by the Navy Staff's director, Expeditionary Warfare in 1994, 1996, and 2000; Edward J. Marolda, ed., *Operation End Sweep: A History of Minesweeping Operations in North Vietnam* (Washington, D.C.: Naval Historical Center, 1993); H. Dwight Lyons, Jr., et al., *The Mine Threat: Show Stoppers or Speed Bumps* (Alexandria, Va.: Center for Naval Analyses, July 1993); National Research Council, *Oceanography and Mine Warfare* (Washington, D.C.: National Academy Press for the Ocean Studies Board, 2000); and National Research Council, *Naval Mine Warfare: Operational and Technical Challenges for Naval Forces* (Washington, D.C.: Naval Studies Board, 2001). Greta E. Marlatt of the Dudley Knox Library, Naval Postgraduate School, Monterey, California, has published a very useful and comprehensive "Sea Mines and Countermeasures: A Bibliography," available at library.nps.navy.mil/home/bibs/seamines.

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12. Adm. C. A. H. Trost, CNO (remarks at Mine Warfare Command change of command, 8 July 1989, mimeo), p. 8.

13. See generally Moser Melia, *"Damn the Torpedoes";* Hartmann and Truver, *Weapons That Wait; Mine Warfare Plan;* Rear Adm. Paul J. Ryan, USN, and Scott C. Truver, "U.S. Navy Mine Warfare Vision . . . Programs . . . Operations: Key to Sea Power in the 21st Century," *Naval Forces* 24, no. 3 (2003), pp. 28–32; Rear Adm. Paul J. Ryan, USN, "Mine

Countermeasures a Success," U.S. Naval Institute *Proceedings* (May 2003), p. 52ff.; Vivienne Heines, "Unseen Threats: Navy Attacks Mine-Clearing Issue," *Armed Forces Journal* (December 2003), p. 14ff.; Gregory J. Cornish, *U.S. Naval Mine Warfare Strategy: Analysis of the Way Ahead* (Carlisle Barracks, Pa.: U.S. Army War College, 2003), available at handle.dtic.mil/100.2/ADA414973; Robert Houlihan, "Operation Iraqi Freedom, Clearing the Way," *Surface Warfare* (Summer 2003), p. 9; and Adm. Robert J. Natter, USN, "Access Is Not Assured," U.S. Naval Institute *Proceedings* (January 2003), pp. 39–41.

14. Moser Melia, *"Damn the Torpedoes,"* pp. 92–97.
15. Bradley Peniston, *No Higher Honor: Saving the USS* Samuel B. Roberts *in the Persian Gulf* (Annapolis, Md.: Naval Institute Press, 2006).
16. See Scott C. Truver, "The Mines of August: An International 'WhoDunIt,'" U.S. Naval Institute *Proceedings* (May 1985), pp. 94–117; and David W. Cockfield, *The Gulf of Suez Mining Crisis: Terrorism at Sea* (Annapolis, Md.: Naval Institute Press, 1986).
17. Trost, remarks, p. 4.
18. "Patrols Stepped Up after Bomb Found on Lake," Channel 6 WDSU.com, 21–22 April 2004; "Explosive Device Found Floating in Lake Pontchartrain," WWLTV.com, 21 April 2004.
19. Under the Maritime Transportation Security Act, 2002, the Coast Guard is the lead federal agency for maritime security in U.S. waters. See Vice Adm. James Hull, USCG, and Scott C. Truver, "In America's Ports and Waterways, the Coast Guard Is in Charge," in "Maritime Security Source Book," 3rd ed., special supplement, *Maritime Reporter & Engineering News* (August 2004), pp. 18–20, 28–29, available at www.fleetsecurity.com.
20. *Homeland Defense,* Joint Publication 3-27 (Washington, D.C.: Joint Chiefs of Staff, 12 July 2007), esp. pp. V-5 through V-9.
21. Interviews and e-mail exchanges, January–March 2007.
22. *Strategy for Maritime Safety, Security, and Stewardship.*
23. Scott Savitz and Marian Greenspan, *Lead Shield III and Mine Warfare Homeland Defense: Observations, Analyses, and Recommendations,* CRM D0013240.2/Final (Alexandria, Va.: Center for Naval Analyses, December 2005).
24. Rear Adm. Richard D. Williams III, USN (Ret.), and Capt. Thomas B. Davilli, USN (Ret.), interviews and e-mail exchanges, January–May 2007.
25. Donald H. Rumsfeld, Secretary of Defense, and Thomas Ridge, Secretary of Homeland Security, "Memorandum of Agreement between the Department of Defense and the Department of Homeland Security for the Inclusion of the U.S. Coast Guard in Support of Maritime Homeland Defense," 2005.
26. Donald H. Rumsfeld, Secretary of Defense, and Michael Chertoff, Secretary of Homeland Security, "Memorandum of Agreement between the Department of Defense and the Department of Homeland Security for Department of Defense Support to the United States Coast Guard for Maritime Homeland Security," 2006.
27. The *Posse Comitatus* Act is a federal law (18 USC § 1385) passed in 1878 after the end of Reconstruction following the U.S. Civil War. The act was intended to prohibit federal troops from supervising elections in former Confederate states. It generally prohibits federal military personnel and units of the U.S. National Guard under federal authority from acting in a law-enforcement capacity within the United States, except where expressly authorized by the Constitution or Congress. The *Posse Comitatus* Act and the related Insurrection Act thus substantially limit the powers of the federal government to use the military for law enforcement. The original act referred only to the U.S. Army. The Air Force was added in 1956, and the Navy and the Marine Corps have been included by a regulation of the Department of Defense. The U.S. Coast Guard—first an arm of the U.S. Treasury Department as the Revenue Service starting in 1790, in 1967 transferred to the then-new Department of Transportation, and since 2003 operating within the Department of Homeland Security—has not been included.
28. As stated in the Maritime Transportation Security Act of 2002 and the 2005 *National Strategy for Maritime Security,* the Coast Guard will act as the executive agent for DHS and assume primary responsibility for coordinating measures to mitigate the impacts of

a significant incident in the maritime domain. The Coast Guard is also required to engage internationally, on its own authorities, to improve the security of the global transportation system through international compliance with the United Nations' International Ship and Port Facility Security Code. This has placed the Coast Guard in the unique position to identify gaps and strengthen maritime regimes, awareness, and operational capability requirements to ensure efficient and effective maritime security.

