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NAVAL WAR COLLEGE REVIEW

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Our Cover: In the forty years of memorabilia in the "wardroom" of the Naval War College's Naval Command College, this painting, by Nordhausen, has pride of place: Admiral Arleigh Burke founded that highly successful program, for purposes he was to recall in a Naval War College address reprinted in this issue. He also played a major role in the founding of the Japan Maritime Self-Defense Force; the fruits of that labor, almost a half-century later, are to be seen in our lead article, by Captain Katsutoshi Kawano, JMSDF.

The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law of the Department of the Navy. Funds for printing this publication have been approved by the Navy Publications and Printing Policy Committee.

Book Reviews

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The importance of what we do here cannot be overestimated. The men and women who study at the Naval War College will lead the military forces of the free world in the coming decades. The opportunity to study the lessons of history, to interact with scholars and leaders from all of the military services, and to strengthen one's intellect and expand one's personal and professional horizons, is a priceless gift.

President's Notes

WHAT A SPECIAL PLACE the Naval War College is! This is not a recent revelation on my part, of course, but it was brought home to me once again on a warm night last week when I took an early evening stroll around Coasters Harbor Island. Now that my tenure at the College and in the Navy

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Rear Admiral Stark was commissioned in 1965 at the U.S. Naval Academy, studied at the University of Vienna as a Fulbright Scholar, and earned a doctorate in political science at The Fletcher School of Law and Diplomacy, Tufts University. He has served on the Navy Staff, the National Security Council Staff, and as Executive Director of the Chief of Naval Operations Executive Panel. His sea service has included command of USS *Julius A. Furer* (FFG 6), USS *Leahy* (CG 16), and, from 1994 to 1995, the Nato Standing Naval Force Atlantic, deployed in the Adriatic Sea. He assumed the duties of President of the Naval War College in June 1995.

is numbered in weeks, I find myself reflecting on my time in Newport and my years in uniform with both a degree of nostalgia and with an increased sense of history.

As I descended the stairs and walked along the gravel driveway of our quarters, I recalled the thousands of guests whom Rosi and I have been fortunate enough to entertain in this grand old house. We've shared wonderful evenings with astronauts and deep-sea explorers . . . with entrepreneurs and entertainers . . . and with students, colleagues, and associates. Every guest has been special, and we will fondly remember each one. As the last rays of light slanted across Narragansett Bay, I passed Founders Hall, which now houses the Naval War College Museum. Over 112 years ago, my predecessor, Admiral Alfred T. Mahan, presided there as the College's second president. At that time, the College's furnishings consisted of four desks and twelve chairs, all borrowed from the Navy Torpedo Station, and a map of the battle of Trafalgar. Admiral Mahan stated, "There was but one lamp available, which I had to carry with me when I moved from room to room by night; and indeed, except for the roof over my head, I might be said to be 'camping out.'" How far we have come since those humble beginnings.

As the light faded, I passed the historic cluster of classic buildings which constitute the Luce-Mahan-Pringle Hall complex. They were the home of the Naval War College during most of its existence, and they witnessed our critical role in developing the strategy and tactics which served this nation so well in two world wars and through much of the Cold War. I then encountered the familiar massive gray structures of Spruance, Conolly, and Hewitt halls. Built in the 1970s, they are today the heart of the College, with our library and most of our offices and classrooms.

The path then became more difficult, as I picked my way through the building materials in what used to be our parking lot. In the gathering darkness I could still make out the shadowy spiderweb of steel beams that mark the daily progress in the construction of McCarty-Little Hall. This new $18 million building, due for completion in the spring of 1999, will be a much-needed, state-of-the-art replacement for venerable Sims Hall, our current War Gaming Center. As my evening stroll came to a close, I found myself reflecting on some of the College's many achievements over the past three years.

We have accomplished a great deal since I assumed my duties as President back in 1995, and while I take pride in these accomplishments, I cannot take credit for them. The credit goes to the talented men and women who make the Naval War College such an exceptional national treasure every single day. My task has been to set the course and articulate the vision . . . and then let them do the rest. *Their* accomplishments during this period have been many.

Over 1,800 students have completed resident courses of study and have then gone on to positions of leadership in the military services of our own nation and of our allies. And even as we taught within an academic structure that is over a

quarter-century old, we continued to make important evolutionary refinements. We expanded the breadth of the College's world-renowned Strategy and Policy course to include more cases involving unconventional warfare and internal strife, moving away from an emphasis on global superpower conflict to reflect the altered security problems our students will likely face in years to come. We aggressively kept pace with the rapid changes in global and domestic economics, changing our National Security Decision Making course's case studies and readings by over 50 percent every year.

The greatest changes, however, have occurred within the Joint Military Operations Department. Based on feedback from students, the entire course was reorganized to be more logical in its presentation and to employ a progression of teaching from concept to historical case study to practical application. In a move back toward the "glory days" of the interwar years, we also expanded and reenergized the annual Operations Department war game. Both moves have met with strong approval from the students, who are not known for being shy about constructive criticism.

The College of Continuing Education embarked on a series of major changes to make its courses more responsive to the needs of our busy students throughout the world. The correspondence course was condensed to enable completion within eighteen to twenty-four months, instead of the previous standard of five to six years. In order to make the course more amenable to future Internet integration, we also shifted to more multiple-choice evaluations, while still keeping a core of tough essay assignments. The Nonresident Seminar Program was also compressed to enable completion within two years for students wishing to take courses during the summer. Finally, we expanded our seminar sites to six new locations around the world. The result of these changes was a very gratifying increase in both enrollments and graduation rates.

The Naval War College's research programs have been energized and redirected. During the past three years, the Global Game series has employed scenarios which reflect the evolving nature of future conflict and the difficult policy decisions that will face America's leaders. The War Gaming Department has expanded its scope, becoming a key element in our educational process even as it supports other Navy and international programs. We created the Decision Support Center to serve as a key management tool for computer-assisted decision making. We have even employed its uniquely talented staff to develop innovative games bringing senior government officials together with executives from major Wall Street investment firms to examine the impact of various potential crises abroad on trade and financial markets.

The most far-reaching change of all, however, will surely be the establishment of the Navy Warfare Development Command (NWDC) at the Naval War College. This new organization will report to the President of the Naval War College, whose billet has been upgraded to three stars. We are very

fortunate that Vice Admiral Arthur K. Cebrowski, USN, the Navy's expert on the emerging concept of network-centric warfare, has been named as my relief. He will be supported by two additional flag officers, one to command the new NWDC, the second to assume duties as Provost, handling day-to-day affairs of the College. This new organization will capitalize on the tremendous intellectual resources of the Naval War College while bringing a new operational and doctrinal focus. This combination will put Newport at the center of Navy innovation and concept development as we move into the next century. All of us are very excited about this new opportunity.

The importance of what we do here cannot be overestimated. The men and women who study at the Naval War College will lead the military forces of the free world in the coming decades. The opportunity to study the lessons of history, to interact with scholars and leaders from all of the military services, and to strengthen one's intellect and expand one's personal and professional horizons, is a priceless gift. I have been honored to serve as President of this remarkable institution, and I will always have a warm spot in my heart for the Naval War College, for Newport, and for the many friends Rosi and I have made during the past three years.

J. R. STARK
Rear Admiral, U.S. Navy

NAVAL WAR COLLEGE REVIEW

Quarters AA
Residence of the President of the Naval War College

Naval War College
Newport, Rhode Island

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Japan's Military Role

Alliance Recommendations for the Twenty-First Century

Captain Katsutoshi Kawano, Japan Maritime Self-Defense Force

JAPAN, WHEN IT RETURNED TO THE POSTWAR international community in April 1952 with the implementation of the San Francisco Peace Treaty, realized that it had no alternative but to ensure its national security on the basis of an alliance with the United States. In the confrontation of interests and values between the United States and the Soviet Union, Japan had to choose the state with which it shared common interests and values. Thus, the Japan-U.S. Security Treaty was chosen as a realistic basis of Japan's postwar security policy.

While depending on the United States for its national security, Japan has since concentrated its energies on economic reconstruction and has achieved total recovery. Looking back on this path followed by Japan, it can be said that the choice was, on the whole, the best approach. However, in the drastic change in the international situation brought about by the end of the Cold War, it is questionable whether Japan, which has grown into an economic superpower like the United States, should continue to follow the same policy focused almost exclusively on economic growth. Postwar Japan has taken a smaller political and military role than its economic power might allow. In order to take a more influential position in international society, Japan has to play a greater political and military role in maintaining peace and stability in the world. Specifically, Japan should expand its political and military role under the Japan-U.S. security relationship to maintain peace and stability in the Asia-Pacific region.

Captain Kawano graduated from the National Defense Academy in 1977, spent the first seven years of his career in destroyers and completed the command and staff course at the Japan Maritime Staff College. He has also served on staffs in the Japan Defense Agency and commanded a destroyer. During 1996–1997 he was a student at the U.S. Naval War College, in the Naval Command College class of 1997. He has earned a master of international politics degree from the Tukuba University. He is presently Chief of Staff, Escort Flotilla One, Japan Maritime Self-Defense Force. This essay won the 1997 Naval War College Batemans Prize.

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This article focuses on the military role Japan should take in the Japan-U.S. security relationship as the world enters the twenty-first century, taking into account changes in the post–Cold War international situation and various challenges facing the Japan-U.S. security relationship.

The Post–Cold War Asia-Pacific Security Situation

The pattern of East-West confrontation, which formed the basic framework of international politics for nearly half a century following the end of the Second World War, ended with the collapse of the Soviet Union in 1991. Nato, which was the core alliance in the West, may now be extended to Eastern European countries. However, the end of the Cold War did not necessarily mean the advent of a "peace era." With the decline of the structure underlying the East-West military confrontation, the possibility of global war has become remote in today's international security environment. At the same time, various unresolved territorial issues remain; moreover, confrontations rooted in religious and ethnic differences have emerged more prominently. Complicated and diverse inter- and intrastate conflicts have been taking place. Furthermore, new kinds of dangers, such as the proliferation of weapons of mass destruction, including nuclear arms, delivery means, and other advanced military technology, are on the increase. Thus there is a strong possibility that even regional conflicts or crises could threaten global security.

The most important issue for global security in the post–Cold War era is to prevent regional conflicts or crises from developing into larger-scale conflicts, by dealing with them correctly and quickly. In recent years, the United Nations, unable to function fully during the Cold War because of the veto power in the Security Council of the Cold War competitors, is developing and expanding its scope of activity both geographically and qualitatively. At the same time, it is quite obvious that U.S. leadership and military power remain indispensable to world peace and stability. The United States, however, no longer holds an overwhelming advantage in terms of other means of national strength, particularly economic power. Moreover, the end of the Cold War has brought a reduction of the defense budget and active forces in the major countries, including the United States. The defense budget battles imply that it will get harder for the United States, or any one nation, to maintain world peace and stability alone.

Considering all the above factors, regional conflicts and crises, which are the main challenges to world security in the post–Cold War era, must be checked by a U.S.-led coalition of multinational forces if world peace and stability are to be maintained. In other words, coalition warfare is the current tendency, not only in major regional conflicts but also in military operations other than war (MOOTW).

The Asia-Pacific region has some characteristics that, compared to those of other zones, demand special attention from the security standpoint. First, unlike Europe, many nations of the Asia-Pacific region are generally increasing their defense budgets and devoting considerable portion's of their resources to the improvement and modernization of military power. In particular, China's defense budget has been growing at a rate of over 10 percent annually since 1989.[1] A further indication of this military improvement and modernization is a 1996 U.S. Office of Naval Intelligence warning about submarine threats, focusing on recent developments in Russia, China, and North Korea.[2]

Secondly, certain military standoffs that emerged during the Cold War still remain unresolved. The tensions across the Demilitarized Zone of the Korean Peninsula continue amid a latent danger of nuclear proliferation. The Korean Peninsula is very unstable, and with an unpredictable political situation in North Korea it is one of the hot spots to which the world should pay close attention. Additionally, China has conducted military exercises in the sea off Taiwan in order to put political pressure on it. Needless to say, China has not abandoned its option of a military invasion of Taiwan.

Thirdly, territorial disputes related to ocean resources remain unresolved. The Spratly Islands and the Senkaku Islands are typical examples. Obtaining ocean resources is a high priority for nations in this region—they need them in order to continue their remarkable economic growth rates. Additionally the implementation in 1994 of the 1982 United Nations Convention on the Law of the Sea has heightened territorial disputes over access to ocean resources. In fact, the Chinese premier, Li Peng, in a political activity report on 1 March 1997, proposed higher defense spending to pursue ocean interests.[3]

At any rate, there is little doubt that future developments in the Asia-Pacific region will have a great influence on global security, not only because of the dynamic economies in this region but also because major nations are deeply interested and involved in this part of the world. In this sense, Japan, as an economic superpower, has great interest in—and responsibilities for—regional security.

The Changed Environment of the Japan-U.S. Alliance

The Japan-U.S. security relationship remains an essential political and military framework, not only for the defense of Japan but also for peace and stability in the Asia-Pacific region. *The U.S. Security Strategy for the East Asia-Pacific Region*, published by the U.S. government in February 1995, describes the Japan-U.S. alliance as the principal basis for securing the peace and security of not only the two countries but the entire Asia-Pacific region.[4] Also, the Japan-U.S. Joint Declaration on Security Alliance for the Twenty-First Century (released at the time of President William Clinton's visit to Japan in

April 1996) reaffirmed that the Japan-U.S. security relationship, based on the treaty, remains the cornerstone of a stable and prosperous environment for the Asia-Pacific region. However, both countries have to accommodate, correctly and rapidly, changes in the post–Cold War environment to maintain this successful alliance and to enhance its credibility. Therefore, both countries must recognize crucial changes facing the Japan-U.S. alliance.

First, the balance of economic power between the two countries has drastically changed since the Japan-U.S. Security Treaty was concluded. Nato was established in 1949, and the San Francisco Peace Treaty was signed by Japanese and American political leaders in 1951. The global backdrop for the signing was the sharp confrontation between the East and the West, specifically the Korean War. This treaty was an important factor in the U.S. security strategy for dealing with the Soviet Union in the Far East. On the other hand, as Yoshida Shigeru, the Japanese prime minister at the time, observed, "Although Japan could retrieve its independence with the Peace Treaty, it does not have enough economic power to possess the armed forces required for the defense of Japan. There is no choice but to depend on the U.S. for Japan's security until Japan's economic power is recovered."[5] That in essence was Japan's position on the Japan-U.S. Security Treaty. Yoshida regarded economic recovery as a matter of the highest priority. He had no intention, however, that Japan would continue the "economy for economy's sake" policy after the nation was rebuilt.

The Japan-U.S. Security Treaty is basically characterized by its Article 5 and Article 6. Article 5 stipulates that Japan and the United States will take joint action if there is an armed attack against Japan. Under Article 6, U.S. forces are granted the use of facilities and areas in Japan for the purpose of contributing to Japan's security, as well as to peace and security in the Far East. In short, the United States is unilaterally obliged to defend Japan; Japan is not obliged to defend the United States but only to furnish facilities and areas for the stationing of U.S. forces in Japan (USFJ). That is a rather asymmetrical alliance.

The provisions of the Security Treaty reflected the economic balance of power between the two countries as well as the international situation of the times. As for the economic power of the two countries in 1951, the gross national product (GNP) of the United States was approximately $579.4 billion (in 1972 prices), and the gross domestic product (GDP) of Japan was approximately $65.8 billion (1975 prices).[6] Thus, the economy of Japan was about one-ninth the size of the U.S. economy at that time. Japan was in a truly poor economic situation and, as Yoshida said concerning Japan's security, could not help depending on the United States. Since then, Japan has been able to concentrate on economic growth. In 1994, GNP and per capita GNP were, for the United States, approximately $6.7 trillion and $25,800; Japan's figures were about $4.6 trillion and $37,000.[7] These facts show that Japan's choice at the time was correct.

However, it does not make sense that Japan, which has grown into an economic superpower, should continue to follow the same way. Also, such a choice will not be accepted by the international community. A deeply felt U.S. criticism that Japan is a "free rider" is based on the economic relationship between Japan and the United States. Japan has reached the stage where its military role in the Japan-U.S. security relationship must be expanded; otherwise, there is a strong possibility that the complaints of U.S. citizens will become heated, that Americans will connect security issues with economic ones, and that this will cause a deterioration in the alliance. The present combined attention to the security and economic aspects of the relationship may be due in large part to the fact that a paramount common enemy no longer exists. The Soviet Union made Japan and the United States give security matters priority. In 1996, however, the Economic Strategy Institute insisted that the Japan-U.S. Security Treaty be revised to be of mutual and reciprocal benefit, arguing that the U.S. economic disadvantage is exacerbated by the security arrangement.[8] This opinion should not be treated lightly.

A second change is that the Okinawa basing problem has become very serious. The Okinawa issue may be the hottest political problem between Japan and the United States. If mishandled, it could threaten the mutual trust between the two countries.

Okinawa was originally an independent state, Ryukyu, governed by the Sho dynasty; it formally became part of Japanese territory in 1871. Okinawan people are different culturally and ancestrally from people in the mainland of Japan; Okinawa has been strongly influenced by China. Also, the Okinawans have historical reasons not to have good feelings toward the mainland Japanese. Okinawa was the only battlefield on Japanese territory during the Second World War. It was under the administrative power of the United States much longer than the rest of Japan (twenty-seven years) before finally being returned to Japan on 15 May 1972. Additionally, about 75 percent of the USFJ facilities and areas are still concentrated in Okinawa, accounting for 10 percent of the Okinawa Prefecture and about 18 percent of its main island. Also, twenty-eight thousand of the total forty-seven thousand USFJ personnel are stationed on Okinawa. Considering history and the present situation, it is little wonder that the Okinawan people feel they are sacrificing politically for both governments. For these reasons, the issue must be treated sensitively and carefully.

Unfortunately, smoldering resentment has flared up following the rape of a young Okinawan girl by U.S. naval personnel in 1995. The majority of Okinawan people, including Governor Ota, now insist that the Japanese should share the burden of USFJ bases equally, especially if the Security Treaty is truly indispensable for the security of not only Japan but the Asia-Pacific region. This opinion can be fully understood. There is no denying that the USFJ bases on Okinawa are a hardship.

However, in the *U.S. Security Strategy for the East Asia-Pacific Region*, the U.S. government confirmed its commitment to keep forward-deployed forces in the Asia-Pacific region at the present level of approximately a hundred thousand personnel for the foreseeable future.[9] William Cohen, the U.S. Secretary of Defense, has also subsequently stressed the necessity of maintaining some hundred thousand personnel deployed in this region, with an unchanged number in Japan.[10] In short, the United States intends to maintain personnel and bases in Japan. Needless to say, the USFJ are centered around their bases and facilities, the smooth and stable use of which is an indispensable factor in maintaining the Japan-U.S. Security Treaty and enhancing its credibility. To ensure the continued stationing of USFJ, it is absolutely vital that the use of USFJ facilities and areas be in harmony with the local community. Therefore, to resolve the Okinawa issue while reconciling U.S. security objectives, there is no option but to carry on with the realignment, consolidation, and reduction of bases in Okinawa, within the limits of the U.S. commitment. If the issue is left as it is, Okinawa's continued complaints are likely to damage the Japan-U.S. security alliance. Indeed, even the 1997 U.S.-Japan Defense Cooperation agreement should not be construed as the final step in defining the nature of U.S.-Japanese security cooperation.