29. U.S. Navy "type commanders" equip, train, and maintain forces for employment by operational commanders.

30. Adm. Thad W. Allen and Adm. Michael G. Mullen, "America's 'National Fleet': A Coast Guard–Navy Imperative," U.S. Naval Institute *Proceedings* (August 2006). See also Colin S. Gray, "The Coast Guard and Navy: It's Time for a 'National Fleet,'" *Naval War College Review* 54, no. 3 (Summer 2001), pp. 112–38.

31. Rear Adm. Thomas F. Atkin, USCG, and Scott C. Truver, "A New DOG in the Hunt," U.S. Naval Institute *Proceedings* (August 2007), pp. 22–24. During meetings with Rear Adm. Atkin for this DOG article in May–June 2007, he discussed the M/UWIED challenge and how the DOG might be a key complement to the Coast Guard's first-response teams in the sector organizations.

32. Interviews and e-mail exchanges, January–May 2007.

33. Mimi Hall, "Uncle Sam to Scuba Divers: I Want You," *USA Today,* 9 July 2007.

34. *National Strategy for Maritime Security,* p. 27. See also the Coast Guard's *Strategy for Maritime Safety, Security, and Stewardship,* pp. 40–43, for a discussion of MDA needs and priorities; and *Homeland Defense,* Joint Publication 3-27, pp. V-8 through V-9, for the DHS role and reasons to conduct MCM operations in waters under U.S. jurisdiction.

35. Berdeguez, "New METOC Challenges in the Future Mine Warfare Environment"; and Klein, "Mine and Underwater IED (UIED) Threat to Piers, Berths, and Approaches."

36. E-mail interview with then–Lt. Cdr. Robert Witzleb, Deputy Director, Oceanography Operations for Mine Warfare, Naval Oceanography Operations Command, 10 May 2007.

37. Berdeguez, "New METOC Challenges in the Future Mine Warfare Environment"; and Klein, "Mine and Underwater IED (UIED) Threat to Piers, Berths, and Approaches."

38. Interviews and e-mail exchanges, January–July 2007.

39. Interviews and e-mail exchanges, February–March 2007.

40. Waickwicz, "Mine Warfare Strategic Q-Route."

41. E-mail exchange, 11 July 2007.

42. Interviews and e-mail exchanges, December 2006 and January 2007.

43. E-mail exchange, 10 July 2007. Adm. Williams was the first Program Executive Officer, Mine and Undersea Warfare, and at the time of this writing held the chair of Expeditionary and Mine Warfare, Naval Postgraduate School.

44. Letter to Secretary of the Navy Gideon Wells, 25 March 1864, in Moser Melia, *"Damn the Torpedoes,"* p. 9.

45. Moser Melia, *"Damn the Torpedoes,"* p. 79.

46. U.S. Navy Dept., *U.S. Navy Mine Warfare Plan*, 2nd ed., Fiscal Year 1994–1995 Programs (Washington, D.C.: Expeditionary Warfare Division, 1994), p. 3.

47. Natter, "Access Is Not Assured."

BOOK REVIEWS

VALUABLE LESSONS FOR THE LEADERS OF TODAY

Husted, Stewart W. *George C. Marshall: Rubrics of Leadership*. Carlisle Barracks, Pa.: U.S. Army War College Foundation, 2006. 259pp. $23.95

In recent years a veritable avalanche of monographs and manuscripts has examined corporate and military leadership. Recognizing the need for a book about leaders of character, Stewart Husted selected as his model one of America's most admired figures, General George C. Marshall. This work examines Marshall's leadership and its impact on the world throughout his career as a military officer, Army chief of staff during World War II, secretary of state, and secretary of defense.

Husted is hardly a stranger to the study of General Marshall. He is a former business school dean, a retired U.S. Army Reserve officer, and the inaugural John and Jane Roberts Chair in Free Enterprise Business at the Virginia Military Institute, Marshall's alma mater. Writing primarily for the military market, Husted draws heavily upon historian Forrest Pogue's masterful four-volume biography of Marshall, the private and public papers of General Marshall housed at the Virginia Military Institute's Marshall Foundation, and the Preston Library.

Husted has chosen well in selecting Marshall to exemplify leadership during trying and difficult times. No leader better encapsulated moral and ethical leadership than George C. Marshall. In the words of General Colin Powell, "We have so much to learn from Marshall—from his character, from his courage, his compassion, and his commitment to our nation and to all humankind." Using Marshall's career as a foundation to examine contemporary leadership, Husted cites numerous "untold stories" that not only are entertaining reading but also serve as "tried-and-true examples of how today's leaders of government, the military, and business can demonstrate character, competence and skill." *Rubrics of Leadership* addresses such diverse topics as managing and planning the impossible, turning crisis into success, dealing with communications, and conflict resolution and negotiation.