An American commitment to expand Japan's military role in maintaining the security of the Asia-Pacific region would help lighten the U.S. military burden. In any case, it is irresponsible on Japan's part to request a reduction of USFJ bases without an expansion of Japan's military role in regional security.

Lastly, the U.S. military strategy has changed, to deal with the post–Cold War security environment. As mentioned before, the Japan-U.S. Security Treaty was implemented against the background of the U.S.-Soviet confrontation. Therefore, it is little wonder that this treaty was the front line of U.S. strategy against the Soviets in the Far East. The joint strategic and operational plans between Japan and the United States were based on the Security Treaty and were part of the global defense against the Soviet Union. Since the end of the Cold War, U.S. military strategy has focused on winning two major regional conflicts, namely on the Korean Peninsula and in Southwest Asia, which could occur nearly simultaneously.[11] Also, the central point of the U.S. naval strategy has shifted to waging expeditionary warfare in a littoral region, *from* the sea, instead of a global maritime campaign against the Soviet Navy.[12] Plainly, Japan's new military role must consider the new U.S. military strategy.

A Proposed Military Role for Japan

These points lead to this conclusion: Japan should play a greater military role in Asia-Pacific regional security than it has done in past decades, to support the

United States not only in regional conflicts but also in operations other than war. At the national-strategic and theater-strategic levels, and in maritime operations, the role of Japan must change in the twenty-first century.

The National-Strategic Level. The Japanese government must decide to exercise the right of collective self-defense. As a matter of course, Article 51 of the UN Charter stipulates that "nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a member of the United Nations until the Security Council has taken measures necessary to maintain international peace and security." The Japan-U.S. Security Treaty also recognizes that both nations have the inherent right of individual and collective self-defense, as affirmed in the Charter of the United Nations. Yet, the policy of the Japanese government on the right of collective self-defense is this:

> Under international law, it is understood that a state has the right of collective self-defense, that is, the right to use force to stop armed attack on a foreign country with which it has close relations, even when the state itself is not under direct attack. It is beyond a doubt that as a sovereign state, Japan has the right of collective self-defense under existing international law. The government, however, is of the view that the exercise of the right of self-defense as permissible under Article 9 of the Constitution is authorized only when the act of self-defense is within the limits of the minimum necessary level for the defense of the nation. The government, therefore, believes that the exercise of the right of collective self-defense exceeds that limit and is constitutionally not permissible.[13]

The essential point here is that Japan ought to learn lessons from the Persian Gulf War, when the United States requested "visible support" in addition to financial assistance from Japan, as one of its allies. That obviously meant sending Japan Self-Defense Force (JSDF) units to the Gulf. However, because of its view of collective self-defense, Japan could not send its forces there. Only one exception was made, the dispatch of a minesweeping unit of the Japan Maritime Self-Defense Force (JMSDF) to the Persian Gulf after the war. As a result, Japan's support was criticized as "too little, too late" by the international community, in spite of Japan's enormous financial contribution of thirteen billion dollars. That international criticism showed that sharing physical risk by contributing forces to a coalition effort is more important than just giving financial support, if Japan is to fulfill its responsibility for international security.

For this reason, and to protect its important national interests, it is indispensable that Japan exercise the right of collective self-defense. The "Guidelines for Japan-U.S. Defense Cooperation" compiled in November 1978 were reviewed by the defense authorities of the two countries, in light especially of the Korean Peninsula crisis. However, unless Japan changes its

policy on the right of collective self-defense, its support to U.S. forces will he limited. Japan should recognize that if it took no more action in a Korean crisis than it did in the Gulf, it would be completely isolated within the international community, and even the termination of the Japan-U.S. security alliance could be expected.

According to a joint survey of public opinion taken in early 1997 hy the *Yomiuri Shinbun* (a Japanese newspaper) and the Gallup Poll in response to a question about the action that the Japan Self-Defense Forces should take if U.S. forces engaged in a regional conflict in the Far East, 34 percent of the Japanese surveyed indicated that Japan should perform only humanitarian support, and in nonmilitary areas; in contrast, 47 percent of Americans surveyed believed that Japan should participate completely in the U.S. military operation.[14] That is, almost half of Americans apparently expect Japan to conduct combined military operations with the United States if regional conflicts or crises occur in the Asia-Pacific region.

Japan should in fact take a bold course to exercise the right of collective self-defense and take a more active role in military operations. Such a role would also fill a gap in awareness between Japan and the United States. This matter can be resolved with a political decision, because there is no substantive provision in the Constitution that *prohibits* the exercise of collective self-defense; no amendments to the Constitution are required. Besides, according to a public opinion poll taken in March 1997 by the *Yomiuri Shinbun*, 45 percent of the respondents felt that amendments to the Constitution in the area of employing military force are warranted, with half of that group specifically pointing to new problems that the Constitution does not deal with, such as contributions to international security, as their reason. Only 37 percent of the respondents did not desire amendments (and presumably would oppose increased Japanese participation in collective self-defense operations).[15] This poll indicates that the Japanese public may be inclined to accept Japan's exercise of collective self-defense. Certainly, amendments to the Constitution should be considered in the future as the public consensus becomes even clearer.

Professor James E. Auer of Vanderbilt University, who served as a Special Assistant for Japan in the Office of the Secretary of Defense from 1979 to 1988, observed in 1996 that

> when U.S. naval power deterred China from intimidating Taiwan in March 1996, a more meaningful message would have been sent to China if JMSDF escort ships had accompanied or otherwise visibly assisted the *Independence* battle group. This opportunity for a meaningful joint action did not materialize because of the lack of political will in Japan.[16]

His statement shows precisely the true nature of collective self-defense. That is, if Japan were to exercise collective self-defense with the United States, the solidarity of the Japan-U.S. security alliance would be shown to the rest of the world, which would contribute greatly to deterrence. It is absolutely necessary for maintenance of regional peace and stability in the twenty-first century that Japan conduct joint operations with the United States more effectively, through the exercise of the right of collective self-defense.

The Theater-Strategic Level. The basis of Japan's defense strategy in the post–Cold War era is the National Defense Program Outline, formulated on 28 November 1995 and superseding the previous version. The new Outline lists "response to large-scale disasters and various other situations" and "contributions to the creation of a more stable security environment," in addition to "national defense," as roles that defense forces should play.

As for national defense, if aggression against Japan occurs the JSDF will immediately repel it to minimize damage to the nation's territory and people. In order to repel such aggression at the earliest possible stage, the JSDF will conduct an integrated, systematic operation, within its capability and in appropriate cooperation with the United States, to include effective joint operations with U.S. forces. That is basically the same concept that the previous Outline had envisioned. A distinguishing characteristic of the new Outline, however, is in the JSDF's "response to large-scale disasters and various other situations":

> Should a situation arise in the areas surrounding Japan, which will have an important influence on national peace and security, take appropriate response in accordance with the Constitution and relevant laws and regulations, by properly supporting the United Nations' activities when needed, and by ensuring the smooth and effective implementation of the Japan-U.S. Security Arrangements.

This, needless to say, refers to regional conflicts and crises, including any on the Korean Peninsula. The official policy regards "appropriate response" as including search and relief operations for refugees, transportation of Japanese nationals overseas, and removal and disposal of abandoned mines.[17] However, it does not amount to direct and effective support to U.S. forces.

In the Cold War era, the Japan-U.S. joint military strategy, based on the Security Treaty, focused only on Japan's defense against aggression by the Soviet Union. Any such aggression was to be repelled by an offensive operation based on U.S. power projection capability, with only defensive operations by the JSDF. Accordingly, Japan's military capability has been limited to the minimum necessary to defend Japan. However, the focus of the Japanese-U.S. joint military strategy should now shift from the defense of Japan to response to regional contingencies, and to operations other than war. Thus, the JSDF should

establish military postures for effective support of U.S. forces. To that end, the JSDF should enlarge the scope of its operations, specifically to include offensive operations to support U.S. forces within Japanese areas of interest.

Maritime Operations. Japan relies heavily on other countries for the supply of industrial resources, energy, food, and many other materials that are vital to its existence. Therefore, defending its surrounding sea areas and securing the safety of maritime traffic are vital to Japan's national existence and economic viability, as well as to the deployment of U.S. forces and sustainment of the JSDF in wartime. To that end, the prime mission of the Japan Maritime Self-Defense Force has been to secure the safety of sea lanes of communications (SLOCs) for a thousand miles around Japan, and the JMSDF has built up its defense capability to accomplish that. During the Cold War, regarding the Soviet submarines as a main threat against Japan's SLOCs, the JMSDF made the improvement of its antisubmarine warfare (ASW) capability its highest priority. As a result, the JMSDF has now a strong capability in ASW, and its operational concept has focused on sea control, in concert with the U.S. Navy. The JMSDF has planned to conduct mainly ASW as defensive operations in wartime, depending on the power projection capability of U.S. carrier battle groups for offensive operations.

Since such an ASW capability is indispensable to secure Japan's SLOCs, it should be continuously improved. Japan should make the most of the JMSDF's strong ASW capability, combined with other efforts, to ensure peace and stability in the region and the safety of its SLOCs. However, the JMSDF needs to establish immediately a capability to conduct effective joint operations with not only the U.S. Navy but also the U.S. Marine Corps. Any regional contingency—particularly one focusing on the Korean Peninsula (which is one of the two "MRCs" that the U.S. military strategy emphasizes)—could seriously affect Japan's security. Specifically, functions such as antimine warfare, maritime transport, and seaborne supply should be strengthened in order to support amphibious operations by U.S. forces. Also, the JMSDF's ASW capability should be used to help escort and protect carrier battle groups operating for the security of the Asia-Pacific region.

Three Myths

It cannot be denied that there are arguments against the expansion of Japan's military role. These are divided mainly into three categories: that there would be a rebirth of Japanese militarism, that a fierce arms race would ensue, and that Asian countries near Japan would fear a greater Japanese military role. They have, however, no solid basis. In reality, all three are myths.

First myth: The expansion of Japan's military role will lead to the rebirth of militarism, and Japan will grow into a military superpower. To be sure, the prewar constitution contained a fault, that military authorities could conduct military operations outside political control; the government could not participate in military command. Presently, in contrast, the JSDF is totally under civilian control. This is an entirely different arrangement than its predecessor had. Today, the prime minister, on behalf of the cabinet, holds the authority for supreme command and control of the JSDF. Therefore, there is virtually no possibility that militarism will revive in Japan, unless the majority of Japanese were to want it. As to that, there is no doubt that democracy in Japan is firmly instilled and that the international community recognizes the permanence of Japan's democracy.

Second myth: Expanding Japan's military role will stimulate a fierce arms race among Asian countries by destroying the balance of power in the Asia-Pacific region. Instead, the expansion of Japan's military role would be continuously reviewed under the Japan-U.S. security relationship, and its purpose would be only to establish military postures that effectively support U.S. operations for the maintenance of peace and stability in the Asia-Pacific region. Japan does not need such an expansion of armaments as would destroy the balance of power there. Besides, Japan has no intention of possessing strategic weapons, such as nuclear weapons, intercontinental ballistic missiles, ballistic missile submarines, or offensive aircraft carriers. Japan will continue to depend on the United States for power projection and nuclear deterrence in the future.

Third myth: Asian countries near Japan will be afraid of a greater Japanese military role because of Japan's military action during the Second World War. Certainly China, North Korea, and the Republic of Korea (ROK) have a sense of unease about the expansion of Japan's role in both political and military matters, although the countries of the Association of Southeast Asian Nations are generally in sympathy. It is no wonder that China and North Korea, as communist countries, denounce it as a rebirth of Japanese militarism. They would use the situation for political propaganda, and for this reason Japan should not attach much importance to their vocal objections.

However, Japan should listen to the ROK, which has long felt antagonism toward Japan because of the unhappy history of Japan on the Peninsula. In fact, the ROK is very wary of Japan's new military policy. That does not, however, need to be a "show stopper"; many of the postwar generation in both Japan and the ROK have turned their attention to the future relationship between their countries, despite the unfortunate past. In recent years, the relationship between Japan and the ROK has strengthened not only politically and economically but also militarily. For instance, in accordance with an agreement on mutual port visits between the two countries' training squadrons, a ROK naval training squadron made a goodwill visit to Tokyo in 1994, for the first time ever. In

1996 a JMSDF training squadron visited Pusan, and the Japanese naval ensign was flown on the Korean Peninsula for the first time since the end of the Second World War. It is evident that progress is being made in defense exchanges between the two countries. Therefore, if Japan explains in all sincerity to the ROK that its military role is to be enlarged only within the framework of the Japan-U.S. Security Treaty and that its purpose is to maintain peace and stability in the Asia-Pacific region, Japan should be able to win the understanding of the South Korean people, even its wartime generation. It goes almost without saying that the establishment of a cooperative relationship in the security field between Japan, the United States, and the Republic of Korea should be examined in the future.

This article has recommended that Japan expand its military role under the Japan-U.S. security relationship—to contribute actively to the maintenance of peace and stability in the Asia-Pacific region and to enhance further the mutual trust between the two countries. This would strengthen the Japan-U.S. alliance even more.

Unless the Japan-U.S. alliance sensitively adjusts to the changes of the security environment, there is a possibility that the credibility of this alliance will deteriorate and that its continuance will be compromised. That is because Japan is totally different from the United States in race, culture, religion, customs, and language, whereas many similarities exist between the United States and European countries. In other words, although Japan and the United States share such basic values, ideas, and interests as freedom and democracy, greater efforts are required to maintain the Japan-U.S. alliance than are required for Nato.

The Japan–United Kingdom alliance that was concluded in 1902, and which greatly contributed to Japan's victory in the Japanese-Russian War of 1904–1905, collapsed in 1921 because it could not adjust to the changes in the international situation. Japan and the United States should learn a lesson there. That this present alliance of world powers of the Orient and the Occident has been maintained for nearly half a century is without precedent in history. The era in which Japan depended on the United States for its national security, however, is now gone; the twenty-first century will be an era when Japan takes on a far greater role in maintaining peace and stability—not only in this region but also in the entire world, in cooperation with the United States. On the eve of the new century, both countries should seek to change their security relationship from a one-sided to a two-sided one—a relationship that shares costs, risks, and rewards.

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1999 Society for Military History Meeting
Call for Papers

The 1999 annual meeting of the Society for Military History will be held April 15–18, 1999, at Penn State University. The conference's all-inclusive theme will be "War in History, Myth, and Memory: An End-of-Millennium Retrospective." Proposals for individual papers and complete sessions on any topic in "old" or "new" military history are welcome.

For consideration of an individual paper, submit a brief (1–2 page) abstract and a brief vita. For consideration of a complete panel, submit a brief (1–2 page) abstract and a brief vita for each presenter. Send proposals to Prof. Carol Reardon, 1999 SMH Conference, Department of History, Penn State University, University Park, PA 16802. *Deadline for submission of proposals is October 15, 1998.* Refer questions to Prof. Reardon at (814) 863-2658 (office); (814) 865-1367 (History Department), or <CAR9@psu.edu> (e-mail).

National Security in the Information Age

David C. Gompert

THE INFORMATION REVOLUTION HAS BEEN in full swing long enough to permit a broad assessment of its effects on U.S. national security. This burst in human ability, owing to rapid growth in the processing of data and sharing of knowledge, is proving beneficial in three ways. First, it is improving the international security environment by spreading the ideals of freedom, putting oppressive state power on the defensive or out of business, and helping long-poor societies modernize. Second, it is enhancing the power of the United States at the expense of nations opposed to its principles and interests, by increasing the strategic value of free markets, science, and technology. Third, it is altering warfare in a way that will enable the United States to protect its interests and international peace at an acceptable risk, despite the spread of weapons of mass destruction.

These promising trends should continue. In the long run, the international equities of the United States and other free-market democracies can be secured by the superior economic, technological, and military potential their openness

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provides in the information age. Put differently, because the information revolution has strengthened both the relationship between freedom and knowledge and that between knowledge and power, it links power to freedom. A rosy forecast? Perhaps—yet a plausible one, all the more likely to come true if pursued.

Of course, a bleak alternative hypothesis must also be examined. Have we not watched too many despots manipulate modern communications to write them off as easy prey instead of skillful predators of the information age? Will the information revolution not produce insecurity for the United States and other democracies, whose very openness creates paths for new dangers? Free economies and societies may already be vulnerable to electronic attacks on the communications networks and computer systems that enable them to function. Such new threats could come not only from rogue states seeking to outflank the military might of the United States, but also from sub- and transnational adversaries, emboldened by the fact that information technology lets them operate as elusive networks even as it erodes the power of governments. Finally, the rise of a new strategic challenger—China, perhaps—able to exploit off-the-shelf information technology cheaply and quickly for military purposes cannot be excluded.

This article finds that the contributions to security of the information revolution are profound, cumulative, and sustainable, and the dangers serious but manageable. It surveys both the contributions and the dangers and concludes with some thoughts on how to encourage the former and avert the latter.

Progress in World Politics

Information technology is enriching, integrating, and expanding the world's democratic core, promising improved security on much of the planet. It has played a role in the three great political developments of the late twentieth century: the metamorphosis of Japan and Germany, the demise of the Soviet Union, and the emergence of previously underdeveloped regions. In the old nomenclature, it has helped revitalize the First World, liberate the Second, and uplift the Third.

It took several decades following World War II for the economic dynamism at first concentrated in North America to yield sustainable prosperity in Western Europe and Northeast Asia. It then took a mere decade—the 1980s—for economic freedom to get the upper hand and for modernization to ensue in Southeast Asia and Latin America. Within just a few years of the democratic revolutions of 1989, private enterprise overtook decrepit state sectors in Eastern Europe. Whereas massive policy interventions—the Marshall Plan, strong government, domestic market protection—were needed to

nurture Western Europe and Northeast Asia, private investment and the accompanying transfer of technology are propelling the newly emerging economies. The enterprises of the democratic core, now competing globally, seek not only new markets but new locations where they can produce at lower cost. Where once they explored for raw materials to extract and process, global firms now find labor to train and employ. Capital, management know-how, and market distribution systems are spreading eastward and southward, ushered by the ideology of openness.