By far the most interesting chapter is that on civil-military relations. Husted examines Marshall's contributions over a period of two decades and provides valuable insight into his subject's nonpartisan

approach to complex problems. This chapter concludes with a call to develop military and political strategy that demonstrates the importance of nation building in the aftermath of war—a valuable lesson to current leaders attempting to cope with the ongoing global war against terrorism.

On the debit side, Husted's approach is frequently choppy and lacks adequate transitions. Though he provides a list of Marshall's salient leadership principles throughout the text, a concluding paragraph summarizing each section's salient points would have greatly enhanced the overall text. So too would an introductory chapter outlining the broad context of the areas on which the author concentrates.

These observations aside, Husted has produced a valuable leadership primer that will be well received by military officers, regardless of rank or position. As do the military's senior service colleges, *Rubrics of Leadership* urges understanding of the importance of positive relationships with civilians at all levels of government and business. It is here that Husted makes his greatest contribution.

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Toll, Ian. *The Six Frigates: The Epic History of the Founding of the U.S. Navy.* New York: W. W. Norton, 2006. 592pp. $27.95

Many books have been written about the history of the American navy, but this one is of particular excellence. While truly a scholarly work, this book contains many attributes of a historical novel. Any reader with an interest in either the U.S. Navy or early American history will find it hard to put down.

Toll begins his story with a review of the Continental navy and its limited value during the American Revolution, then moves seamlessly into the post-revolutionary period. America's colonial experience and the needs of the newly formed nation had a direct effect on the founding of a navy. Pro-navy views were largely tied to the merchant interests of the north, championed by leaders such as John Adams and Alexander Hamilton. The foes of a naval force were essentially southern based and included James Madison and Thomas Jefferson, who favored domestic development, westward expansion, and agrarian interests.

In March 1794, these political and economic interests were rooted deeply in the American experience, and were the seeds of an acrimonious debate in Congress that preceded House and Senate authorization for the construction of six frigates to keep the sea-lanes safe for America's large merchant fleet. They were originally designated merely as frigates *A* through *F.* The first five names—*United States, President, Congress, Constitution,* and *Constellation*—were chosen by George Washington from a list of alternatives suggested by the War Office; subsequently, the *Chesapeake* was named.

The debate over the question of who would design the ships began in the wake of the authorization to build them. The nation's most respected ship designers, Joshua Humphreys and Josiah Fox, clashed over the most desirable warship design, with Humphreys being the victor. In the end, the six frigates emerged as the most powerful of their type in the world, equipped to serve as the nation's first blue-water force.

The first trial by combat of the new navy was against the French in the undeclared "Quasi-War" of 1797–1800, which was fought to protect American merchant shipping. The next naval action occurred in the Mediterranean during 1803–1805, when war was waged against the pirates of Tripoli. However, the true test for the Navy, of course, occurred during the War of 1812, when the value of the ships and their crews was proved beyond doubt. The author's descriptions of the ships, their handling, and the combat actions is excellent, and his portrayal of the people is equally impressive. The positive and negative characteristics of the civilian leaders—including John Adams, Thomas Jefferson, and James Madison—as well as of the naval officers who became well known in American history (Stephen Decatur, William Bainbridge, Thomas Truxtun, Edward Preble, and James Lawrence) are all examined.

This is Ian Toll's first book. It is a product of his sailing experience, interest in the period, writing skill, and thorough research. The result is an excellent work that should become a permanent part of the library of anyone with an interest in American naval history.

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O'Rourke, Ronald. *The Impact of Chinese Naval Modernization and the Future of the United States Navy*. New York: Nova, 2006. 106pp. $79

Well written, succinct, and timely, this balanced assessment of Chinese naval weaknesses and strengths offers specific technological development and procurement alternatives to inform Washington's decision making. O'Rourke is a naval issues analyst for the Congressional Research Service (CRS) of the Library of Congress. Specialists will want to consult his related product, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress.* First published in November 2006, the latter report has been updated regularly. Each report contains details that the other does not.

Like its CRS counterpart, O'Rourke's present study draws on a variety of U.S. government analyses; congressional testimony; and articles from the media, think tanks, and academia. Additional details are provided in an appendix. Charged with presenting different points of view, with an emphasis on official analyses, O'Rourke cannot be held responsible for disagreements concerning the underlying assumptions or conclusions of his sources. It should also be emphasized that Beijing's continuing reluctance to offer detailed information on the purpose or scope of many aspects of its rapid military development both raises concerns in Washington and makes it difficult for policy makers there to rule out worst-case scenarios.

O'Rourke has explicitly chosen to focus his report by limiting the attention paid to such issues of potential relevance to the U.S. Navy as China's aerospace development. In light of recent significant Chinese achievements in this realm (including the acknowledged testing of an antisatellite weapon on 11 January 2007), however, such factors should perhaps be integrated into follow-on studies by O'Rourke and his colleagues. After all, China's ability to project naval power farther from its shores will hinge on developing effective air defense for surface assets. Certain military

scenarios, such as those involving Taiwan, might motivate China to attempt to deter American intervention by the threat of nuclear strikes or damage to U.S. space assets.

O'Rourke's study raises important questions as the United States develops a new maritime strategy. If preventing Taiwan independence and promoting reunification is the present focus of China's naval development, what other national interests might fuel such development in the future? What is the proper balance for the U.S. Navy between supporting operations in the global war on terror and maintaining (if not increasing) its presence and operational capabilities in the vast, strategically vital Asia-Pacific region? What resources will be required to meet the latter requirements, and how should they be allocated? Finally, what fleet and basing architecture can best accomplish this at sustainable cost to taxpayers?