It is no coincidence that this accelerating globalization has run alongside the information revolution. Information systems permit distributed production—scale without geographic concentration—and global marketing: designed in the United States, chips fabricated in Japan, subsystems built in Taiwan, software written in India, the final product marketed in Europe. Information technology equips, rewards, and elevates "human capital" (that is, people) by expanding, using, and sharing the output of their minds. The 6–10 percent gross domestic product growth rates common among emerging markets reflect their citizens' newfound chance to add value, thanks to information technology. Behind the numbers lie the new skills, productivity, and hopes of a billion workers.

Investment in information infrastructure is both a cause and a consequence of modernization. Digital telecommunications networks are expanding rapidly, responding to the demands of business but also dramatically increasing personal access. Improved communications carry the spores of economic and political freedom, spores that grow into democratic movements and institutions. Just as the economies of emerging countries are altered by reform, investment, and participation in global industry, their politics are transformed by the information and ideas that their new infrastructure distributes. Countries cannot import crucial technical know-how without also receiving packets of smuggled democracy. Working on a computer-based production line is bound to increase both the interest and the ability of the employee to use essentially the same technology to expand his or her personal knowledge, potential, and freedom.

But did not the industrial revolution also produce notions of great political advancement, only to yield (owing to some of those notions!) history's most violent century? True; yet industrial-age technologies—metal-bending, machine-propelling, even atom-smashing—do not require the same degree of economic freedom that it takes to create and apply information technology. Indeed, industrial technology is conducive to concentrated state power, whereas information technology abhors it. Nor do the old technologies directly stimulate and improve the minds of those who use them, as information technology does. Information technology is altogether different, because it expands knowledge, which promotes freedom, which in turn aids the creation and use of information technology.

New research reveals strong causal links between the availability of information technology and demands for democracy;[1] it buttresses a belief as old as Western democracy: "To give information to the people is the most . . . legitimate engine of government."[2] Other recent empirical work confirms that the freeing-up of markets intensifies the urge for political freedom, because economic freedom whets the appetite of a growing middle class for the permanent right to challenge the policies and even the tenure of the ruling regime.[3] It appears as well that the current economic turmoil and disappointment in East Asia is not undermining adolescent democracy but rather opening it up and thus toughening it. Whatever the cause-and-effect relationship among marketization, democratization, and access to information, it suffices here to note that the three come in a package, of varying shapes and sequences from one country to the next.

By enabling citizens to learn what is happening outside as well as inside their country, information technology leaves illegitimate governments with just three options: reform, crackdown, and extinction. The shrewd and ruthless ones—Saddam, yes; Gorbachev, no—know that reform can lead to extinction, or at least early retirement, so they crack down as needed to retain power. Consequently, we are left with a dwindling number of quite odious regimes, in Pyongyang, Baghdad, Belgrade, Tehran, Yangon, Lagos, Damascus, and Havana, all living on borrowed time. The self-isolation, oppression, and knowledge control they practice is grinding down their economies, even as their citizens inevitably learn about their thriving neighbors.

Nevertheless, the optimist must concede that the information revolution will not soon corner and banish every single dictator. But if access to knowledge and the technology that spreads it is not a mortal threat to authoritarian states, why are they so determined to suppress or monopolize it? Why does the Milosevič regime oppose every alternative to state-controlled television? Why must information about the Internet stay underground in China? Why is the number of telephone lines per capita so much higher for democracies than for authoritarian states of comparable wealth? As the variety and sophistication of communications media increase, democracy becomes both more urgent and more feasible for peoples of any culture, faith, or stage of development.

Of course, some of the regimes who tremble at the political effects of the information revolution are friendly and important to American interests. Perhaps U.S. policy makers are learning the lesson—of the shah, Marcos, Mobutu, et al.—that ignoring the need for "friends" to reform will eventually imperil American security interests. The conservative, oil-producing Arab states remain a dilemma because of their economic importance and our fears of a militant Islamist alternative. But wisely managed, the information revolution creeping across the Arabian Peninsula can reform and thus legitimize, not radicalize, these important states.[4] Conversely, even friendly and favored

autocrats can resist the information revolution only by becoming more autocratic.

How are these political changes affecting international security? For the most part, as the information revolution speeds the integration and expansion of the democratic core, it has a pacifying effect. In Eastern Europe and Southeast Asia, as before in Western Europe and Northeast Asia, economic reform, democratization, and open information are extinguishing instability and violence. These were four of the world's most dangerous regions during the industrial age; they seem at last to have exorcised the demons of ethnic and territorial conflict. Accountable government, the rule of law, and economic success make majorities and minorities alike less inclined to resort to violence. Democracies may not be angelic, but as a rule they do not go to war with one another, and they normally abide by norms of responsible international behavior that spring from the same basic values as does democracy itself.[5]

It is not surprising, therefore, that most recent conflicts (Afghanistan, Somalia, the Caucasus, Haiti, Kosovo, Bosnia, Central Africa, Kurdistan, Tajikistan) have occurred beyond the pale of the democratic core. We no longer worry about war between Germany and France, or Japan and Korea; perhaps we can soon stop worrying about war between Hungary and Romania, Argentina and Great Britain, and Russia and Poland. Finally, as the information revolution topples one after another of the remaining dictatorships, there will be fewer left to threaten their neighbors, dispatch terrorists, and stockpile nuclear, biological, and chemical weapons.

This is not to say that permanent peace will arrive as soon as Kim, Saddam, Milosevič, and company depart. Knowledge-based human progress is uneven; ancient feuds persist; population growth is too high in the very regions that can least afford it. We have not seen the last state to collapse in Africa. Other regions outside but important to the core—the greater Middle East and the former Soviet Union—remain dangerous to themselves and to U.S. interests. The increasing availability of weapons of mass destruction and the means to deliver them could threaten international security, especially in these unstable regions. U.S. defense planning, as embodied in the recent Quadrennial Defense Review and the independent National Defense Panel review, is becoming less concerned with the number of rogue states—especially with North Korea teetering (and Iran flirting?)—and more concerned with how dangerous each of them might be.

Still, the trend line is promising for a growing area of the world. Except for oil and gas reserves (admittedly a large exception), the essential economic interests of the United States are concentrated in regions that are now peaceful and safe. The demands placed on U.S. forces are increasingly from contingencies short of war, typically in places and for reasons that are not vital. These demands will persist, and the immediate situations in Iraq and Korea will

remain tense, but the danger of armed aggression against the global interests of the United States and the core, let alone against the core itself, is small and shrinking. Moreover, as what follows will suggest, the beneficial effects of the information revolution on U.S. military power and on the nature of warfare should prepare the United States well to respond to the changing international security environment.

To sum up, information technology spurs economic development by rewarding and enhancing human capital. It facilitates the globalization of production and marketing, fostering direct investment, new information infrastructure, and the integration of healthier nations into the core. As it extends economic and political freedom, the information revolution helps reduce internal and international conflict. Since the global security environment took a sudden turn for the better in 1989-1991, positive developments have been less spectacular. Setbacks have occurred and will occur again. But the vector is toward a less violent new century—thankfully, since this one was the most violent yet—owing in large part to the information revolution and its contribution to freedom and security.

The Information Revolution and National Power

The Cold War ended in an ironic failure of containment: that is, Soviet failure to contain the democratic core. The information revolution made the Soviet Union an economic, political, and even military loser. A brief look at that collapse illuminates how the essence of power has shifted as the industrial age has given way to the information age.

Information technology widened the gap between Western and Eastern economic performance that had already been evident before 1980. By the end, not only the United States but its protectees, Western Europe and Japan, dwarfed the Soviet Union in most of the measures that matter. The Soviet state did not just neglect and resist the information revolution; it was incapable of joining in it. Its futile, last-ditch attempt to import computer and communications technologies suggests that it fundamentally misunderstood them. Information technology especially rewards innovation and entrepreneurship (the proverbial two guys in the garage having, implementing, and marketing breakthrough ideas that the big organizations do not dream of), market agility, and scientific and intellectual freedom—hardly socialist strengths. As well, the information revolution amplified the "cost of empire" by spreading the truth about Afghanistan, the West, Solidarity, and communism itself. Unable, and under Gorbachev unwilling, to stifle the sharing of knowledge among its citizens, the Soviet empire and state crumbled much faster than anyone had imagined was possible. The information revolution delivered a swift coup de grâce to a system grown feeble late in the industrial age that bred it.

The information revolution even stripped the Soviet Union of its specialty, military power. Technology from commercial markets decided the great strategic race. Competition in computers, telecommunications, and chips among U.S. firms, and between them and Japan, propelled the revolution that bypassed the communist world. Information technology sprouted in the military's hothouse of the 1950s but bloomed outside it. In the 1980s, banks and manufacturing giants displaced the defense establishment as the most sophisticated and demanding users of data processing and networking. In the United States, the military was the dominant segment of the information technology market in 1975, with a 25 percent share; it now holds less than 3 percent of that market, owing to phenomenal growth in nonmilitary demand.[6] The civilian economy has furnished both the incentive and the profit revenues to develop the microelectronics, software, and networking technologies that determine the performance of contemporary military systems and forces.

Not embedded in a thriving civilian economy, the Soviet military was, of all things, too small to support adequate research and development (R&D) on the vital technologies. Ironically, the military's dominance in information science and technology within the USSR contributed to its own undoing: what it dominated turned out to be a bogus industry in a phantom market. The growing microelectronic content of high-performance military systems in the United States compounded the Soviets' inability to keep pace. All that land, all those minerals, all those factories, all those engineers, even the vaunted Soviet education system could not make up for the lack of stimulus and funds for investment that markets for VCRs, PCs, and digital networks provide.

The failure of Soviet political, economic, and military power was only the most spectacular recent example of mind over muscle in world politics and warfare. (The outcome of the contest between South and North Korea also comes to mind.) Information technology has made traditional assets of power—territory, huge armies, heavy industry—less strategically relevant. Military systems, thus military power, now depend more on the freedom of commerce and science than on the strength of the state.

With its favorable climate for high-risk/high-value invention and unrestricted use, the United States enjoys a distinct edge in the information era. Openness, a hallmark of the American political economy, is the key to success in the information industry, and thus to national power. The United States is increasing its military superiority even as its forces shrink. Moreover, the countries in the next-best position to improve their military capabilities with information technology are not adversaries but America's Western European and Northeast Asian partners.

Actually, the gap in military technology is widening between the United States and these allies. Collectively, the Western Europeans have roughly as many men under arms (1.5 million) and spend two-thirds as much on defense

($160 billion) as the United States. But only a small fraction of their forces can operate effectively at a distance (where they are most likely to be needed). Consequently, the strategic contribution of our Nato allies is declining. While this is obviously not good, it does underscore the fact that America's success with information technology is enlarging its lead over friend and foe alike. The combination of the Pentagon's $30-plus-billion R&D budget and, more importantly, the nation's edge in information technology will keep the United States in a class of its own.

Information technology should also begin to yield major reductions in the cost of defense systems and infrastructure. Even allowing for gains in performance, the cost of advanced weapons systems has not fallen nearly as fast as has the cost of civilian systems of comparable complexity and microelectronic content. With military procurement reform—the process remains a problem—we are just beginning to see impressive per-weapon cost reductions.[7] Operational and structural efficiencies and savings that private firms have derived from the information revolution in the past decade are just beginning to infiltrate the defense establishment. The defense logistics system, for example, can slash inventories, warehouse space, and labor costs if and as it adopts practices and technology now commonplace in private industry.

Such opportunities are surface effects of much deeper forces that connect freedom and power in the information age. Success in creating and applying information technology depends on healthy markets and political openness. Adequate financial returns and confidence in unimpeded application, both key in this technology, are not to be found in closed states. Authoritarian states may not be incapable of utilizing information technology for military purposes, but they plainly are handicapped.[8] The United States is able to enjoy these benefits first and foremost, adding to its military advantages and unrivaled power. While other open societies have a similar potential, the United States alone is poised to pass through a military revolution.[9]

The Changing Nature of Warfare

Roughly stated, information technology can help those who master it to win large wars at long distances with small forces. While recent official statements of U.S. defense strategy (the Quadrennial Defense Review and "Joint Vision 2010") are careful not to promise dramatic results, they point toward a future in which the U.S. lead in information technology will permit one-sided wars with low American casualties. In a more revolutionary version, tomorrow's battlefield could consist of enemy troops absorbing friendly fires, with friendly forces beyond the range of enemy fires. While technology allows this, the motivations for it are an aversion to casualties and also the lethality of the battlefield, especially as weapons of mass destruction (WMD) proliferate. If the

United States had an affordable way of defeating a threat to, say, Persian Gulf oil supplies without placing a huge force and all its supplies in the target-sights of a WMD-armed enemy, it surely would.

The revolution's mortar and pestle are stand-off weapons and information dominance—that is, complete knowledge of what all enemy and friendly forces are doing. This lets small, light forces armed only for self-defense call in devastatingly accurate long-range fires. In theory, such forces could fight defensively or offensively.[10] Ubiquitous information technology permits precise and split-second intelligence, "fused" readings from multiple sensors, communications between battlefield units and distant weapon platforms, and coordination among alternative strike options (land, sea, and air-based). Since the size of the force needed on the battlefield is reduced, forces are more rapidly deployable virtually anywhere, and they depend less on vulnerable forward bases, choke points, and skittish local allies. Ideal conditions (surgical projection of power, enemies rendered defenseless, U.S. forces operating at will, casualties reduced on one side if not both) are no longer far-fetched.

So much has been written lately about the revolution in military affairs (RMA) that it is both impossible and unnecessary to reproduce that debate here, but the main misgivings deserve to be noted. First, as the actual uses of U.S. forces since the Persian Gulf War show, the new international environment is less likely to confront the United States with unambiguous circumstances, in which force can be used decisively, than with messier "smaller-scale contingencies" in which information dominance is of less value and stand-off strike is largely irrelevant.[11] Second, the sophisticated information systems on which the RMA is predicated could become vulnerable to information warfare (more on this later). Third, the threat of rogues and nonstate actors committing acts of terror, possibly with weapons of mass destruction, directly against American territory and citizens is more likely to be stimulated than preempted by the revolution in military affairs, since these adversaries will be left no other routes of attack. Fourth, the diffusion of information technology, aided by globalization, will permit potentially hostile states to acquire military capabilities pioneered at great cost by the United States; thus, some argue, the RMA might lead to a high-tech arms race that will leave U.S. interests less secure.[12]

Apart from questioning its *desirability*, skeptics have doubts about the RMA's *feasibility* in the foreseeable future, citing technical, institutional, and fiscal hurdles. Some say that too much attention is paid to technical feasibility and too little to doctrinal and organizational implications; others warn of technological risk. So which is it? The technologies are at hand. The sensors, communications, weapons, and integration needed require no qualitatively new level of wizardry. The biggest technical uncertainty is the affordability of the accurate stand-off weapons that will be needed in great quantity to make up for massive battlefield firepower; still, if the cost of these weapons follows the

declining cost of much of their microelectronic content, as suggested earlier, they should be affordable in sufficient quantities.

A more serious impediment is the reluctance of a large, successful, and unthreatened institution like the U.S. Defense Department to transform itself. There is as well a reluctance in some quarters of the uniformed military to shift toward a stand-off warfighting strategy: the Army is concerned that substituting remote strike power for "boots on the ground" would leave the nation able to respond only in (rare?) situations that are ideal for that kind of war; the Air Force is as keen as ever to build new penetrating combat aircraft rather than rely mainly on stand-off weapons. Finally, Congress may be a roadblock; it has rejected the administration's initial proposal to close more bases in order to pay for RMA modernization.[13]

In the RMA debate, every "pro" and every "con" can be rebutted and re-rebutted. In the end, however, three powerful points still stand. First, having the option to conduct warfare along the lines of the RMA can only be positive for U.S. power and credibility, provided it is not developed at the expense or neglect of other options for using force. Second, if there is a way to remove human beings from increasingly lethal battlefields without compromising national security, there is a political and moral responsibility to pursue it. Third, there is no reason to believe that the information revolution will bypass warfare as it alters most other human activity. If information technology is bound to change warfare, better for the United States to lead and affect that change than be compelled to react to its effects.

If some form of the RMA is coming, we had best consider its ramifications. Because fear of high U.S. casualties is the chief reason for public hesitation about going to war, the possibility of projecting force without endangering personnel adds to U.S. freedom of action and credibility, at least in those circumstances where this is a suitable option. In the continuing stand-off with Iraq over the UN's search for weapons of mass destruction, for instance, the American people have not had cold feet, largely because they assume a low-risk operation would do the job. With both its ability and will to use force increased or at least preserved by the RMA, the likelihood of the United States needing actually to use force should decline.

The prospect that the world's dominant military power can be confident not only of winning wars but of avoiding significant losses has major strategic and political implications for that power and for the international system. If one believes that the will and ability of the United States to wage war is, on the whole, good for international security—an argument far too subjective and complex to present here—this shift in the nature of combat must be viewed favorably. Granted, even some old friends of the United States, having had a glimpse of U.S. unilateralist diplomacy and legislation, are now raising questions (typically over brandy) about the drawbacks of American dominance.

Objectively, however, there is little reason to worry that America's lead in the revolution in military affairs will cause it to be injudicious, let alone hegemonic or aggressive.[14]

Dangers from the Information Revolution

The upbeat assessment to this point does not exclude that hostile states will exploit the information revolution to the detriment of U.S. and international security. As noted, adversaries—whether rogue states, nonstates, or a superstate—could attack the economic and military information systems of the United States and its partners or use improved information-based conventional forces to threaten U.S. interests or defeat its military strategy.

Most rogue states are on the ropes, as explained above, because of the information revolution's "one-two-three punch" combination of globalization, democratization, and access to knowledge. Self-isolation and savagery may be enough to keep some going, but with depleted economic strength and little ability to marshal human talent. It will be extremely hard for an authoritarian regime, sitting atop a volcano of discontent and surrounded by enemies, to acquire, apply, and operate sophisticated, knowledge-based military technology and systems on a large scale. Although we should anticipate such adversaries causing specific problems, perhaps with improved surface-to-air and surface-to-surface missiles, the ability of the United States to render them defenseless will not be in doubt.[15]

Thus frustrated by insurmountable conventional military inferiority, rogue states are likely to turn to asymmetric strategies, for instance, weapons of mass destruction, terrorism, and information warfare (IW) attacks on the United States and its partners. Obviously, the use or threat of nuclear, biological, and chemical weapons is extremely risky, especially against a superpower. Rogues might therefore be tempted to try information warfare. If they do, they will find readily available the computer tools and talent they need to target the nodes and links on which the U.S. economy and military increasingly depend.[16]

A recent series of war games involving attacks on U.S. "cyberspace" strongly suggests that this country's ability and resolve to defend its overseas interests are put at risk by the sorts of IW attacks that could be within the means of a number of unfriendly states within a few years. Coordinated attacks on the command and control of deploying U.S. forces, on its allies, and on the public telephone network could derail an otherwise "routine" projection of military power. The games also show that neither government nor industry is well prepared for this threat, technically, institutionally, or intellectually.[17]

Do not look for a single "silver electron" to defeat the multifaceted danger of information warfare. The efforts now under way by large corporate providers and users of information technology to increase data security will provide some,

though by no means enough, protection of the nation as a whole. Threat of U.S. retaliation (electronic or kinetic), improvement in the security of networks and systems, strength to absorb minor attacks, and an ability to recover from major ones should all play a role in counter-IW strategy. Over the long run, because the integration of the world economy is globalizing many key networks, it will take an international consensus on protecting cyberspace to prevent our reliance on information technology from becoming a source of insecurity.

An aspect of the IW threat that makes prevention and response especially difficult is the multitude of potential attackers, from nations down to individuals. Nonstate actors, such as international crime rings, terrorist organizations, separatist groups, and cults, can acquire IW weapons or hire IW warriors. Compared to the acts of clumsy governments, their attacks could be hard to trace, punish, and deter. These are increasingly dispersed entities, interconnected by (what else?) information technology. Network communications could both increase the potency and hide the signature of nonstate actors who target nation-states, including the United States.

The information revolution is spawning a new form of basic human organization, the network, to accompany if not crowd out those of history: the tribe, the hierarchy, and the market.[18] Nongovernmental organizations and nebular communities of interest, ranging from saintly to diabolical, are growing in number and capability at the expense of governments, political parties, established religions, corporations, law enforcement, and the nation-state itself. As the report of the National Defense Panel stresses, these actors might become the main source of security in the twenty-first century.

Still, the nation-state surely has a few good years (or centuries) left and will remain the chief concern of U.S. national security for the next decade or two. Consequently, even if smallish, garden-variety rogue states cannot prevent or deter the United States from protecting its interests, perhaps an unfriendly super-state—one able to produce information technology and the advanced weapons that use it—could.

The countries with the greatest technical capacity to pose such a strategic challenge to the United States are the least likely to do so. Because of their ability to create and use information technology, the most capable candidates are the other democratic economic powers: Japan and the European Union. Both have the means to put this technology to greater military use than they have so far. Their lack of appetite for international power, however, is unlikely to change. The Japanese and Germans, in particular, have no interests that would tempt them to return to aggressiveness, which brought them complete destruction and an unforgettable lesson. They will not veer from their course of the last fifty years, when being democratic and a friend of the United States has paid off handsomely.

The only other plausible candidate, China, can realistically aspire to becoming a modern power, and it does. It has the necessities: scale, talent, access to capital, and a growing role in the world economy. In addition, moderating Chinese international ambitions via the U.S. strategy of "constructive engagement" will be difficult, because China's huge market gives it both political license and policy leverage, as it has shown in defying foreign concerns about its behavior toward Taiwan and its own people. Unlike Japan and Europe, China could develop both the capability and intention to challenge the United States.

Current Chinese military capabilities are old and weak, particularly in power projection. But this is exactly what the People's Liberation Army has made its highest priority, with the ability to assault or at least intimidate Taiwan as its motivation. U.S. planners must assume that Chinese power-projection forces will be much improved within twenty years, giving China the ability to interfere with American power projection on the Chinese periphery. That will clearly make the defense of Taiwan more difficult, but would it make China a strategic challenger? Could China even leapfrog the United States by buying or copying information technology available in the global market?

Neither is likely. Some information technologies are becoming commodities, as are individual pieces of advanced military hardware, but modern military systems require sophisticated design, engineering, integration, management, and operation. China may be able to buy and even make many of the piece-parts; the RMA, however, is less about gadgets than about knowledge—no forte of a closed society. Moreover, success in generating and using information technology, in general, depends on a willingness (unproven in China's case) to abandon vertical control and distribute authority, within the nation and within each enterprise. So the road ahead for the Chinese in building information-age military power is a steep and difficult one, and they are unlikely to draw close to the United States along the way. As China heads up that road, it will—indeed, it must—become more ensnared in the world economy and more exposed to creeping political reform, if not democratic transformation. By the time China has become a global power—after, say, two decades—it may well also be a friendly and open one.[19]

A Net Assessment and Policy Directions

Goebbels, Stalin, and Milosevič notwithstanding, knowledge shared is stronger than knowledge denied, distorted, or manipulated. The recent past shows that information technology, unlike the technologies of the industrial age, requires freedom and openness. We can now also begin to see that information technology is the key to power—"soft" economic and technological power, of course, but also "hard" military power.[20] It follows that

the greater the economic and political freedom of a society, all else being equal, the greater its capacity to be an information-age power. The United States and the other leading democracies thus have an inherent advantage. If China proceeds with its transformation, it will acquire a major stake in international security as its power grows; alternatively, if China abandons reform and integration it will have trouble modernizing and especially harnessing information technology, thus sacrificing power. Rogue states will remain dangerous, especially as they get weapons of mass destruction, but the combination of the relentless pressures for change and the coming revolution in military affairs will keep them in check.

Running against these encouraging trends is the danger that reliance on information technology will become America's Achilles' heel. So far, it has not, but global economic integration and the RMA itself will increase that reliance; as nonstate rogues proliferate and the means to attack information systems and networks become widely available, the IW peril could grow. Still, the optimist could argue that the American "system"—economy, society, politics, institutions, military forces—is too resilient, resourceful, and stable to be seriously damaged by plausible IW attacks and that U.S. technological superiority will prevail. Openness is more an advantage than a handicap.

Admittedly, this net assessment of national security in the information age leans toward the sunny side, but it also recognizes pitfalls and uncertainties. The aim of policy, simply stated, should be to encourage the trends that increase security and discourage those that degrade it. In considering policy recommendations, a dose of humility about the U.S. government's power is in order. To credit Washington with information technology's contribution to national security is a bit like praising it for the fact that the nation is protected on two sides by oceans. Except by its noninvolvement, the government did not cause the information revolution, and it cannot direct the revolution's future course. The information industry's current leaders want to be left alone by the government, and they have the First Amendment and market economic theory on their side. Moreover, the technical expertise of this revolution, unlike that of, say, nuclear power, is almost entirely, and necessarily, outside of government.

In this spirit, let us consider some thoughts about policy on three fronts: the diffusion of information technology, the pace and priorities of the RMA, and countering the IW threat.

Information Technology Transfer. The diffusion of information technology is a consequence of economic globalization, especially the building of modern telecommunications infrastructure and the spread of manufacturing, R&D, and other product and process know-how. The technologies of interest range from microelectronic devices to large-scale digital networks, and they include

hardware and software. While some are specifically for military use, most are inherently dual use and intended mainly for civilian markets. Although the U.S. government can barely keep track of this diffusion, it has several policy interests: first, that adversaries not acquire militarily useful information technology; second, that the United States not lose control over information technologies on which it depends for important military uses; and third, that sharing this technology with allies enhance coalition military effectiveness without damaging U.S. commercial interests.

Because information technologies are dominated by private markets and enterprises, efforts by the government to restrict their transfer have foundered over the difficulty of stemming the flow and its own reluctance to forego profitable revenue from this largely nondefense trade. Nevertheless, the unstated presumption of policy, ingrained from decades of Cold War export control, is that technology transfer ought to be restricted when we are able and can afford to do so.

When it comes to information technology, we ought to set aside this presumption and ask whether in fact we want to, and need to, restrict the spread. Approaching the issue from this angle would reveal what is different about this technology. First, it fosters openness, economic reform, democratization, legitimacy, integration—and thus international security. For instance, we should want China to have a modern digital network, broadcast technologies, and host computers and terminals galore. Whatever risk is involved is more than offset by the effects of these technologies on China's eventual transformation, integration, outlook, and behavior.[21]

Second, the strategic and operational military advantages of the United States transcend hardware and software. The flair for innovation, application, and competition; the ability to design, integrate, and operate complex systems; and the lightness of government control are U.S. strengths that will not seep away through export licenses. The best proof of this is that most information technologies have been flowing freely in international markets for decades, yet the U.S. lead in them is actually growing. Diffusion of information technology does not necessarily weaken the source, absolutely or relative to the recipients. Indeed, the spread has benefited U.S. firms, strengthened the nation's economy, enriched the technology itself, and thus given the U.S. military a stronger base on which to modernize.

In sum, when the government has the means to intervene effectively to prevent a known adversary from acquiring a technology of known military benefit, it should of course do so. Nonetheless, as a general philosophy, we do not want or need to restrict the diffusion, even if we could.

Similarly, globalization is unlikely to leave the United States dependent on critical information technologies that some potential adversary controls to its disadvantage. Again, there will be exceptions. Still, the more widely diffused

production becomes, the less the United States need worry that one or two countries can, much less will, deny access to some strategically important capability. Moreover, the countries most likely to produce devices or services deemed critical to the United States are either its current partners in the democratic core or are emerging states whose own future depends on integration into the core and good U.S. ties. A transnational pool of information technology has formed and is expanding. Just as the United States cannot deny others access to the pool, it should have no concern about its own access being denied.

Finally, the diffusion of information technology to allies presents a dilemma, in that the United States is the market leader and its closest allies are its main commercial competitors. This dilemma is sharpened by the fact that the military technology of U.S. allies is slipping relatively, which may be good commercially but is bad for coalition military effectiveness and political cohesion. Although Japan, Korea, and Israel are interesting cases, the larger and immediate concern is Nato. If the United States wants to rebuild the Atlantic military coalition—with joint power projection replacing the Cold War mission of territorial defense—it has a stake in reversing the trend. It should therefore pursue such alliance priorities as C3I,* precision strike, missile defense, and streamlined logistics. Such cooperation would not jeopardize the U.S. technological lead. If the president's advisors are wondering what he should propose at the next Nato summit, they might consider an initiative to foster transatlantic defense technological cooperation: an "alliance RMA."

Military Transformation. The revolution in military affairs, as defined here, has yet to occur: DESERT STORM was the equivalent of the Boston Tea Party.** Unless confronted by a formidable adversary—as was Great Britain at the beginning of this century and the United States after World War II—or by grave crisis or war, successful nations and institutions tend not to make radical change. Do not count on technological fascination, even if accompanied by enthusiastic journal articles, to bring about the RMA. The recent Quadrennial Defense Review satisfied few military affairs revolutionaries, reflecting to some degree the institutional hurdles but also the substantial investment cost of the RMA. With Congress balking at more base closures, the Defense Department does not wish to pay for more revolutionary modernization at the expense of readiness, force structure, or pay.

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* Command, control, communications, and intelligence.

** On 16 December 1773, American colonials disguised as Indians boarded British East India Company ships in Boston harbor and threw overboard 342 chests of tea to protest the tax, and the Company monopoly, on tea ("Boston Tea Party," *Britannica Online*, <http://www.eb.com:180/cgi-bin/g?DocF=micro/80/14.html> [5 May 1998]).

While it is easy, sitting in a think tank, to criticize these priorities, lament the lack of imagination, and indict vested interests, the RMA must in any case occur programatically and thus incrementally. In a more bottom-up than top-down fashion, small units will acquire more firepower through access to remote-strike weapons; the unit cost of those weapons will come down; intelligence will become more complete and timely; sensors will become more precise and integrated; command and control architectures and technologies will he renovated; doctrines, practices, and training—do not forget the human—will be honed. Such gradualism is not only realistic, it is prudent. As noted earlier, the fast lane has doctrinal, institutional, and technical potholes. Moreover, strategy and politics will have to adjust to a world in which the United States can wage large wars with small risks.

Proceeding without haste, the defense establishment can take several measures to help ensure progress. First, the vision should be sketched out, not only its technical parameters but its strategic purpose. Incremental steps in force structures, doctrine, and modernization need a beacon; this has only partly been provided by "Joint Vision 2010." Second, experiments ought to be performed: R&D, special units, and new systems that follow the beacon should be (and are being) supported and protected, not only from budget cutters but from the services' and unified commanders' own current priorities. The Defense Department has a decent record of incubating promising technologies; we shall now see if it can do the same for a fledgling revolution. Third, research on possible RMA countermeasures (technical and tactical) should be intensified. For example, could the electromagnetic pulse from a high-altitude nuclear blast disable sensors, networks, and weapons?

The forgotten factor in U.S. technological superiority is people. The success of the American all-volunteer force over the past two decades has been as extraordinary and important as the stream of technical innovations. With the information revolution, however, complacency in managing that asset would jeopardize the U.S. edge as surely as would neglecting research and development. The ability of the United States to recruit, train, retain, and motivate high-quality service personnel is already being seriously tested by the increased requirement for skilled "knowledge workers" and the fierce competition with industry for those people that the military needs.

Information Warfare. Because this is a new and open field, there is a danger of analysis outrunning reality. Only now is a conceptual framework being constructed.[22] Only now is the government getting organized. Enhancing the security of information systems has become a cottage industry; this is not the place, and this author is not the person, to offer new technical prescriptions. From a policy standpoint, however, several thoughts are worth mentioning.

The last thing the United States needs is an IW "czar." Within the government, a networked solution is needed, perhaps with, at most, a secretariat. No department should have total responsibility, yet clear responsibility must be assigned to and within existing line departments. The Defense Department's bailiwick should be to ensure that network services circuits essential for military operations are protected, by partitioning them from public traffic, at least upon alert. Others—the Treasury, Justice, and Commerce departments, the Central Intelligence Agency—should have responsibilities aligned with their functional roles.

The role of government as a whole should be to assure national security operations, protect public resources, and foster consciousness raising, information sharing, and standard setting. This could require inducements to win industry support for the security of sectors that are crucial to the nation. The know-how, money, and much of the incentive to guard against IW attacks reside with information technology providers, service providers, and users. Only a light touch from the government will work; with standards set and a modicum of coordination provided to industry, that light touch should suffice.

One indispensable role for the government is deterrence. If and as the IW threat becomes real, the United States should declare that an IW attack on the nation or its interests will be treated as a hostile act, that the attacker should be prepared for a response involving whatever means the United States might select. By no means should the United States adopt a tit-for-tat (IW-for-IW) strategy, since an attacker is likely to be far less dependent on information infrastructure and therefore could be unimpressed by an IW retaliatory threat.

The global interconnectedness of networks and the economic functions they support requires international collaboration in combating IW. The key members of the democratic core, Nato and Japan, should form an inner circle. The U.S. government should encourage the Europeans, East Asians, and Canadians to take the same steps it takes itself to improve security.[23] The idea of an international convention equating IW attacks with hostile acts is worth examining. Admittedly, this would be hard to define, harder still to negotiate, and would limit U.S. offensive IW options. Like the biological and chemical weapons conventions, it would not eliminate the danger from nonsignatory or cheating rogues, much less nonstate actors. Nonetheless, it would be consistent with the fact that the United States and the rest of the advanced democratic world have more to lose than to gain from rampant information warfare. It would also reinforce the declaratory policy, just suggested, that IW aggression would justify a deadly response.

A Final Observation

Admittedly, this is a restrained strategy to preserve the U.S. lead in information technology and to increase the payoff in national security. The role

of government and of policy in the information revolution has been modest and, generally speaking, should remain so. Improvement in the international security environment has been mainly the result of market and technological forces and their salutary political effects. The advantages held by the United States are deeply rooted in its competitiveness, entrepreneurship, science, and openness—qualities that are not about to atrophy if the government fails to take charge. Indeed, state-led competition in information technology, whether for economic or strategic reasons, is not the right perspective for the United States. The positive effects of information technology on world politics and U.S. security come not from controlling it but from its free creation and use, its spread, and its harmony with basic American strengths, interests, and ideals.

Notes

1. Christopher R. Kedzie, "Communications and Democracy: Coincident Revolutions and the Emergent Dictator's Dilemma," RAND Graduate School, Ph.D. dissertation, RGSD 127, RAND Report No. MR-678.0-RC (Santa Monica, Calif.: RAND, 1996).

2. James Madison, 1787.

3. Samantha Fay Ravitch, "Marketization and Prosperity: Pathways to East Asian Democracy," RAND Graduate School, Ph.D. dissertation, RGSD 132 (Santa Monica, Calif.: RAND, 1996).

4. George S. Park, *Information Technologies in Saudi Arabia*, RAND Report MR-918.0 (Santa Monica, Calif.: RAND, 1997).

5. James Lee Ray, *Democracy and International Conflict: An Evaluation of the Democratic Peace Proposition* (Columbia: Univ. of South Carolina Press, 1995); and Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992).

6. Institute for Defense Analysis, *Research Summary*, vol. 3, no. 2, 1996.

7. The cost of precision guided munitions, for example, has started to come down, even though reform of the Defense Department's acquisition process has just begun.

8. These ideas are examined in depth in National Defense University McNair Paper no. 59 by David C. Gompert, *Right Makes Might: Freedom and Power in the Information Age* (Washington, D.C.: NDU Press, 1998).

9. Joseph Nye and William Owens, "America's Information Edge," *Foreign Affairs*, March/April 1996.

10. Samuel B. Gardiner and Daniel Fox, *Understanding Revolutions in Military Affairs* (Santa Monica, Calif.: RAND, 1996).

11. Obviously, this capability will not be decisive in every imaginable conflict. For example, against large, dispersed infantry forces or in urban areas, it might not be effective at all. It is also unclear how much leverage the revolution will provide in operations short of war, such as peacekeeping and humanitarian operations, which will occur more frequently than wars. At the same time, information technology itself can help a great deal in these other situations, such as by improving intelligence, command and control, logistics, and confidence among the parties.

12. James Stavridis, "The Second Revolution," *Joint Force Quarterly*, Spring 1997, pp. 8–13.

13. The proposed fiscal 1998 defense budget contained a new Base Realignment Commission, which Congress did not authorize.

14. A recent Ditchley Conference on the U.S.-European "RMA gap" (report pending) revealed virtually no allied sensitivity on this point.

15. The WMD asymmetric threat is not addressed in this paper, because it is not based on information technology.

16. Roger Molander, Peter Wilson, David Mussington, and Richard Mesic, *Strategic Information Warfare Rising* (Santa Monica, Calif.: RAND, forthcoming in 1998; cited with the authors' permission).

17. R. Molander, A. Riddle, P. Wilson, "Strategic Information Warfare" (Report on "Day After . . ." games) (Santa Monica, Calif.: RAND, 1996).

18. John Arquilla and David F. Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age* (Santa Monica, Calif.: RAND, 1997).

19. Gompert, *Right Makes Might*.

20. See Joseph Nye, *Bound to Lead: The Changing Nature of American Power* (New York: Basic Books, 1990).

21. This does not mean that it is desirable or acceptable to provide the Chinese with the know-how to improve their ability to launch rockets, even for the purpose of placing communications satellites in orbit.

22. The best such framework, in the author's view, can be found in Molander et al., *Strategic Information Warfare Rising*.

23. R. Hundley, R. Anderson, et al., "Security in Cyberspace: Challenges for Society," Report of RAND-Ditchley conference (Santa Monica, Calif.: RAND, 1996).