Critical procurement decisions with ramifications for years to come are being made in Beijing as China develops a new five-year plan. As this dual strategic crossroads looms ever larger, it is to be hoped that the two Pacific powers can reach an understanding about their respective regional roles and thereby keep competitive coexistence from degenerating into a new cold war.

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Wortzel, Larry M. *China's Nuclear Forces: Operations, Training, Doctrine, Command, Control, and Campaign Planning.* Carlisle Barracks, Pa.: U.S. Army War College, Strategic Studies Institute, 2007. 51pp.

In *China's Nuclear Forces* Larry Wortzel has delivered an exceptional monograph that demands the attention of both nuclear strategists and China experts. The author, a leading authority on China, Asia, national security, and military strategy, is currently serving as a commissioner on the congressionally mandated U.S.-China Economic and Security Review Commission. He previously served as the director of the Asian Studies Center and vice president for foreign policy at the Heritage Foundation. Wortzel's distinguished thirty-two-year career in the U.S. armed forces, during which time he served as both assistant Army attaché and then attaché at the American embassy in China, culminated with an assignment as director of the Strategic Studies Institute at the Army War College.

The title of this monograph promises an expansive scope, and Wortzel delivers quite ably. While the scale of the work is extremely helpful in keeping the various aspects and issues in perspective, the most important new contributions to understanding the evolving Chinese nuclear posture are Wortzel's treatments of "no first use" and nuclear command and control. As stated by the author, "The major insights . . . come from exploiting sections of . . . *A Guide to the Study of Campaign Theory*[,] . . . an unclassified 'study guide' for PLA officers on how to understand and apply doctrine." These insights, however, which Wortzel so adeptly lays forth, are corroborated in other reliable Chinese-language material.

It has become conventional wisdom among China scholars to take Chinese declaratory policy of "no first use" of nuclear weapons at face value, excusing away various past unofficial statements

suggesting that "no first use" ought not to be taken quite so literally. Wortzel offers a counterbalance to this view, elucidating both the concept of preemptive counterattack and the current debate within China on the viability and utility of adherence to "no first use." His conclusion on this crucial issue is that the debate within China on "no first use" is real, that a new generation of officers, diplomats, and scholars leans significantly toward modifying or jettisoning such a declaratory policy. In fact, this conclusion is quite in accord with the one developed and briefed by the Mahan Scholars student research team at the Naval War College in the spring of 2007.

Regarding nuclear command and control, Wortzel finds that the originator of valid firing orders for the Second Artillery is the Central Military Commission (CMC), "the highest and most centralized level of military leadership in the Chinese Communist Party." While we would agree that *tongshuaibu,* or "supreme command," probably refers to the CMC in the context of nuclear release authority, this is not completely clear, and explicit phraseology to bolster that conception was uncomfortably dropped from defense white papers of 2004 to 2006. Furthermore, in other writings it appears that conventional-missile firing authority during conflict is certainly delegated downward, to the Second Artillery itself. Such delegation is, of course, to be expected, but in a conflict that involved the movement of nuclear forces and became intense, the concomitant risks of unauthorized or inadvertent nuclear missile launch would grow alarmingly.

In addition to solid scholarship regarding the question of "no first use" and nuclear command and control, this monograph offers substantial original material on missile-force readiness levels, survivability issues, and targeting. Overall, as expected from an academician of Wortzel's caliber, this work expands our understanding of the Chinese nuclear posture. As such, it demands the attention of all China specialists and nuclear strategists.

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Sawyer, Ralph D. *The Tao of Deception: Unorthodox Warfare in Historic and Modern China.* New York: Basic Books, 2007. 489pp. $29.95

Ralph D. Sawyer, noted scholar of Chinese strategic thought, has produced an enlightening study of the beginnings and the evolution of deception in Chinese political and military history. Contrary to some contemporary commentators, China has a long martial tradition. Warrior leaders and military heroes permeate both historic and contemporary Chinese literature, as well as modern movies. Deception has long been an integral part of Chinese warfare. Drawing on the classic works of Chinese military thought, Sawyer demonstrates that deceptive practices and unorthodox approaches are the norm rather than the exception. Deception is a fundamental tenet of Chinese strategic culture, one that permeates strategic thinking not only in the military realm but also in the diplomatic, information, political, and economic spheres. (Readers of Sawyer's previous work, *The Tao of Spycraft,* reviewed in the Winter 2007 issue of this journal, will recall that

Chinese states were using "all elements of national power" several millennia ago.)

The reader can conclude from this work that Chinese military thought places deception on an equal level with fire and maneuver. In this it differs from Western military thought, which fundamentally considers deception as "unsportsmanlike" and relegates it to the operational and intellectual fringes. Deception and unorthodox approaches afford ways for the inferior to defeat the superior force. The "stronger" force, as judged by conventional military standards, is not necessarily more likely to win in battle. Rather, the force that applies the orthodox and the unorthodox in a way that fits the situation better is more likely to prevail. The book abounds with examples of how a little deception or unconventional application can have a great effect on outcomes.

The relationship between military operations and statecraft is another fundamental thread through this book. Subversion of an enemy state begins well before military conflict, and ideally it makes conflict unneeded. Bribery, assassination (both physical and character), dissension, and distraction are all basic tools of statecraft, as well as of war. Fundamentally, Chinese thought makes no real distinction between the two.

The final chapters address the ongoing renaissance of traditional Chinese military thought in the People's Liberation Army (PLA). The once-despised classic works are now widely used in PLA institutions.