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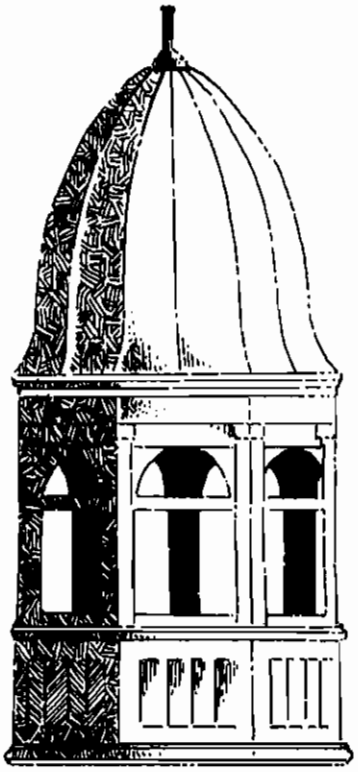

Nonintervention

Limited Operations in the Littoral Environment

Lieutenant Commander Jeremy Stocker, Royal Naval Reserve

THE USE OF FORWARD-DEPLOYED MARITIME FORCES to gain military access to the vital "littoral" areas of the world is now established doctrine in the United States and its principal allies. "Intervention" in regions and crises around the globe will be the lot of Western naval forces for as long as we can see ahead. Not all naval operations, however, no matter how close to shore, entail the employment of force on or against that shore. "Maneuver as core doctrine must be tempered by the pragmatism of stationary operations in littoral waters off an enemy coast."[1]

Forward presence will, and is intended to, create influence. Influencing the behaviour of other states and affecting the outcome of local crises and events must to some extent be "interventionary." Nonetheless, the limited nature and mandate of many contemporary naval operations fall short of the direct and forceful application of power sometimes implicit in the term "intervention." In particular, the neutral, nonterritorial nature of the operating environment permits presence and action without intrusion into someone else's sovereign jurisdiction. Numerous, diverse, and important limited operations stop short of direct intervention ashore. Such missions are to some extent overlooked in the current emphasis on power projection and "battlespace dominance." The self- and externally-imposed constraints placed upon naval forces having limited mandates and tasks are considerable, especially in the complex and congested littoral environment.

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The end of the Cold War and the demise of the Soviet Union brought about a profound change in maritime strategy and doctrine. The essence of this change was a marked shift in focus away from operations "at sea" against a substantial naval opponent, and toward operations "from the sea" against lesser, localized foes. The new thinking is encapsulated in the U.S. Navy white papers ". . .From the Sea" and "Forward . . . from the Sea," and the U.S. Marine Corps concept paper "Operational Maneuver from the Sea" (OMFTS). Similar ideas permeate the maritime doctrines of other Western nations, albeit in more modest terms, reflecting more limited objectives and smaller force structures.[2] American doctrine puts it this way: "Our naval focus has shifted to the world's unstable regions holding critical and vital interests of the United States, placing a new emphasis on littoral operations. Naval expeditionary forces play a central role in safeguarding national interests. . . . We maintain a strong peacetime forward presence capable of projecting sustainable power from the sea."[3] There is also a growing body of literature on the use of naval forces in peacekeeping and related "low-intensity" tasks, sometimes expressed as "military operations other than war" (MOOTW).[4] Such operations necessarily take place within the same physical and operational littoral environment.

It would be wrong, however, to suggest that in the new maritime security environment, all is new. Naval warfare has far more often than not been conducted adjacent to the land, and with direct reference to operations ashore. Moreover, even when the main focus of naval attention has been an opposing blue-water battle fleet, much actual activity has still been concentrated on tasks in coastal waters, as reflected in the 1986 U.S. Maritime Strategy.[5] U.S. and Nato maritime forces were to counter the Soviet Navy at sea but also "support campaigns in ground theaters both directly and indirectly."[6] The strategy also identified "the continuing and widespread existence of localized conflicts and crises, mostly in the Third World, but often with global implications."[7] Between 1946 and 1982, naval forces were the sole or principal element in 250 American military operations.[8] A similar story holds true for Britain.[9]

Despite all this continuity with naval tradition and Cold War strategy, however, there *is* a fundamental difference today, as Jan Breemer has pointed out: "There has been a tendency . . . to think about *From the Sea* and littoral warfare as a shift from deep water to shallow water, from open ocean to coastal water. This is part of the change but the real change is not that. The real change is from sea to land . . . a shift from sea control to land control."[10] This is so because, for the moment at least, the United States and other Western navies have no "peer competitor" to dispute control of the sea. "The disappearance of the Soviet Navy, in short, implies the need to switch attention and resources away from securing control of the sea and more towards its exploitation."[11] This certainly marks a distinct break with the recent past—or at least it does on the

open ocean. Sea control in the littoral regions is less sure, and it is precisely in the littoral that maritime forces are to operate.

The U.S. Navy seeks to exploit fully its unchallenged maritime supremacy to influence or control events ashore: "Our ability to dominate the littorals, including the undersea environment, allows us to *operate with impunity* in the face of enemy area denial threats . . . and prepare the battlespace for follow-on forces."[12] It proposes to wage "a new kind of warfare based on maneuver and precision and enhanced by technology and information superiority."[13] This is to be achieved through "battlespace dominance": "The degree of control over the dimensions of the battlespace that enhances friendly freedom of action and denies the enemy freedom of action. It permits power projection and force sustainment to accomplish the full range of potential missions."[14] Further, it ensures "effective transition from open ocean to littoral areas, and from sea to land."[15]

This article argues that since not all naval operations on the littoral involve projection of power ashore, maritime theorists should recognize and articulate the other capabilities of naval forces in that regime. Thus, in addition to intervention ashore, maritime power can achieve national (and multilateral) purposes by actions within the non-territorial waters of the littoral. Such actions—categorized and discussed below—are broadly labeled "non-intervention."

Concepts

There is also, however, a widespread recognition of the complexities and difficulties of the littoral operational environment, perhaps best described by the phrase "chaos in the littorals."[16] Unfettered control of access to the littorals (via the high seas) is not the same as control of the littorals themselves.

The Littoral. The Navy's formal definition of the littoral appeared in ". . . From the Sea":

> • *Seaward:* The area from the open ocean to the shore which must be controlled to support operations ashore.
>
> • *Landward:* The area inland from shore that can be supported and defended directly from the sea.[17]

U.S. Naval Doctrine Publication (NDP) 1 continues the theme: the littoral comprises "those regions relating to or existing on a shore or coastal region, within direct control of and vulnerable to the striking power of naval expeditionary forces."[18] OMFTS emphasises the wider significance of the littoral:

> Representing only a tiny portion of the world's surface, littorals provide homes to over three-quarters of the world's population, locations for over eighty percent of the world's capital cities, and nearly all of the marketplaces for international trade. Because of this, the littorals are also the place where most of the world's more important conflicts will take place.[19]

Herein lies the dual significance of the littoral after the Cold War—its intrinsic importance in human affairs, and its accessibility from the sea. The landward emphasis of these definitions is noteworthy, and it reflects the power-projection (sea to land) focus of current doctrine.

We should, however, distinguish littoral *waters* from the wider littoral *arena* or *environment*, with its land and air components. Naval forces operate *in* and *from* littoral waters, influencing and controlling events on the landward portion of the littoral—but also, it may be argued, independent of the land dimension in some important respects. Because of the "interface" (land, sea, air) nature of the littoral, in operational terms it is increasingly a joint environment.[20] However, it is also a distinct maritime environment. This is true in two senses. What are littoral waters to outside maritime powers are to local states "coastal waters," a more traditional term. More than 120 sovereign states have coastlines.[21] Secondly, where naval presence in the littoral is not being used as a base from which to project power directly ashore, operations will nonetheless be influenced by that shore. A longer-standing definition of "inshore" operations—"where operations are significantly affected by the proximity of land"—demonstrates this other aspect of the littoral (a "from the *land*" point of view). Geoffrey Till has identified a common theme which emphasises this "adjacent to land" nature of littoral waters: "The common element in all . . . definitions is that of constraint, be it legal, geographic or technological . . . an area where naval operations are conducted under significantly more constraint than they are on the open ocean."[22]

Intervention, Nonintervention, and Limitation. "Intervention" may be implied by any form of presence, influence, or action.[23] In those terms, however, the word may be so broad as to have little use, especially given its sometimes pejorative overtones. However, it can profitably be defined more narrowly as a "campaign or operation with limited objectives involving the entry of combat forces into the territory and territorial seas of another nation either with or without invitation."[24] An Australian officer has made the important distinction between "influence (or presence)" and "enforcement (or intervention)."[25] Intervention, then, will be here more nearly synonymous with power projection, "the use of seahorne military forces to influence events on land *directly*."[26]

Two key parameters of intervention therefore emerge: the use of force, and presence in someone else's territory. Intervention operations are the dominant theme of post–Cold War military and naval doctrine, and they involve the direct use of force in containing or defeating regional enemies. Absent a true peer competitor like the Soviet Union, they represent the higher end of the spectrum of the use of military force. However, intervention, as defined, does not tell the whole story.

If we adopt a restricted definition of intervention, and if we recognize that not all military or naval operations in the littoral can be so classified, the natural corollary must be *non*-intervention. The term may be prescriptive or descriptive. It encompasses those operations that, for myriad reasons and in numerous ways, stop short of applying armed force in another state's territory. There is indeed a long-standing (though largely twentieth-century) principle of nonintervention, an assertion of the primacy of national sovereignty in domestic affairs—"No Trespassing," or "Mind Your Own Business."[27] The sanctity of domestic jurisdiction has been somewhat eroded in recent years, partly for humanitarian reasons, in what has been called the "new interventionism."[28] UN and Nato operations in Bosnia bear witness to this trend. That, however, is not really what we are talking about here. Rather, it is the concept of limitation in the application of maritime force in the littoral environment. Such limitation takes many forms and may be a matter of deliberate choice or force of circumstances—or, as is most likely, an admixture of both.

In the present era most conflicts begin as limited ones, and if they become major they do so through a process of escalation, deliberate or inadvertent. The Cuban Missile Crisis of 1962 was unusual, in that what started as a strategic nuclear confrontation was resolved partly through the imposition of a limited naval blockade, or "quarantine." American actions stopped short of the application of available and overwhelming force against Cuba itself.[29] Where escalation does take place, as during the 1982 Falklands War, it rarely leads to unlimited conflict. In that particular case, though the war at sea was intensive and the recovery of the islands a classic "from the sea," power projection–type operation, British maritime forces did not attack Argentina itself, the origin of most of the very effective and damaging "from the land" air threat.

The limitation of conflict and operations may be a limitation of ends or of means, often both. Conflict may be limited in space, time, intensity, or objective, and it may be further subject to political, legal, ethical, pragmatic, and physical constraints. Given that foreseeable operations are unlikely to be a response to a threat to national survival, objectives will inevitably be limited. As rational policy making will seek to keep ends and means consistent, only "appropriate" force, however defined, will be applied: "Actions taken in war should be both relevant and immediate to the precipitant cause of hostilities,

and contribute in a direct way to achieving the objective."[30] Such restraint on the part of potential combatants will be a powerful force for nonintervention, as one expression of limitation. Of course, limitation and restraint are generally asymmetrical. The "limited" wars in Korea and the Gulf were a good deal less limited for North Korea and Iraq than for the United States and its allies. Sir James Cable identifies five factors that determine the appropriate degree of force: "the location of the conflict; the constraints of time; the identity and motivation of the contestants; the international environment; and the level of conflict."[31] He cites Albania and Iceland as the only states to inflict naval defeats on the Royal Navy since 1945—examples of the asymmetry not just of available force but of its appropriateness and the willingness of states to use it.

Naval activity in the littorals cannot always be classified simply as intervention or nonintervention. However precisely we define these concepts, there will always be grey areas. The actions of the U.S. Navy in the Persian Gulf in 1987–1988 may not have been directed against Iranian territory itself, but the destruction of oil platforms and the losses inflicted on the Iranian navy do stretch the definition of nonintervention. Conversely, a noncombatant evacuation operation generally does entail the brief deployment of forces ashore, but with so limited a purpose as to be barely "interventionary." Moreover, noninterventionist maritime operations may take place within the context of a wider military intervention. In this case, though the political context will be very different, the actual conduct of the operation is likely to retain the characteristics of constraint and limitation. Such would be true, for example, of the Red Sea Maritime Interdiction Force operations during and after the 1991 Gulf war.

Alternatively, a limited nonintervention operation can be a prelude to an intervention later. Most outside involvements in local conflicts begin in a strictly limited and often ambivalent fashion, only to be escalated later as crises deepen and purposes become clearer. There is often a political and legal imperative to give limited measures (such as sanctions) time to work, however problematic and unlikely their eventual success. The UN-authorized embargo operations in the Gulf from August 1990 to January 1991 were not widely expected to resolve the crisis, but they served to give later operations legitimacy and to aid coalition building.

Finally, we should note that though the objectives of an operation may be firmly interventionist, the means adopted may not be. This is known as "coercive diplomacy," defined by Cable as "a resort to specific threats or to injurious actions, otherwise than as an act of war, in order to secure advantage, or to avert loss, in the furtherance of an international dispute."[32] American policy toward Iran in the late 1980s was an example of coercive diplomacy. The relatively limited objective—to change Iranian policy—was matched by limited, though forceful, action that did not cross the Rubicon of attacks on

Iran itself (though certainly they could have done so had Iranian actions not themselves been limited). American and Chinese naval activities off Taiwan in 1996 were both, in their respective ways, exercises of limited coercion to influence events and attitudes ashore, without any direct intervention on shore.

Types of Operations

A number of models have been formulated to describe missions, tasks, or operation types for naval forces. Some, such as the "spectrum of conflict," take into account both intensity and probability of occurrence, there generally being an inverse relationship between the two.[33] The U.S. "range of military operations" categorises operations into peacetime engagement, deterrence and conflict prevention, and "fight and win."[34] The equivalent Royal Navy list—military use, constabulary use, and benign use—is similar but divides tasks slightly differently, using a different emphasis between ends and means. Several others exist.[35] No one model is necessarily more authoritative than another, and each continues to evolve or is replaced. In most cases, whatever the actual level of violence involved, the underlying combat potential of forces is stressed. Some missions relate only to part of the spectrum of conflict (for example peacekeeping), while others apply to all levels of violence (such as sea control).

We can also identify issues as well as missions and threats.[36] These may be specifically maritime and littoral, or they may relate to wider conflicts, problems, and aspirations. Aldo Chircop has emphasised the central role of competition—economic, political, social and cultural, territorial, spatial, and functional, and between both differenr actors and different uses.[37] A U.S. Navy pamphlet identifies several maritime "challenges" requiring responses short of interventionist power projection: multinational maritime corporations, smuggling, sanctions violations, arms trafficking, proliferation of weapons of mass destruction, disruption of maritime trade, illegal exploitation or disruption of the maritime food supply (fisheries), environmental degradation, crime and violence, mass migration, and threats against sealift support to overseas forces.[38]

Presence and Diplomacy. All naval missions in the littoral stem from the fundamental principle of forward presence. Obviously, without their "presence" in the littoral, maritime forces can have no immediate role. Presence, however, is more than just an enabler; it is an important task in itself. It "promotes national influence and access to critical global areas."[39] Presence permits intervention but is not itself interventionary. The ability of naval forces to remain on station in international waters for extended periods allows them to be present without being committed—which British doctrine calls "poise."[40]

Naval forces have long been used as diplomatic tools in situations short of war. Their diplomatic function has been widely documented, most notably by

Cable in his seminal work *Gunboat Diplomacy*.[41] In its ability to "poise," or "hover," outside national jurisdictions, naval diplomacy has no direct equivalent on land. "Although . . . power is exploited rather than force expended," naval diplomacy has a spectrum of force and intensity of its own.[42] It can be applied to friends and foes alike, to reassure or to deter, resting always on the potential for the use of force against *someone*. It may be preventive, precautionary, or preemptive.[43]

At the lower end of the diplomatic spectrum are measures such as goodwill visits, exercises, and other confidence-building measures. At the higher end, armed suasion is the most forceful aspect of coercive diplomacy.[44]

Naval diplomacy is almost invariably conducted in littoral waters, close to the subject of diplomatic attention. It therefore does not operate in a vacuum but must take account of all the factors pertinent to other operations in the littoral environment. Most specific operation types that will be outlined in the next two sections have, in addition to their immediate objective, a diplomatic role in support of wider foreign policy and security objectives, whether to "support, persuade, deter or compel."[45]

Naval forces present in a littoral will invariably be engaged in surveillance—an essential component of any task, and one that may be a mission in its own right—for intelligence-gathering purposes. An example of such activity was the frequent deployment of Royal Navy ships to the Barents Sea to monitor Soviet naval exercises. In combat operations, British submarines were deployed off the coast of Argentina in 1982, not just to counter the Argentine surface fleet but to act as early-warning pickets.

The "poise" ability of ships can also be used for distraction purposes. Their ability to move an assault or strike capability into and within the littoral can be used to prevent an enemy from concentrating defensive forces or deploying them to face threats elsewhere. In 1991 several Iraqi divisions were positioned to counter a threatened U.S. amphibious attack that never materialized.[46] Though not themselves in combat, the forces poised offshore made thereby a significant contribution to the land war, a nonintervention mission within a wider interventionary campaign.

Local Sea Control and Denial. Sea control allows the use of an area of sea for one's own purposes. However temporary or incomplete that control may be, it is a necessary precondition of most maritime tasks, including interventionist power projection. The naval (as opposed to the land) battle for the Falklands was fought to establish local sea control in the face of Argentine air, surface, and subsurface sea-denial forces operating from secure bases, so that British amphibious power could be projected ashore onto the islands. The establishment of a degree of local sea control is both an enabler for other missions and a mission in its own right, yet the nature of the littoral

environment (with respect to both physical configuration and threat) makes sea control particularly difficult to achieve. Generally limited in extent and duration, littoral sea control needs to be task specific, but it remains a fundamental mission for naval forces.

The importance of seaborne trade is well documented and needs no restating here. "Right now the sea lines have never been more secure, *beyond one or two hundred miles from the enemy coast.*"[47] The points of departure and arrival for commercial and military shipping all lie within the littoral, and so do the threats to them. In most cases, their routes also take them through maritime choke points, such as those in Southeast Asia: "In 1993, over half the world's merchant fleet capacity and more than one-third of the world's ships sailed through the Straits of Malacca, Sunda, or Lombok, or sailed past the Spratly Islands."[48] The Strait of Hormuz at the entrance to the Persian Gulf and the Bab-el-Mandeb at the southern end of the Red Sea are of similar significance. Attacks on merchant ships by government forces and pirates alike, and anonymously laid mines, have sunk or damaged ships in choke points in the Persian Gulf, the Red Sea, the Malacca Straits, the Philippine Sea, in the Caribbean, and elsewhere in recent years.[49] During the 1991 Gulf war, 94 percent of all military cargo was moved by sea, via several choke points, of which Hormuz was only the last.[50]

Given the close proximity of shipping lanes to threat sources in the coastal areas, direct defence of ships is a major littoral sea-control mission. Persian Gulf operations in the 1980s were not the first example since 1945. In 1957, U.S. warships patrolled the Gulf of Aqaba and the Strait of Tiran at its mouth against a possible threat to shipping from Egypt. U.S. ships were back there thirty-five years later to *prevent* the free flow of trade—this time to Iraq via Jordan.