Several years ago, two PLA officers published a book, *Unrestricted Warfare,* that describes unconventional approaches for defeating a superior force. In light of Sawyer's new work, Western scholars should reinterpret *Unrestricted Warfare.* Rather than being an exception to PLA military thought, it may well reflect current, core thinking.

Sawyer argues that "China has a lengthy heritage of conceiving and implementing systemic programs for subverting other states." It would be interesting for scholars of contemporary Chinese diplomacy to compare the "active measures" stratagems outlined in the book against current U.S.-China events.

This book reads well. A dynastic chronology helps place the events in historical (Chinese, if not world) context. However, maps would have greatly assisted understanding.

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Shirk, Susan. *China, Fragile Superpower: How China's Internal Politics Could Derail Its Peaceful Rise.* New York: Oxford Univ. Press, 2007. 336pp. $27

According to Susan Shirk, China suffers terribly from the "wag the dog" syndrome. Shirk argues rather persuasively that China is saddled with a host of internal problems, ranging from widespread social unrest to rampant political corruption, that have sharply intensified insecurities among Chinese leaders with respect to their hold on power. Such perceptions of vulnerability have in turn heightened Chinese sensitivities to slights by Japan, Taiwan, and the United States, slights that accordingly threaten to arouse potentially uncontrollable national passions and, in the process, stimulate regime-toppling impulses at home. For Shirk, this volatile

nexus of domestic and foreign pressures means trouble for regional stability in Asia. As Chinese citizens increasingly scrutinize Beijing's relations with the outside world, the Chinese Communist Party can ill afford to look soft on hot-button foreign policy questions. The party's obsession with internal stability thus compels Beijing to guard vigilantly against foreign insults to China's national honor—a critical source of the regime's legitimacy. Consequently, more than ever before, Beijing is primed to overreact to external crises and trigger confrontations that might otherwise have been averted by more temperate responses.

Overall, Shirk makes a compelling case about this peculiar dilemma that Beijing confronts. Although the proposition that the international community ought to be more concerned about China's weaknesses rather than its strengths is not new, her coverage of its domestic challenges is quite informative. In particular, Shirk provides a useful framework for understanding Beijing's internal priorities—leadership unity, social harmony, and tight control of the military—that would be instantly recognizable to those familiar with Clausewitz's famous "paradoxical trinity." The analysis of China's prickly ties with Japan, Taiwan, and the United States, however, covers well-trodden ground, material that has been widely documented in other studies.

As a former deputy assistant secretary of State for East Asian and Pacific Affairs, Shirk writes with authority on U.S. diplomatic encounters with the Chinese during the Clinton administration. Her extensive interviews with Chinese policy makers, senior military officers, scholars, students, and "netizens" not only attest to the unusual degree of access she has accumulated during her tenure but enliven the narrative with fascinating vignettes.

Nevertheless, this study is hobbled by an apparent reluctance to revisit basic assumptions about the regime itself, which, after all, the author contends, is fragile. Shirk does not render crucial judgments about the viability of China's regime-sustaining strategies, vaguely observing that "[Beijing] may be capable of surviving for years to come so long as the economy continues to grow and create jobs." Thus the validity of the book's findings rests almost entirely on the premise that the Chinese Communist Party in its current form will endure indefinitely. The analytical consequences of this unwillingness to explore alternative futures are evident from the author's boilerplate policy prescriptions for the United States, including an injunction that Washington must live with China's repressive domestic policies.

But what if Shirk's cautious optimism about the regime's longevity is wrong? This unsettling question awaits another forward-thinking China watcher.

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Alexander, Yonah, ed. *Counterterrorism Strategies: Successes and Failures of Six Nations*. Dulles, Va.: Potomac Books, 2006. 283pp. $24

Zimmermann, Doron, and Andreas Wenger, eds. *How States Fight Terrorism: Policy Dynamics in the West.* Boulder, Colo.: Lynne Rienner, 2006. 269pp. $55

Since the attacks of 11 September, a kind of conventional wisdom about

counterterrorism has emerged. On one hand, the "new terrorism" involves the violent expression of a radical religious agenda, suicide attackers, and mass-casualty violence. It is, therefore, both harder to deter and more destructive than the old ideological and ethnonationalist varieties of terrorism, whose practitioners, in Brian Michael Jenkins's now classic (and obsolete) formulation, wanted a lot of people watching, not a lot of people dead. On the other hand, the takedown, led by the United States, of the Taliban regime in Afghanistan forced the operational core of al-Qa'ida to disperse and the transnational terrorism network to become even more flat and decentralized. This meant that operational initiative was increasingly left to local "upstart" cells, which, though perhaps aided by al-Qa'ida middlemen, were merely inspired rather than directed by the central leadership.

The upshot is that the new foot soldiers of the global jihad may be motivated less by the cultural humiliation of Islam at the hands of the West or Osama Bin Laden's redemptive grand vision of a global caliphate than by local or regional social conditions, onto which they simply graft that ideal and thereby generate greater energy, purpose, and focus. In Europe, the main culprits may be the political and economic marginalization of Muslims in their host countries and their bitter memories of colonial abuses. In the Middle East, the gravamen of the radical Muslim complaint could be the plight of the Palestinians or the perceived co-optation of Arab regimes by the United States and other Western powers. In the Philippines, it might be the refusal of the state to accord Muslims political parity and a measure of autonomy.

In accord with these views, the perception has evolved among counterterrorism experts that containing the Islamist terrorist movement requires disaggregating it into regional and sometimes local elements and devising customized policies to deal with them. Effective policies will inevitably entail direct applications of soft as well as hard power—in particular, conflict resolution and state building. Also, successful applications of soft power are likely to have a more positive effect on Muslim perceptions of non-Muslim governments than are exercises of hard power. Two new edited volumes of essays, Yonah Alexander's *Counterterrorism Strategies* and Doron Zimmermann and Andreas Wenger's *How States Fight Terrorism,* approach the challenge of terrorism in the post-9/11 world on a state-by-state basis. In doing so, they appear to certify this evolving view, and with it the corollary that although the global jihadist movement is in many ways transnational and virtual, it admits of no holistic solution. Even if there was, one might add, existing multilateral and supranational organizations would be incapable of implementing it.

Alexander's book is a workmanlike and highly competent compendium of substantially descriptive historical case studies of counterterrorism approaches in the United States, selected European countries (France, Germany, and Italy), one Arab state (Egypt), and Sri Lanka, bracketed by the editor's introduction and summary with conclusions. Those conclusions are perhaps the probative elements of the volume, as Alexander in them attempts to distill from the case studies a range of constructive counterterrorism policies. But the proffered list tends either to

state the obvious ("prevent the proliferation of weapons of mass destruction to rogue states and terrorist groups") or confirm admonitions that have already been made in abundance ("increase cooperative relationships and alliances with like-minded nations"). Furthermore, probably because Alexander's study was initiated in 1998—that is, before 9/11—the choice of case studies is arguably misaimed. Egypt's pre-9/11 experience is relevant precisely because it is a formative aspect of the transnationalization of Islamist terrorism and the rise of al-Qa'ida, and the Tamil Tigers' activity in Sri Lanka is worthy of study also because of their persistence and innovation (for instance, suicide attacks). However, one key European state, from a counterterrorism standpoint—the United Kingdom—is completely excluded.

Zimmermann and Wenger's book, unlike Alexander's, was undertaken at the specific prompting of the 9/11 attacks and jihadist terrorism. It constitutes a more incisive and structurally oriented look at issues and challenges, namely, those peculiar to counterterrorism in the post-9/11 epoch. Indeed, following a trenchant introduction outlining the contemporary challenge, the first chapter, by Laura K. Donahue, deals comprehensively with the United Kingdom, aptly summing up the British dispensation as having "not been a radical departure from the previous state of affairs but rather an acceleration of the state's counterterrorist strategy." This volume also contains chapters on countries like Norway that have had little counterterrorism experience and those like Canada whose security policies are overdetermined by strong and prominent neighbors. Given the wide transnational presence of the global jihadist movement and the potential problems it poses to states heretofore untouched by (or at least insulated from) terrorism, the inclusion of such states seems wise. The chapter on the United States by RAND analyst William Rosenau is nuanced and marked by calm pragmatism. Rosenau stresses that even transnational Islamist terrorism as perpetrated by al-Qa'ida does not qualify as an existential threat to the United States and intimates that treating it as such could unduly skew national priorities—and may already have done so. Martin van Creveld's fine but largely historical treatment appears at first blush to be something of a non sequitur, but it may have been included to illustrate (as it does) the attritional effects that a long-term terrorist campaign can have on a modern state and military in the absence of political resolution.

Rohan Gunaratna's thorough but familiar assessment, entitled "Combating Al-Qaida and Associated Groups," counsels that "governments should move from traditional cooperation to collaboration," if the global network is to be neutralized. It characterizes the war in Iraq as counterproductively antagonistic to radical Muslims and suggests that regional conflicts will have to be ameliorated to tame them. Such recommendations, while generally sensible, may get ahead of the other material in the book. However, the editors' excellent concluding essay nicely grounds the volume by casting the central counterterrorism task as striking a "balance . . . between the efficiency of the legal, political, civilian and military means used to combat terrorism, on the one hand,

and their legitimacy in the eyes of the affected constituencies, on the other." Overall, the two books do an estimable job of delineating programmatically what states seeking to counter terrorism can and need to do. In so doing, they also invite more specific and granular analyses of precisely how to do it.

JONATHAN STEVENSON
Naval War College



Alleg, Henri. *The Question.* Lincoln: Univ. of Nebraska Press, 2006. 74pp. $16.95

During France's Algerian War (1954–62), the French journalist Henri Alleg sided with the insurgents. Arrested by French authorities in June 1957, Alleg was detained and tortured. During his confinement he managed to write and smuggle out an account of his experiences. Originally published in 1958, *The Question* was quickly banned by the French government, the first such action France had taken since the eighteenth century. The book nonetheless became a sensation.

Reissued after half a century, this new edition retains its preface by French novelist and philosopher Jean-Paul Sartre, now supplemented with a foreword by author Ellen Ray, an introduction by author James D. Le Sueur, and a new afterword by Alleg himself.

The book's title euphemistically refers to torture. In calm and lucid prose, Alleg describes his fate at the hands of his captors. Held for a month in Algeria's El Biar prison, Alleg was tortured by French *paras* (paratroopers) before being transferred to another prison, where he composed *The Question.* His "interrogations" ranged from beatings to electric shock and water boarding. He was even administered Pentothal, or "truth serum." Despite these outrages, Alleg refused to break, earning him both wrath and grudging respect from his tormentors. He escaped from prison in October 1961, just months before the war ended.

Fifty years later, Alleg's voice remains as reasoned and penetrating as ever. He laments that France's political elite have attempted to purge the Algerian War and its attendant horrors from the country's official memory; many military men responsible for these crimes, he notes, have received not only amnesty but promotion and praise. Only in 2000 did the French government admit that it had perpetrated widespread torture and other abuses during this period. Ironically, one former torturer proudly admitted to his actions in a 2001 book, causing such a backlash that he was punished, albeit lightly. However, Alleg insists that even this slap on the wrist signals a shift in official French thinking.