Other measures of sea control need to be adapted for limited operations in the littoral. Naval control of shipping (NCS) was developed during both world wars to control, route, and protect merchant shipping. In its fullest form, it is suitable for use only in the event of general war; it was sometimes tested in small-scale exercises during the Cold War. Where hostilities are limited in area or intensity, full shipping-control measures are inappropriate. Instead, regional NCS has been developed as a voluntary system confined to a designated area.

Precursor operations are part of battlespace "shaping" or "preparation" in advance of the arrival of main forces, generally for power projection purposes. Establishment of local sea control entails the neutralization of enemy sea denial assets, such as submarines, mines, and missile-armed attack craft. However, even where such operations do not act directly against the shore, inasmuch as they are immediate preludes to intervention, their "noninterventionary" nature may be moot. Nonetheless, such clearance operations will be conducted under the same conditions of constraint and threat that apply to other tasks in the littoral.

Other forms of sea control in the littoral entail various forms of sea denial, that is, the prevention of the use of the sea by an opponent. Such operations take

place in all conditions, from war to peace-support operations. Blockade, for instance, is an ancient form of naval warfare. It can be directed against an enemy's naval fleet or merchant shipping, or both. It can be undertaken for military or economic purposes, and according to circumstances, it may be close or distant. Few significant conflicts take place without attempts to restrict an enemy's use of the sea in this way—unless the enemy is landlocked, and possibly even then if trade is conducted via a third party. Blockade can be instituted, using different means, by either dominant or lesser naval powers—examples are the British and German efforts against each other in both world wars. When the range of shore-based weapons was no greater than cannon shot, close blockade was favoured, subject only to the weather; when modern weapons appeared in coastal waters early this century, distant (and therefore generally less complete) blockade took its place. In many instances, blockade has been the main tool of a state (such as Britain) denied direct access to the enemy (once France, later Germany) on land (which would entail power projection). Blockade is often a significant campaign within a wider conflict, as in the Korean, Vietnam, and Gulf wars. Close blockade, by definition, is conducted in littoral waters; distant blockade, though farther from the blockaded state's coast, still focuses on natural choke points giving egress to the open sea. There is some confusion of terms as between "blockade," "sanctions," "embargo," "quarantine," and "interdiction." One might say that a maritime interdiction force undertakes embargo operations in order to implement sanctions, but this statement is not authoritative, and many of the terms are used interchangeably.[51]

The growth of economic sanctions as a diplomatic tool, and more recently UN-mandated peacekeeping operations, have given added utility to forms of blockade. Recently, naval embargoes have been conducted in the Persian Gulf and the Red Sea against Iraq, and in the Adriatic in support of the UN and Nato operations in the former Yugoslavia. An early example was the four-nation naval patrol off Spain during its civil war in the 1930s.[52] During the 1960s, Britain unilaterally, though with UN authorization, conducted the Beira Patrol off Mozambique to enforce oil sanctions against Rhodesia. Not all blockades, however, take place in a benign operational environment, as off Beira. Forces operating in recent years in the Gulf and the Adriatic have been subject to potent, if latent, threats from shore, and their restricted political mandates have precluded preemptive action to shape the battlespace. The country-specific nature of most sanctions regimes has, in addition, brought about a significant return to blockade closer to shore and therefore to danger.

Another form of sea denial is the exclusion zone. Although such zones have no status under international law (other than as setting a local precedent), they have been used to effect. Exclusion zones (not to be confused with "*exclusive economic* zones," as established by the 1982 UN Law of the Sea Convention) serve military and diplomatic ends by giving notice of resolve and by delineating

the area of conflict. The maritime exclusion zone around the Falklands, which later became a "total exclusion zone," was a valuable tool of diplomatic signaling, as well as a means of isolating Argentine forces on the islands.[53] Such a zone requires, of course, effective enforcement.

In 1979 the U.S. government began the Freedom of Navigation (FON) programme.[54] This was designed to counter some of the effects of "creeping jurisdiction" (addressed below). FON combined diplomatic and "operational" challenges to coastal states encroaching into the high seas so as to threaten the free passage of shipping and especially naval forces. U.S. Navy clashes with Libyan forces in the Gulf of Sirte in the 1980s were only the most noted of dozens of assertions of the right of passage through waters (invariably coastal) whose status had been in dispute. Royal Navy units have conducted similar operations, though in a less formalised way. In 1964 the aircraft carrier HMS *Victorious* and two destroyers made an overt transit through the Sunda Strait between Java and Sumatra "to assert our continued right of innocent passage."[55] Such high-profile operations as these have typically been part of wider disputes—though still, in general, non-interventionary ones. The dispute over the status of the Gulf of Sirte was but an aspect of acrimonious and occasionally violent U.S.-Libyan relations. The *Victorious* transit was part of the more general confrontation with Indonesia over the future of Malaysia. Lesser, usually nonviolent, incidents involving U.S. forces occurred in the middle 1980s at the rate of thirty to forty a year.[56] The "bumping" incident between U.S. and Soviet warships in the Black Sea in 1988 was a notable example.[57]

One threat against which non-interventionary sea control might seem applicable—but in fact probably is not—is piracy, a danger to shipping in certain coastal areas of the world. It is a particular problem where local law enforcement is uncertain and where ships are forced by local geography to sail close inshore and to reduce speed. Aside from the threats piracy poses to lives and property, there is increasing concern about the potential for environmental disaster resulting from such an attack. However, roughly 80 percent of what is being called piracy takes place in (recently expanded) territorial waters and therefore properly constitutes maritime robbery, a domestic crime and one that the forces of other states can legally do little about.[58] The potential for forces other than those of the coastal state to become involved is therefore extremely limited, especially given the spasmodic and isolated nature of attacks. Despite recent publicity accorded this problem, it seems unlikely that this slightly eccentric aspect of constabulary sea control can be more than an occasional and accidental role for naval forces.

In contrast, the sea mine threat to naval forces has gained considerable importance, as well as publicity, in recent years, following damage to the American warships USS *Samuel B. Roberts* (FFG 58) in 1988, and *Tripoli* (LPH 10) and *Princeton* (CG 59) in 1991, all in the Persian Gulf. The mine is also

a threat to merchant shipping, and it constitutes a potent sea denial weapon in shallower, confined littoral waters. It is a significant part of the threat environment (discussed below). Mines are cheap and easy to produce or procure, and relatively simple to lay from a variety of naval, air, and civilian platforms. For many coastal states, and indeed nonstate actors, they are a weapon of choice against merchant shipping and "intruding" naval forces. Mine clearance operations are therefore an important part of wider efforts to establish local sea control. In addition, they have become a mission in their own right, as when in 1984 American, British, French, and Italian mine countermeasures units cleared mines suspected to have been laid by Libya in the Red Sea and Gulf of Suez. Similar operations were conducted in the Persian Gulf in 1987–1988 to contain one of the side effects of the Iran-Iraq war.

Peace Support Operations. The growth of naval peace-support operations (PSOs) is one of the principal post–Cold War changes in the maritime security environment.[59] This is particularly so because long-standing concepts of peacekeeping have expanded to "wider peacekeeping," "peace making," and "peace building"—hence the all-embracing term "peace support." Naval forces are better able to contribute to many of the new PSOs than to the traditional peacekeeping tasks of interposition and observation, though there are examples of the latter.[60] It is often pointed out that PSOs at sea involve traditional naval skills—seamanship and navigation, surveillance and tactical-picture compilation, limited applications of force, movement of personnel and equipment, operation of aircraft, and so on.[61] It is also true that many of the missions now ascribed to peace support are well established naval tasks, with both benign intentions (such as humanitarian assistance) and more belligerent ones (such as blockade). To an important extent, therefore, what has really changed in the naval PSO is the emergence of UN mandates for tasks navies have always done, and the greater stress being placed upon those tasks in the absence of serious blue-water naval competitors. PSO-related non-interventionary operations include sanctions enforcement, maritime monitoring and observation, provision of neutral platforms for negotiations, presence and deterrence, protection, containment, and disarming.

Some additional matters, falling within the British categories of constabulary and benign operations, and not involving the use of significant force, do not necessarily constitute peace support. Examples would be search and rescue, counter-terrorism, drug interdiction, disaster relief, environmental protection, and migration control. Several of these have seen considerable interest in recent years. Interdiction of both drugs and illegal migrants has played an increasing role in naval activity. The Caribbean has been a particular focus for these operations;[62] they have also taken place recently in the South China Sea and the Adriatic.

The increasing involvement of the United Nations in naval operations since 1990 has added a new dimension to post–Cold War maritime tasks.[63] In fact, the earliest instance of a UN naval operation was in 1947, in what is now Indonesia.[64] However, instances of *autonomous* naval operations have been rare, and the two largest operations conducted under UN auspices—Korea and the Gulf—were predominantly on land. Purely naval operations have tended to involve very modest forces and restricted mandates, such as those in the Strait of Tiran after 1982 and the Gulf of Fonseca in the early 1990s.[65] Whatever the type and scale of operation, the dynamics and constraints of UN involvement are likely to be a continuing feature of littoral operations. Additionally, where forces operate outside long-established alliance structures like Nato, as during the Persian Gulf operations in the 1980s, greater diversity of ends and means at all levels, from the political to the tactical, is to be expected.[66] This is especially so when coalition operations include nontraditional partners.

The Littoral Environment

"The littoral has unique characteristics that challenge our blue-water, open-ocean thinking of the past."[67] This environment is both more complex and more congested than the open sea, and in addition it has (by definition) the extra factor of the land. The littoral has much more variation in terms of topography, oceanography, and weather, within a relatively small area, than is the case anywhere else, on land or sea. This should not be surprising, given the interface nature of this environment. Further, not only is there great diversity within a particular littoral region, but disparities between different such regions are enormous; amongst maritime operations and exercises in recent years, one only has to compare the Persian Gulf, the Adriatic, the Caribbean, and the Norwegian fjords. The shift in focus from blue to brown-water operations therefore has to take account of a much higher degree of regional or scenario-specific factors, which is reflected in the considerable operational research effort being applied to the understanding of various actual or likely littoral operating areas.

The compactness, complexity, and density of most littoral environments places particular strains on maritime operations.[68] The Persian Gulf, for instance, is 450 miles long but never more than 120 miles wide. The Adriatic is of similar size and shape. Given that the littorals are the focus of most human activity, it is not surprising that these relatively small areas are also congested—on the surface, in the air, and along the shore. Two particular concerns for maritime forces result: difficult picture compilation and very short warning times. These in turn impose the strains of intensive, high-tempo operations, often for extended periods. The large-scale presence of third parties on the water and in the air further complicates whatever tasks are being undertaken. This is

especially so in that because of the limited nature of many conflicts and missions, large numbers of "bystanders" still go about their normal (and generally legitimate) business; modern war zones tend not to exclude nonparticipants. The littoral environment becomes progressively more challenging the more limited the mission and therefore the fewer the opportunities to dominate or shape the battlespace.

We should note also that not all the littorals are enclosed seas like the Gulf and Adriatic. Exposed offshore areas may be less confined, but they have their own challenges, including the absence of a friendly shore and its facilities at one's back. Such is true, for example of Somalia and Liberia, to cite two recent operations.[69]

Territoriality. "The maritime environment has two distinctive attributes which differ from those of territory. First, parts of it are 'non-territorial' or 'neutral.' Second, the physical constitution of the sea permits the free movement of vessels."[70] However, littoral waters have lost much of their non-territorial nature, a matter of concern to maritime powers, who, generally from outside a particular region, seek to maintain their traditional rights of usage.[71] The process of creeping jurisdiction has been acknowledged but also to some extent arrested by the 1982 United Nations Convention on the Law of the Sea, which came into force on 16 November 1994.[72] Thirty-two percent of the oceans, including all waters that can be considered coastal or littoral, can now come under some form of national jurisdiction.[73] However, despite the claims of some coastal states, and notwithstanding the requirement of Article 58 that "states shall have due regard to the rights and duties of the coastal state," no significant limitations are placed upon naval forces inside other states' two-hundred-mile exclusive economic zone. A greater concern for outside maritime powers, however, is the expansion of the territorial sea to twelve miles. The constraints imposed by the existence of sovereign jurisdiction over significant portions of coastal waters are considerable. They are not, however, the same as those imposed by absolute sovereignty on land, and warships retain the right of "innocent passage" throughout the territorial sea and that of the more liberally defined "transit passage" through recognized international straits.

The geographic extent of the new regimes now appears likely to remain fixed for the foreseeable future, but in some respects the extent of coastal state jurisdiction within these zones remains unsure, and subject to further increases in functional if not geographic control.[74] Efforts by some states to regulate or restrict the presence of foreign warships are unlikely to cease, and they may intensify. This will be a particular concern for forces engaged in limited tasks; higher-intensity, interventionist operations will be less concerned with the legal rights or sensitivities of coastal states against whom those operations are directed.

Coastal States. In the littoral, outside maritime forces operate of necessity adjacent to coastal states, who may be either opponents or third parties. The proximity, intentions, and capabilities of such states are therefore prime considerations in both the objectives and means of littoral operations. This is again particularly true of limited, non-interventionary missions, where the ability to influence or control such states is necessarily more restricted.

The coastal state has two prime interests in its offshore area: anti-invasion (or counter-intervention) and coastal control (the protection of its own maritime interests and assets).[75] Smaller states have always been wary of intervention by more powerful, outside powers, but their "offshore tapestry" has increased in size, diversity, and importance in recent years. To greater territorial control must be added the growing concern for exploitation and conservation of living and nonliving resources, environmental protection, "good order at sea" law, and sovereignty enforcement. The term "domain maintenance" has been coined to cover this local sea-control objective.[76] Such coastal states, unable to compete with larger maritime powers on the high seas (and usually uninterested in trying), may have their own interests in their coastal and littoral waters—interests different from those of outside countries, longer established, and more profound. That outside powers, with larger "domains" of their own, may have similar interests and concerns back home does not alter this conflict of interests in the littoral.

The strategy of many coastal states is a blend of two seapower concepts that are often, though incorrectly, viewed as mutually exclusive: sea control and sea denial. In this case, a limited capability for sea denial is used to exclude or constrain the presence and activities of outside forces, in order to permit one's own sea control, for the reasons already outlined. Deterrence is the key to both counter-intervention and sea-control objectives.[77] Looking out to sea from the land as they do, rather than the other way round, states may well want to project their limited (largely shore-based) power into that sea to deny it to others, so securing it for themselves.

A growing number of countries are therefore developing "coastal citadels" of increasing size and sophistication. Small coastal naval forces, though often having an oceangoing element, are increasingly integrated with land-based but seaward-looking weapon, sensor, and command-and-control systems that seek to dominate their "own" sea space and deny or limit its use by others. Local knowledge and exploitation of local geography, weather, and human activity are key advantages.[78]

Moreover, with more at stake in their own locality, states can and do exploit their own readiness to play for higher stakes to offset the qualitative and quantitative advantages (where they still exist) of outside powers. The desire to inflict upon intruding forces costs disproportionate to the advantages to them of presence may account for what otherwise appear to be spasmodic and isolated incidents instigated by countries like Iran, Libya, and North Korea. Nor should

we underestimate the ability of smaller forces, under the right conditions, to defeat or at least inflict unacceptable losses upon a "superior" foe. "If God were always on the side of the big fleet, fewer countries would bother to maintain smaller ones."[79] This is particularly true at the lower end of the spectrum of conflict. Britain's "Cod Wars" with Iceland in 1958–1961, 1972–1973, and 1975–1976 are prime examples: in them the restraint of the stronger party, which was mindful of such wider issues as international opinion and Nato cohesion, was exploited by the weaker to secure eventual success. As the intensity of conflict and the resolve of the stronger force increases, it becomes more problematic for the weaker power to prevail—witness Iranian and Lihyan clashes with the United States Navy in the 1980s.

The Threat Environment. Iran offers a good example of the development of a modern coastal citadel, and obviously a significant one.

> One clear objective of Iranian procurement policy is to deny foreign navies automatic control of the Gulf, and to exert a major influence over all maritime traffic plying local waters. In the event of future intra-regional naval hostilities . . . traffic seeking egress through the narrow Strait of Hormuz would be much more vulnerable than . . . eight years ago.[80]

The Strait of Hormuz is the main focus of Iran's coastal capability, and one of the keys to the country's influence in the region. Over 20 percent of the world's oil production, as well as much other commercial and military shipping, passes through the Strait.[81] Chinese-built HY-2 Seersucker shore-based missile batteries cover the entire strait for a distance of almost 250 miles, extending from both sides of the narrow middle part of the strait out into the Gulf of Oman to the east and the Persian Gulf to the west. Air activity in the same area is threatened by Russian and American-made SA-5 and Hawk surface-to-air missiles, located both on the Iranian mainland and on several Iranian-owned or occupied islands. The recent acquisition of three Kilo-class conventional submarines (the first in the Gulf region) and a proven mining capability add subsurface threats as well. The Iranian surface forces, though modest, have been greatly enhanced by ten Chinese *Houdong*-class fast missile boats with the C802 antiship missile, and by the retrofitting of the same weapon to earlier, Western-supplied boats. Each element of this increasingly integrated force structure serves to "cover" the others. So, for example, Iranian surface forces are able to operate in waters under the protection of shore-based missiles; forces trying to counter Iranian mines or submarines must do so under threat of sea or land-based missiles, as well as a substantial inventory of attack aircraft.[82]

The Iranian coastal citadel, though one of the more daunting in the Third World, is far from unique.[83] "From the land" coastal force structures generally

comprise most or all of the following: shore-based attack and fighter aircraft, coastal patrol aircraft (many of them armed), shore-based radar and observation posts, surface-to-surface and surface-to-air missile batteries, coastal artillery (mobile or static), fast missile and torpedo-armed surface craft (up to frigate size), lightly armed patrol boats, a short-range coastal amphibious capability (landing craft and troops), conventional submarines, minisubs and other submersihles, and a mining capability. The sea-denial function of many of these systems is self-evident.

Proliferation of conventional weaponry is leading to a greater equivalence of weaponry as between local and outside powers. Such equivalence is increasingly both quantitative and qualitative. Reduced force structures in most Western nations, the requirement to operate far from the home state, and the diminishing number of overseas bases all serve to lessen or eliminate numerical advantages. The increasingly competitive arms trade, particularly as a result of declining domestic markets, is reducing the number of areas in which Western forces enjoy technological superiority. Greater access to dual-use technologies by many states will further lessen Western material advantages and call into question some of the benefits of the "revolution in military affairs."[84] Systems of particular concern for maritime forces in the littoral are supersonic or "stealthy" antiship missiles, such as the Russian SS-N-22 Moskit or the French MM40/AM39 Block II Exocet, an increasing number and variety of wake-homing torpedoes, advanced sea mines, and land-based precision guided munitions. The impact of just one conventional submarine handled with even bare competence is a source of special worry.[85] The confined nature of the littoral also gives added utility to less advanced weapons, such as manned aircraft with "dumb" weapons and older missile systems, such as the Soviet Styx family (which still constitutes 97 percent of Third World inventories of antiship missiles).