The accompanying essays deserve mention. Ray minces no words, accusing the United States of pursuing a "strategy that incorporates racism, torture, and murder" in its current conflicts. Seeing America as headed down a moral slippery slope, she wonders if it might go the way of the French Fourth Republic or whether "Americans might be the defendants in future war crimes trials."

Le Sueur provides background on Alleg's experiences and the debate that *The Question* aroused in France. He argues that present-day France has yet to come to grips with its sordid conduct. In fact, the French parliament passed a law in February 2005 enjoining educators to teach the "positive role" of

French imperialism and to recognize the "sacrifices" made by France's armed forces in the Algerian War.

Sartre is biting in his psychological dissection of both torturer and victim. He maintains that torture stems from racial hatred and that only by believing an individual to be less than human can one justify torture.

We should be grateful for this timely republication of *The Question,* as it reminds France of a chapter in its history it has tried hard to forget. It is also evidence that fighting terrorists by sacrificing one's humanity ensures not just a long war but an endless one.

MICHAEL H. CRESWELL
Florida State University



Evans, Michael. *The Tyranny of Dissonance: Australia's Strategic Culture and Way of War, 1901–2005.* Duntroon, ACT, Australia: Land Warfare Studies Centre, 2005. Available online at www.defence.gov.au/army/LWSC/Publications/SP/SP_306.pdf.

In this excellent monograph, Michael Evans argues that Australia has a distinctive way of war that focuses on continental defensive strategies. These strategies, for most of its history, have been abandoned by statesmen upholding Australia's extended vital interests in a favorable regional and world order. In other words, Australian military strategists instinctively think about homeland defense, especially of the air and sea-lanes connecting Australia to the world, but their political leaders inevitably require them to adapt their strategies to intervening around the world as a member of coalitions of like-minded liberal democracies. In the United States, we call this a "policy-strategy mismatch," but Evans calls it the "tyranny of dissonance," with the interventionist tradition of Australian foreign policy pulling one way and the more isolationist official Australian military strategy pulling another. In that respect, Australia resembles Britain and the United States, which have also been torn between "splendid isolation" and foreign intervention in different periods of their histories.

Evans is as relentless as a fly at a picnic in the Australian outback in demonstrating his thesis, which makes his style sometimes just as annoying. He might have limited his analysis to a few archetypal case studies and so made his point with greater power in fewer words. He does prove, however, that both the geographical position and unique political culture of Australia have inclined its military leaders to treat their continent as an Anglo-Saxon island in the middle of Asia, one that needed to be isolated from the rough-and-tumble of regional and global conflicts. Time and again, however, Australia's dependence on great powers (first Britain, then the United States), as well as the broader vision of Australian political leaders, compelled it to adopt a coalition strategy of "limited liability." Both to avoid overextension and to demonstrate their bona fides to Australia's allies, statesmen "down under" have consistently made limited commitments to imperial, later international, security in World War I, World War II, Korea, Vietnam, the Persian Gulf, Afghanistan, and Iraq. Like more unilateral interventions in East Timor and the Solomon Islands, these expeditions demonstrate that official Australian defense strategy is often out of sync with Australian foreign

policy. More precisely, these trends show that official strategy will probably have to be abandoned again, so Australians will have to develop the expeditionary means to back up their interventionist interests.

So, what are the Australians to do about this tension between their cultural instincts and their strategic necessities? Evans, who served as a major in the Zimbabwean army before emigrating to Australia, is hopeful that Australia's gradual shift from its "white only" culture of the early twentieth century to a more pluralistic society in the twenty-first century will increase the growing tendency of Australians to see themselves as stakeholders in both the international system and the regional balance of power in the Pacific and Asia. Echoing contemporary American misgivings about poor interagency cooperation in the United States, Evans also calls for what he refers to as the "whole government approach" that matches Australian foreign policy and defense strategy, so neither is formed in a vacuum. Australians would still make limited-liability investments in foreign interventions but would have a better chance to develop strategies and force structures suited to their extended interests in a liberal world order.

KARL WALLING
Naval War College

IN MY VIEW

IRREGULAR MARITIME STRATEGY

Sir:

It was both informative and a pleasure to read Martin Murphy's "Suppression of Piracy and Maritime Terrorism" in the Summer 2007 issue of the *Naval War College Review.* I do want to comment on his use of the mining of Nicaraguan harbors in the mid-1980s to illustrate a successful strategy of economic dislocation focusing on maritime targets. In addition to being a former Foreign Service Officer who served in Central America during the period, I have recently had the opportunity to revisit the harbor mining while writing *Crossroads of Intervention,* my just-completed book about U.S. involvement in the wars there as a bridge between Vietnam and Iraq.

There is an important twist to the harbor mining that bears directly on his assessment of irregular maritime strategy. Not only did the Nicaraguan mining, as he states, "depend on covert American assistance for its success," but a clandestine team of CIA sea raiders that included U.S. Navy SEALs operating from go-fast boats and a converted oil rig tender conducted the entire campaign. The Contras themselves knew nothing about it until their CIA handlers gave them a statement to read in which they claimed credit. In addition to causing direct damage, the intent of mining Corinto Harbor, along with sea-borne attacks on tankers and shore-based oil facilities at Puerto Sandino, was to raise the risks to international shipping, thereby increasing insurance rates and provoking hesitation in Nicaragua's suppliers. In this the campaign was a partial success. However, by far the greater impact of the mining was the blowback that erupted in Congress when the CIA role became public and the Nicaraguan government won a judgment in the International Court of Justice that the United States had engaged in unlawful use of force (although the U.S. refused ICJ jurisdiction).