These coastal threats to naval forces are not all new. Sir James Cable, in *Gunboat Diplomacy*, takes as his starting-point the year 1919: "By then, mines, torpedoes, submarines, coastal artillery and even aircraft were already hampering the operation of warships in coastal waters."[86] Awareness in Britain of these threats during the First World War had already led the Admiralty to adopt a strategy of distant rather than close blockade, much to German naval planners' discomfiture. (A new variety of such coastal defence threats was demonstrated in 1982, when the destroyer HMS *Glamorgan* was hit by an Exocet fired from a launcher on shore.)

The efficacy of potential opponents' forces in the littoral is enhanced by the restrictions placed upon naval forces in this environment. Limited mandates and consequently restrictive rules of engagement (ROE) deny the opportunity for preemptive action—yet another reason that the confined battlespace is partially or wholly resistant to shaping or dominance. The result is confused tactical pictures in all warfare environments, all-round threat sectors, and short warning and

reaction times, complicated by large numbers of third parties and ever-present enemy surveillance. Relatively static and confined littoral operations are, in addition, more susceptible to attack by weapons of mass destruction, especially widely proliferated chemical weapons. The presence of nonstate actors, including terrorists and irregulars such as the Iranian Revolutionary Guards Corps, adds a further dimension to the threat close to land.

The strategic and operational mobility of naval forces, which is their great strength and enables their deployment to littoral theatres, is not, once they are in these locations, matched by tactical mobility. "Warships and merchantmen are big, slow and targetable."[87] Vulnerability may be increased by the readiness of some states (of uncertain stability, intentions, and belligerence) to exercise less target discrimination than Western practices and ROE require. The USS *Stark* (FFG 31) was hit by two Iraqi air-launched Exocet missiles on 17 May 1987 in the Persian Gulf, apparently having been mistaken for an oil tanker. Iraqi targeting had amounted to no more than firing at the largest radar contact within a predetermined geographical area. Spasmodic and isolated attacks, whether as the result of maverick action or designed to apply pressure and inflict costs upon outside forces, may pose a particular threat to individual units without incurring a risk of overall defeat—provided political will perseveres.

Not all littoral environments are threat-laden. American-led forces were able to operate off Somalia, Liberia, and Haiti with impunity, quite free of any direct threats to themselves, at least until they deployed forces ashore. Moreover, every threat in the littoral can be countered, though not always without loss. To minimise the risks to one's own forces and to neutral and nonbelligerent parties, to meet the objectives of the mission, and not to prejudice the political context within which the operation is mounted is the critical juggling act in any operation of a limited nature. This risk assessment may be especially difficult to make in littoral operations short of a shooting war, given the risk of disproportionate damage to high-value units from "one-off cheap shots."[88]

* * *

The desire of Western powers, the United States in particular, to capitalize upon their maritime dominance should not obscure the functional and geographic limits of that dominance. Exploiting access to the littorals to intervene ashore is, rightly, the main focus of current maritime doctrine and planning. Nonetheless, many tasks for naval forces do not entail the projection of power ashore yet still take place adjacent to that shore, in the littoral. Operations that are limited in purpose are also, and should be, limited in means. However, that limitation, in particular an inability or unwillingness to act beyond the shoreline, poses particular problems for Western forces in confined

waters and enhances the special characteristics and challenges of the physical and threat littoral environment. Western technological and operational superiority, itself open to challenge in many aspects, is further undermined when it cannot be fully applied to dominate the battlespace. "One can certainly carry a big stick with today's surface ship; it is hard to walk softly, harder still to walk safely."[89] We must avoid "walking the street and ignoring the riflemen on the roofs."[90]

If one accepts the definition used here of "intervention" as entailing intrusion ashore, then "nonintervention" adequately encompasses these more limited operations; otherwise, some other term needs to be coined. Semantics aside, we should carefully attend to the wide range of naval operations conducted adjacent to, but not directed against, the shore.

Notes

1. Wayne P. Hughes, Jr. [Capt., USN, Ret.], "Naval Maneuver Warfare," *Naval War College Review,* Summer 1997, p. 31.
2. Most notably, *The Fundamentals of British Maritime Doctrine,* Book of Reference (BR) 1806 (1996).
3. U.S. Navy Dept., *Naval Warfare,* Naval Doctrine Publication [NDP] 1 (Washington, D.C.: 1994), p. 60.
4. For example, Michael Pugh, ed., *Maritime Security and Peacekeeping: A Framework for United Nations Operations* (Manchester, U.K.: Manchester Univ. Press, 1994), and *The Employment of Maritime Forces in Support of United Nations Resolutions,* Strategy and Campaign Department Research Report 6-93 (Newport, R.I.: Naval War College, 11 August 1993). For MOOTW, see Ann E. Story and Aryea Gottlieb, "Beyond the Range of Military Operations," *Joint Force Quarterly,* Autumn 1995, pp. 99–104.
5. Jan Breemer, "The End of Naval Strategy: Revolutionary Change and the Future of American Naval Power," in *Maritime Security and Conflict Resolution at Sea in the Post–Cold War Era,* ed. Peter T. Haydon and Ann L. Griffiths (Halifax, N.S.: Dalhousie Univ., 1994).
6. James D. Watkins [Adm., USN], "The Maritime Strategy," U.S. Naval Institute *Proceedings,* Maritime Strategy Supplement, January 1986, p. 5.
7. Ibid.
8. Ibid., p. 8.
9. See U.K. Ministry of Defence, *The Royal Navy: Incidents 1945–1963,* and *The Royal Navy in the Post War Years: RN and RM Operational Deployments 1964–1996,* unpublished Naval Staff Historical Monographs.
10. Breemer, p. 141.
11. Geoffrey Till, "Maritime Strategy and the Twenty-First Century," *Journal of Strategic Studies,* March 1994, p. 187.
12. Jay L. Johnson [Adm., USN], "Forward . . . from the Sea: The Navy Operational Concept," *Surface Warfare,* May/June 1997, p. 8 (emphasis supplied).
13. Jay L. Johnson [Adm., USN], "The Navy in 2010: A Joint Vision," *Joint Force Quarterly,* Winter 1996–1997, p. 18.
14. NDP 1, p. 72; and BR 1806, p. 202.
15. U.S. Navy Dept., ". . . From the Sea" (Washington, D.C.: 1992), p. 9.
16. U.S. Navy Dept., "Operational Maneuver from the Sea," concept paper (Washington, D.C.: Headquarters U.S. Marine Corps, 14 April 1995), p. 1.
17. ". . . From the Sea," p. 6. BR 1806 uses the same terms (p. 221).
18. NDP 1, p. 73.
19. OMFTS, p. 2.
20. See Carl B. Mundy, Jr. [Gen., USMC], "Thunder and Lightning: Joint Littoral Warfare," *Joint Force Quarterly,* Spring 1994, pp. 45–50.
21. Ibid., p. 47.
22. Geoffrey Till, "Coastal Focus for Maritime Security," *Jane's Navy International,* May 1996, p. 10.

23. A good discussion of the principles of intervention is Robert S. Wood, "Intervention and the Use of Force to Achieve Limited Regional Objectives to Restore Order," in Haydon and Griffiths, eds.

24. BR 1806, p. 219.

25. David J. Campbell [RAdm., RAN], "What Are the Threats?" U.S. Naval Institute *Proceedings*, March 1996, p. 63.

26. BR 1806, p. 223 (emphasis supplied).

27. Inis J. Claude, "The United States and Changing Approaches to National Security and World Order," *Naval War College Review*, Summer 1995, p. 46.

28. Ibid., pp. 47–9.

29. James Cable, *Diplomacy at Sea* (London: Macmillan, 1985), p. 47.

30. Kenneth R. MacGruther, "When Deterrence Fails: The Nasty Little War for the Falkland Islands," *Naval War College Review*, March–April 1983, p. 52.

31. Cable, p. 40.

32. Ibid., p. 18.

33. BR 1086, p. 237.

34. See U.S. Navy Dept., *Challenges to Expeditionary Warfare* (Washington, D.C.: Office of Naval Intelligence [hereafter ONI], March 1997).

35. For the Royal Navy categorisation, BR 1806, p. 34. An example of another list is Ken Booth, "Diplomatic & International Role, Policing Role and Military Role," in his *Navies and Foreign Policy* (London: Croom Helm, 1979). Booth gives a preview of this in "Roles, Objectives, and Tasks: An Inventory of the Functions of Navies," *Naval War College Review*, Summer 1977, pp. 83–97.

36. See Ken Booth, *Law, Force and Diplomacy at Sea* (London: George Allen & Unwin, 1985), p. 171, for a discussion of several approaches.

37. Aldo Chircop, "Competing Demands for Ocean Use," in Haydon and Griffiths, eds., pp. 19–25.

38. U.S. Navy Dept., *Worldwide Maritime Challenges* (Washington, D.C.: ONI, March 1997).

39. NDP 1, p. 20.

40. BR 1806, p. 60.

41. James Cable, *Gunboat Diplomacy, 1919–1991*, 3rd ed. (London: Macmillan, 1994).

42. Geoffrey Till, *Maritime Strategy and the Nuclear Age*, 2nd ed. (London: Macmillan, 1984), p. 209.

43. BR 1806, p. 90.

44. For "suasion," BR 1806, p. 87. For a full discussion of coercive diplomacy, see Cable, *Diplomacy at Sea*, pp. 16–32.

45. BR 1806, p. 227.

46. Jeffrey McCausland, "The Gulf Conflict: A Military Analysis," Adelphi Paper no. 282 (London: IISS/Brassey's, 1993).

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48. Reynolds B. Peele, "The Importance of Maritime Chokepoints," *Parameters*, Summer 1997, p. 67.

49. Harold J. Kearsley, *Maritime Power and the Twenty-First Century* (Aldershot, U.K.: Dartmouth, 1992), p. 79.

50. ONI, *Worldwide Submarine Challenges* (Washington, D.C.: ONI, February 1997), p. 32.

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52. See Willard C. Frank, Jr., "Naval Operations in the Spanish Civil War, 1936–1939," *Naval War College Review*, January–February 1984; Nicholas Tracy, *Attack on Maritime Trade* (London: Macmillan, 1991), pp. 178–81; and Adam B. Siegel, "Enforcing Sanctions: A Growth Industry," *Naval War College Review*, Autumn 1993, pp. 130–4.

53. Christopher Craig, "Fighting by the Rules," *Naval War College Review*, May–June 1984, pp. 23–7.

54. U.S. Defense Dept., "National Security and the Convention on the Law of the Sea," July 1994.

55. Naval Staff Historical Branch Monograph, *The Royal Navy in the Postwar Years*, p. 5.

56. Cable, *Gunboat Diplomacy*, p. 224.

57. William J. Aceves, "Diplomacy at Sea: U.S. Freedom of Navigation Operations in the Black Sea," *Naval War College Review*, Spring 1993, pp. 59–79.

58. Pugh, ed., p. 82.

59. Pugh (ibid.) is a recent and comprehensive work on naval peacekeeping.

60. For example, the use of unarmed Argentine patrol vessels in the Gulf of Fonseca between Honduras, El Salvador, and Nicaragua in 1989–91. See Juan Carlos Neves, "The Argentine Navy and the United Nations Peace-Keeping Operations in the Gulf of Fonseca," *Naval War College Review*, Winter 1994, pp. 40–67.

61. Peter Haydon, "Navy and Air Force Peacekeeping: An Expanded Role," in *The Changing Face of Peacekeeping*, ed. Alex Morrison (Toronto: Canadian Institute of Strategic Studies, 1993).

62. In 1994, the U.S. Navy and Coast Guard intercepted sixty-two thousand illegal migrants off the coasts of Cuba and Haiti. Over thirty thousand kilograms of cocaine were seized at sea in the Caribbean and Pacific in 1996 alone. ONI, *Worldwide Maritime Challenges,* pp. 5, 13.

63. See, *inter alia:* Strategy and Campaign Department Research Report 6-93; Pugh; Robert Stephens Staley, "'The Wave of the Future': The United Nations and Naval Peacekeeping," International Peace Academy Occasional Paper (Boulder, Colo.: Lynne Rienner, 1992); George Allison, "The United States Navy and United Nations Peace-Keeping Operations," *Naval War College Review,* Summer 1993, pp. 22–35; Sir Julian Oswald, "U.N. Maritime Operations: Realities, Problems, and Possibilities," *Naval War College Review,* Autumn 1993, pp. 124–9; Gwyn Prins, "The United Nations and Peace-Keeping in the Post–Cold War World: The Case of Naval Power," *Bulletin of Peace Proposals,* vol. 22, no. 2, 1991; and Jeffrey I. Sands, "W(h)ither the Maritime Agenda for Peace?" in *Maritime Forces in Global Security,* ed. Ann L. Griffiths and Peter T. Haydon (Halifax, N.S.: Dalhousie Univ., 1995).

64. Allison, p. 24.

65. Pugh, ed., p. 239.

66. See Jeremy Ginifer, "Multinational Naval Force Structures," in Pugh, ed., pp. 112–4.

67. Ray Walsh and Brian Buzzell, "Helicopters Meet Surface Littoral Warfare Challenge," U.S. Naval Institute *Proceedings,* September 1996, p. 50.

68. For a fuller description of the special nature and demands of the littoral, see Yedidia Ya'ari [RAdm., Israel Navy], "The Littoral Arena: A Word of Caution," *Naval War College Review,* Spring 1995, pp. 8–9.

69. Till, p. 193.

70. Jeremy Ginifer, "A Conceptual Framework for U.N. Naval Operations," in Pugh, ed., p. 56.

71. Booth, *Law, Force and Diplomacy.*

72. For "creeping jurisdiction," Michael Pugh, "The Historical Record and the Reliance of Force Thresholds" in Pugh, ed., p. 37.

73. Ibid., p. 38.

74. Booth, *Law, Force and Diplomacy,* pp. 53–6.

75. For a much fuller discussion of coastal state perspectives and interests, see Jacob Borreson, "The Seapower of the Coastal State," *Journal of Strategic Studies,* March 1994.

76. Kearsley, p. 76.

77. Borreson, p. 170.

78. On coastal navies, see Tim Sloth Joergensen [Cdr., RDN], "U.S. Navy Operations in Littoral Waters: 2000 and Beyond," *Naval War College Review,* Spring 1998, pp. 20–9.

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80. James H. Wylie, *Jane's Intelligence Review,* October 1995, p. 449.

81. ONI, *Worldwide Submarine Challenges,* p. 30.

82. For Iranian force movements, see Harold Hough, "Iranian Intentions: The Strait of Hormuz or Beyond," *Jane's Intelligence Review,* October 1995, pp. 454–7; ONI, *Worldwide Submarine Challenges,* p. 29–31; Paul George, "The Persian Gulf and Northern Indian Ocean," in Haydon and Griffiths, eds., pp. 65–72; and Philip Finnegan and Robert Holzer, "Iran Steps Up Missile Threat," *Defense News,* 27 November 1995.

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85. See Joseph Lodmell, "It Only Takes One," U.S. Naval Institute *Proceedings,* December 1996, p. 30; and Kaj Toft Madsen, "Fighting the Beast," U.S. Naval Institute *Proceedings,* August 1996.

86. Cable, *Gunboat Diplomacy,* p. 4.

87. Hughes, p. 47.

88. Donald C. F. Daniel, "The Evolution of Naval Power to the Year 2010," *Naval War College Review,* Summer 1995, p. 70.

89. Ya'ari, p. 15.

90. Ibid., p. 19.

Ψ

The German Navy after the Cold War and Reunification

Commander Jürgen Ehle, German Navy

ON 3 OCTOBER 1990 THE GERMAN DREAM of reunification came true; the unnatural division of Germany as well as of Europe was overcome. Also, the failure of communism, the fall of the Berlin Wall and the Iron Curtain in 1989, and the end of the Cold War in 1991 improved the overall security situation for Germany. Once again one nation, Germany was no longer a front-line state.

In the new strategic situation, Germany does not face the danger of large-scale Warsaw Pact aggression. There is no fundamental military threat to Germany's territorial integrity or that of its allies, and there will be none for the foreseeable future. The one-dimensional menace of the Cold War having been irreversibly banished, Germany, like the entire Euro-Atlantic region, has now to deal instead with a vast but less obvious spectrum of global risks and undesirable developments. These risks can be described as multifaceted, multidimensional, and multidirectional, hard to predict or assess. They jeopardize peace in the international community. While apprehension about a world-devastating nuclear Armageddon has eased, the likelihood of unpredictable threatening conflicts in a widened geographical setting is increasing. Because of its international relations and economic and political interests, Germany must be concerned about a large risk spectrum.[1]

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The process of political, diplomatic, and strategic readjustment has affected Germany in particular. The future of war and peace in Europe and the fate of security and defense policy as an expression of Germany's aspirations in the post–Cold War world order are issues for those responsible for Germany's statecraft in parliament, the ministries of government, the political parties, the media, and of course the armed forces—the Bundeswehr.[2]

With reunification, Germany has achieved full sovereignty. By virtue of its political and economic strength—Germany is the third-largest economic power of the world—united Germany has a key role to play in the continuing European integration process and will be called upon to be a determining factor in the resolution of future problems throughout the world.[3]

As a prerequisite to full participation in international peace and security efforts, the 1994 Federal Constitutional Court ruling on the deployment of the Bundeswehr significantly increased the scope for policy and action. There are now no restrictions on what Germany can do in solidarity with allies. Considering (West) Germany's role in the post–World War II era, this ruling can be characterized as a decision of historical dimensions. The 1995–1996 German contribution to the Nato Implementation Force (IFOR) in Bosnia and the Bundestag (German parliament) decision of December 1996 allowing the Bundeswehr to participate also in the Nato Stabilization Force (SFOR) are clear manifestations of German political will as to military action. In addition, the Bundeswehr had already become involved in United Nations peacekeeping operations in Yugoslavia, Iraq, Cambodia, and Somalia.

The participation of German Navy ships and maritime patrol aircraft (MPA) in the enforcement of the UN embargo against the former Yugoslavia in the Adriatic was a visible sign of a process that had started with the fundamental transformations in Europe at the end of the 1980s. From 1992 until 1997, twenty-eight German destroyers, frigates, and oilers have participated in embargo operations in the Mediterranean, with altogether about 8,500 naval personnel. Even today, with the embargo lifted, a German unit is available in the Adriatic to support SFOR within the framework of the Standing Naval Force Mediterranean. From 1992 until 1996, three German MPA were continuously based in Elmas, Sardinia, from where they flew embargo monitoring missions over the Adriatic Sea. At present, SFOR support missions are flown from the aircraft's home base at Nordholz, on the North Sea coast. Also, signals-intelligence MPA are carrying out reconnaissance flights over Croatia, in the framework of SILENT WATCH.