There is another naval-operations angle. At the same time Washington was supporting the Nicaraguan insurgency against the Sandinista government, it was providing counterinsurgency support to the Salvadoran government next

door. Maritime assistance to El Salvador was aimed at interdicting clandestine arms trafficking by sea from Nicaragua to the Salvadoran FMLN guerrillas, under circumstances similar to those Murphy cites of the Israelis and Palestinians. U.S. measures included the nearly full-time stationing of a Navy frigate offshore, along with operating an intelligence facility on Isla de los Tigres in the Gulf of Fonseca and providing security assistance to develop the brown-water capability of the Salvadoran navy. What is most notable is that this effort had had almost no impact on the flow of arms, which became apparent after the war ended in 1992.

Because they took place in America's backyard, there was also a regional maritime dimension to the wars in Central America. One underlying justification for U.S. determination to halt the spread of Soviet- and Cuban-backed revolution in Central America was the extrinsic national security interest in guarding Caribbean Basin sea lines of communications. Although, as Colin Gray has pointed out, at the end of the day Cuba was a "strategic hostage to U.S. sea power," among the principal consequences of the Bay of Pigs debacle and the Cuban missile crisis was the effective shielding of the Castro regime from any further direct U.S. military action. Moscow avoided provoking the United States directly in the Caribbean again, and the way remained open for Cuba to continue serving as the regional sponsor of revolution in Central America, providing an uninterrupted platform for transshipping Eastern Bloc arms, primarily in Soviet vessels. These aspects of this already nearly forgotten conflict are a matter of public record, which I would be happy to amplify with details and additional sources.

TODD GREENTREE
Visiting Scholar, Johns Hopkins University,
School of Advanced International Studies

TARGETED KILLING

Sir:

Professor Gary Solis's article "Targeted Killing and the Law of Armed Conflict" (Spring 2007) is a well written opinion that the law of war does not render illegal

the killing at the direction of a state of a specific individual taking part in hostilities. An important element of the definition of "targeted killing" is that the individual cannot be reasonably apprehended.

I do not propose that any change or addition should be made to the article. Rather, I would like to emphasize the importance of the apprehension element from a practical as well as legal aspect. In the heat of battle between two military forces, it is difficult for troops not to desire to kill every enemy soldier, even after he has surrendered. However, commanders are well advised to make their forces aware not only of the illegality of such action but also of the advantages of capturing an enemy soldier. One of the more important reasons is the possibility of garnering valuable information and intelligence from him.

For this reason, any commander or official who is contemplating a targeted killing should consider whether or not apprehension of the individual is possible. This, of course, may raise other issues the person making the decision would rather avoid, such as how the individual is going to be incarcerated and what rights, if any, must be afforded him. If these matters can be satisfactorily addressed, the value of information that might be obtained about the enemy from the individual may be far greater than that of his demise.

I commend the *Naval War College Review* for sharing this thought-provoking article with us.

HARPER B. ATHERTON
Colonel, JAG, U.S. Army Reserve (Retired)

OF SPECIAL INTEREST

FROM THE U.S. NAVAL HISTORICAL CENTER

The Director of Naval History has selected Commander James C. Rentfrow, USN, to receive the $5,000 Rear Admiral Samuel Eliot Morison Naval History Scholarship, which is open to serving officers of the Navy and Marine Corps who are pursuing graduate degrees in history or related fields.

The Government Printing Office recently published *Pentagon 9/11,* by Alfred Goldberg, Sarandis Papadopoulos (a professional staff member of the Naval Historical Center), Diane Putney, Nancy Berlage, and Rebecca Welch. The comprehensive history documents the damage inflicted on the Pentagon building, the pain and suffering of its occupants, and the epic struggle of medical, fire, police, and other emergency personnel. Additionally, the U.S. Naval Institute has published *The U.S. Navy in the Korean War,* edited by Edward J. Marolda, senior historian of the Naval Historical Center. The Naval Historical Center is developing a twenty-thousand-square-foot exhibition highlighting the Navy's contribution during the Cold War. See www.navyhistory.org/coldwar.

Finally, the remaining events in the Naval History Seminar Program for 2007 are "Pentagon 9/11" by Dr. Sarandis Papadopoulos, coauthor of *Pentagon 9/11,* on Tuesday, 20 November; and "Counterinsurgency in the Vietnam War" by Dr. Mark Moyar, Kim T. Adamson Chair of Insurgency and Terrorism at the U.S. Marine Corps University and author of *Triumph Forsaken* and *Phoenix and the Birds of Prey,* Tuesday, 18 December. The seminars are held in the National Museum of the United States Navy, Building 76, Washington Navy Yard, Washington, D.C., noon to 1:00. For more information contact Dr. Edward J. Marolda at (202) 433-3940 or edward.marolda@navy.mil.

CALL FOR INFORMATION

The Australian Defence Attaché Manila, Republic of the Philippines, requests information regarding the burial place of Rear Admiral John Dumaresq, RN/RAN, a veteran of the battles of Jutland and Heligoland Bight and the first native-born Australian officer to head the Royal Australian Navy. The admiral was en route to Britain in 1922 when he fell ill of pneumonia aboard ship. He was hospitalized at an American military hospital in Manila and died there. He was buried

in Manila, but exactly where remains unknown. Information or assistance regarding the grave site would be highly appreciated and can be forwarded to Lieutenant Commander Mark R. Condeno, Philippine Coast Guard Auxiliary, at Coast_Guard78@yahoo.com.ph; or to Major Paul Anthony Rosenzweig, Australian Army, at paul.rosenzweig@dfat.gov.au.

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