The Navy has also made significant humanitarian contributions on many occasions. For example, its supply units have taken large shipments of food to Russia. Another most effective demonstration of humanitarian aid was provided by a German mine countermeasures force that cooperated with friendly navies in the Persian Gulf in 1991 to neutralize a large number of mines

and other explosive devices, thus removing risks to international shipping.[4] In so doing the Navy was providing evidence of its ability to contribute towards United Nations peace missions.

Early in the decade, the fundamental political and strategic changes caused the German armed forces—and hence also the Navy—to begin a conceptual reorientation and adjust their capabilities and structures to the challenges of a future characterized by a broader understanding of security and of its provision. The constitutional mission of the Bundeswehr reflects Germany's vital national interests. Thus, the Bundeswehr protects Germany and its citizens against political blackmail and danger from without; defends Germany and its allies; advances military stability in Europe and European integration; serves world peace and international security in accordance with the Charter of the United Nations; and provides disaster relief, saves life, and supports humanitarian activities.[5]

The problem before the Bundeswehr was a formidable one: from a personnel strength of 583,000 on 3 October 1990—93,000 of them from the former East German armed forces, the National People's Army—it had to shrink to 370,000 by the end of 1994. This was a result of negotiations in July 1990 between Chancellor Helmut Kohl and President Mikhail Gorbachev. Today the Bundeswehr, the "army of unity," is to be reduced even further, to a (still remarkable) peacetime strength of 340,000, of which 50,000 will be reaction forces. In this context, the German Navy has had to reduce its manpower from 47,500 in 1994 (including the personnel of the former East German Navy, the Volksmarine) to 27,200.

The Heritage of the Volksmarine

In the second half of the 1980s, at a time when nobody even thought of reunification, an internal study for a "Navy 2005" was initiated. This study led to firm plans to adapt the Navy to the challenges of the year 2005, improving the "tooth-to-tail ratio" by freeing resources for investment while reducing operating costs (personnel, operation, and maintenance). These plans played a major role when after unification a new navy had to be designed. One result of this long-term planning was a decision not to take over any ships or weapon systems from the People's Navy. Also, the East German personnel who would be offered careers in the new navy would be selected very carefully.

While this was the framework in which the takeover of the East German navy had to be carried out, a few key figures describe the dimensions of this unique task. The Federal German Navy was confronted with the legacy of the Volksmarine: 8,300 military personnel (of a former total of fourteen thousand in October 1989) and 3,700 civilian employees; 129 facilities (headquarters, naval

bases, depots, etc.); seventy-one combat vessels, forty-six auxiliary ships, and twenty-seven helicopters; forty-three thousand handheld firearms and fourteen thousand tons of ammunition; seventy-eight main battle tanks and armored infantry vehicles, 177 reconnaissance tanks, and 5,500 motor vehicles; 1,800 tons of highly toxic rocket fuel; and clothing stocks for about 200,000 men and women.[6] There was no operational need for any of these forces and assets, with very few (and temporary) exceptions. All the combat ships have now been sold or scrapped, and the enormous amount of ammunition has been neutralized and destroyed by civilian contractors.

This had of course direct implications for personnel matters. The Navy needed no new personnel to operate or maintain former East German weapon systems. In order to avoid problems in its own personnel structure, only a very small number of officers and chief petty officers from the People's Navy were integrated into the new service. Today we have some three hundred such officers and chiefs in service as full career regulars.

Roles and Missions of the German Navy

Soon after the historical changes in Europe, with the German unification on 3 October 1990 as the core element, the German Navy started to adjust itself to the new security conditions. Historically, Germany has been a continental power at the heart of Europe. The Chief of Staff of the German Navy, Admiral Hans-Rudolf Boehmer, acknowledged this, observing, "It is a fact, that Poland, the Baltic States and others expect a significant German military contribution in terms of land forces to the state of peace in Europe." However, he continued, "Germany needs a strong army and an appropriately sized navy. This relationship will continue to give rise to many intellectual debates."[7]

In past decades, the German Navy's major mission was to ensure that the Nato allies could reinforce and resupply Central Europe through the North Sea, and also to safeguard the Baltic approaches—a mission that was basically limited to the northern region of Europe. Today, to mention one difference, there is no longer any need for a maritime capability focused on preventing the massing of hostile forces in the Baltic. Instead we recognize that—compared with the quite static geostrategic situation of Germany during the Cold War—the spectrum of tasks of the Bundeswehr covers a wide geographical area, is of great military diversity, and above all, has considerable political and strategic significance.

Much more than in the past, naval forces are an instrument of national foreign and security policy. Increasingly, the political dimension of the Navy's mission is gaining importance. At the same time, we recognize that future problems can be solved only by multinational efforts and that the significance of international organizations is increasing. As a consequence, multinationality

will he the dominant principle in the future—in a political as well in a military sense.

Against this background, the mission of the German Navy comprises three core functions. First, *national and alliance defense* continues as the primary mandate; this mission and the firm integration of Nato form the Navy's conceptual foundation. These factors primarily determine its capahilities and structure. Within their framework the German Navy, together with its Nato allies, continues to protect coasts, territorial waters, and sea lines of communication (SLOCs) vital to Germany's reinforcement and resupply, and to demonstrate presence in important sea areas. This is crucial for national sovereignty and a prerequisite for political action and commitments to the Alliance.

As a highly industrial nation, Germany depends tremendously on the preservation of free international trade and on raw materials imported from overseas. For example, German dependence on oil imported by sea is 95 percent, and for manganese, chromium, copper, titanium, and iron, 100 percent. Fifty percent of the nation's entire foreign trade depends on free sea lines of communications.[8] That in itself indicates how crucial it is for Germany to protect its maritime trade, including the main commercial seaport facilities in North Germany: Hamburg, Bremerhaven, Bremen, and Emden on the North Sea, and Kiel, Lübeck, and Rostock on the Baltic. During the Cold War, SLOC protection was a classic task of the German Navy in the northern region, the *Nordflankenraum*. In the future, SLOC protection will remain one of the Navy's central functions; upholding the principle of "freedom of the seas" is of the greatest importance for Germany.

This primary mission is bifurcated, in that it requires a navy capable of both blue and brown-water (littoral) operations. In the confined waters of the Baltic Germany operates a balanced mix of submarines, naval fighter-bombers, fast patrol boats, and mine warfare units. In the North Atlantic, German colors have been flying since the Federal Republic became a member of Nato in 1955; antisubmarine warfare (ASW) frigates and antiair warfare destroyers as well as maritime patrol aircraft are the core of our contribution to the North Atlantic Alliance for rhe protection of sea lines of communication.

The second mission is to contribute to *crisis management and conflict prevention.* Containing crises and conflicts immediately upon their emergence is important to preventing them from spilling over to Europe or affecting ocean trade. The deployment of German minesweepers to Kuwait, the evacuation of the army contingent from Somalia, and the deployment of destroyers, frigates, and maritime reconnaissance and ASW aircraft to the Adriatic for the enforcement of UN sanctions against former Yugoslavia (a mission that lasted almost four years) underline the fact that missions in the framework of multilateral crisis operations have represented the main category of tasks, as they most likely will

in the future. It is particularly in the support of other services that the Navy can provide valuable contributions—by protecting sea transportation, creating a secure environment in the area offshore, and supporting or evacuating troops.

In this context it is vital for Germany to make adequate and visible contributions that demonstrate solidarity within an alliance that is above all a maritime one. The member nations of Nato depend on the unimpeded use of the sea lines of communication that connect Europe and the continent of North America.

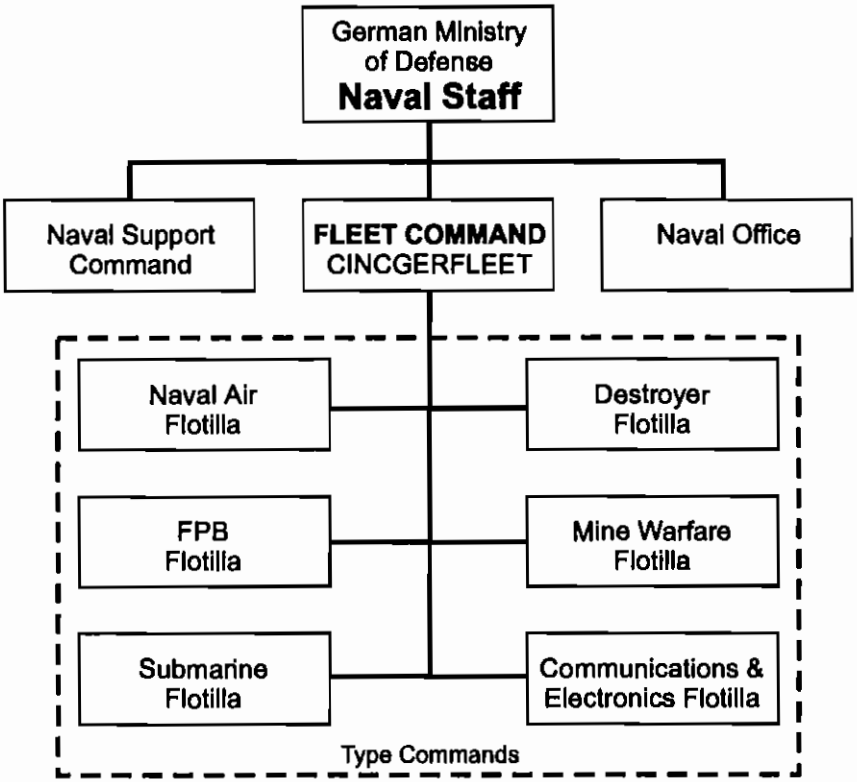
A third function, which is continuously gaining importance, is to contribute to the *stability and further integration* of Europe, and to international security. Hence, the Navy places great emphasis on working with new naval partners in order to build up confidence through bilateral and multilateral cooperation and personal contacts. In addition, there is the classic mission of "ambassadors in blue." The first visits of German units to St. Petersburg in 1991, to Israel in 1993, to Varna (Bulgaria) in 1995, and to Capetown in 1996 were visible signals of the increased political importance of this role.[9]

Organization of the German Navy

The German Navy has undergone fundamental structural changes during the last decade, to reflect new missions and tasks as well as to achieve leaner command structures, improved training, and a more efficient support service. We have reduced the number of flotillas from eight to six, the number of naval bases from nine to five, and naval stations from four to three. Furthermore, the facilities of fourteen naval schools will be concentrated in five training establishments. Nevertheless, the basic three-part organizational structure of the German Navy remains unchanged (see the figure). In it, three higher commands are subordinate to the Chief of Staff of the German Navy:

- The *Naval Office*, now located in Wilhelmshaven on the North Sea coast but scheduled to move to Rostock (in the former East Germany) on the Baltic, is responsible for the training of all navy personnel, the administration of all enlisted personnel, public relations, and the Naval Medical Service.
- The *Naval Support Command*, in Wilhelmshaven, is responsible for logistic support, procurement, and armament, fleet maintenance and repair management, and other support services for the Navy, such as transport and the operation of naval bases and depots.
- The *Fleet Command* is located in Glücksburg in the vicinity of Flensburg, on the Baltic coast. The Commander in Chief German Fleet (CINCGERFLEET) is responsible for operational command and training of naval and naval air forces. Subordinate to him are the six flotillas (see diagram), comprising altogether about fourteen thousand men and women.

Structure



CINCGERFLEET is responsible for the employment of the naval units for such peacetime operations as support to the Search and Rescue Service and maritime environmental protection, national and alliance defense, and tasks related to our new mission, crisis and conflict management. Command and control over the naval units worldwide is exercised from the Maritime Headquarters in Glücksburg. CINCGERFLEET, as the National Commander for Naval Tasks within the Territorial Defense Organization, is responsible for the coordination of tasks within the organizational structure of the Navy, that is, between the Fleet Command, the Naval Office, and the Naval Support Command.

Within the current Nato command structure, as a Sub-Principal Subordinate Commander CINCGERFLEET exercises command and control over the naval and naval air forces assigned to him in the North Sea and the Baltic.

Last, it is foreseen that for operations under Western European Union (WEU) command, the Commander in Chief German Fleet, as a WEU operational commander, will have command and control over German naval and naval air forces within the framework of maritime WEU operations in the North Atlantic, the North Sea, and the Baltic. Moreover, together with his headquarters staff he is responsible for the planning and command of national joint operations.

Thus all the activities of the German Navy related to the employment of naval units, whether carried out on a national or international scale, in peacetime, a state of defense, or within the framework of special missions, are centralized under the Fleet Command.

The reorientation of the German naval mission spectrum—which, more than ever before, must be geared towards joint, comprehensive operations in a multinational scenario—led to a requirement for modernization and adaptation of the computer-assisted command, control, and information capability of the fleet. The MCCIS (Maritime Command, Control, and Information System) at present being tested in Fleet Command Headquarters is a step toward a modern capability. It provides data links with different Nato headquarters, permitting the exchange of information about movements of the partner navies. At present MCCIS exchanges such data with Commander in Chief, Eastern Atlantic, Admiral Belgian-Netherlands Fleet, Admiral Danish Fleet, and two Norwegian headquarters. The experience gained up to now offers an excellent basis for further development.

The Maritime Theater

Due to this enlarged spectrum of employment the German Navy must be capable of operating wherever necessary for Germany's security or that of its allies. From the Navy's point of view and in terms of security policy, Europe and its periphery naturally take priority here. There are two focal regions for the German Navy today: the Mediterranean and the *Nordflankenraum*.

From the European geographical viewpoint, the Mediterranean Sea contains major trade routes to North Africa, the Middle East, and the Far East. Almost all North African states maintain considerable armed forces, which continue to grow. They possess modern weapons of Eastern and Western origin. Especially for Germany's allies at the southern rim of Europe, a possible threat from ballistic missiles and weapons of mass destruction has to be taken into account. The Federal Republic's response is an increasing presence of its naval and naval air forces in the Mediterranean and adjacent sea areas. In addition to the constant German contribution to Nato's Standing Naval Force Mediterranean, fast patrol boats, submarines, mine warfare vessels, support units, and naval air forces are deployed to the Mediterranean on a regular basis to participate in

exercises. They pay visits to members of the Alliance as well as to other countries in the Mediterranean and Black seas.

Notwithstanding, the northern region (the North Sea and Baltic) is still preeminent as far as Germany's security is concerned. The Baltic will keep its geostrategic significance for us and for Europe. Nato, the European Union, and the Western European Union have extended their hands in partnership and cooperation to the "reform states" and new republics.

To speak of the Baltic is of course to speak of Russia. Since the Cold War, as we have noted, a new geostrategic landscape has emerged: the massive and offensively structured military posture of the former Warsaw Pact vis-à-vis Denmark, Germany, and the Baltic approaches has disappeared. The southern and eastern littorals of the Baltic Sea are no longer dominated by large, potentially hostile forces, but Russia's unstable political situation, disastrous financial and economic condition, and insecure future make it a concern for its neighbors.

On one hand, Russia's influence in the region has significantly diminished; the Baltic Sea is no longer its strategic front yard. With the loss of 2,032 kilometers of formerly Soviet coastline, the regional security and political situation in the Baltic, especially the eastern Baltic, has changed fundamentally. Nonetheless, Russia still has a strong interest in the northern European theater, and its Baltic Fleet is an integral part of the evolving command structure in Russia's northwestern strategic direction. This is evidenced by the strong conventional and nuclear forces in the Kola region as well as by the naval forces in the area of Kaliningrad (in the former East Prussia) and St. Petersburg—the only remaining Russian ports in the region.

This is the case despite Russia's efforts to reorganize its navy through modernization, efforts that to date have resulted in the extensive decommissioning of units with, so far, no adequate replacement.[10] Although the Baltic Fleet suffers from poor financial and economic conditions and cuts in fleet strength, it is still able to carry out its assigned tasks. Its overall strength is 119 ships.[11] Complex exercises suggest that the Baltic Fleet has had success in maintaining and training its core assets.

In addition, there is high potential for conflict between the newly independent Baltic States and Russia. In the former Soviet republics of Latvia, Lithuania, and Estonia, ethnic problems involving native Russians have resulted in threats by Moscow of action against these independent states if Russian minorities are not protected.

All in all, a conflict in this region would represent a risk to Germany.[12] On the other hand, it is true that Germany faces no real threat in the Baltic, notwithstanding that Russia remains a nuclear power, a naval power, and the strongest European land power, with a variety of global and regional options—and we should not forget that Russia is also an Asian power. The German political leadership demonstrates considerable confidence in President

Boris Yeltsin's efforts to establish a democratic state and a functioning market economy. Thus, the federal German government supports the policy of reform in a spirit of friendship and cooperation, for good Russo-German relations are a core element of security and stability in Europe.

The question is how to deal with the entire Baltic area. The Baltic should be watched very closely, since it is hard to believe that it will be a "sea of peace" forever. The German Navy should continue, more than in any other sea area, to cooperate with former Warsaw Pact navies—including those of Russia, Ukraine, the Baltic States, and Poland—especially within the Partnership for Peace (PfP) program. By doing so Germany can visibly demonstrate its strong desire to achieve European integration through close cooperation with its new partners from the East. Also in this way, especially by activities conducted within the framework of the PfP, we can tangibly convey Nato's will to achieve European integration.

On average, German units participate in approximately sixty exercises each year. These are augmented by an increasing number of exercises in the framework, or in the spirit, of the Partnership for Peace. In 1997, the fleet assigned units to seven PfP exercises. In addition, training support is provided to PfP nations, and expert talks take place on a regular basis. An example of an exercise "in the spirit of PfP" was OPEN SPIRIT '96, carried out in September 1996 in the Baltic Sea. With the exception of Russia, all nations bordering the Baltic participated.

The Mine Warfare Flotilla proved its capability after the Gulf war by carrying out minesweeping operations in the Persian Gulf. German mine countermeasures units were also successful in an operation, BALTIC SWEEP, conducted at the beginning of September 1996 in the Gulf of Riga to provide technical assistance and training support to the Latvian Navy. During this operation twenty mines, torpedoes, and bombs—a heritage from two world wars—were detected, identified, and demolished.

This operation was repeated a year later within the framework of OPEN SPIRIT '97. It led to the detection of nineteen mines and torpedoes; seven nations took part in this exercise. Also in 1997, exercise BLUE HARRIER tasked one of our minehunters to locate and identify chemical munitions from World War II that had been dumped into the Baltic Sea. (It can be seen that such environmental legacies remain even more than fifty years after the end of World War II. These problems are by no means restricted to the coastal regions of the former Warsaw Pact states, which were inaccessible to the West until a few years ago.) In November 1997 a combined submarine exercise in the eastern Baltic between Germany, Poland, Denmark, and France was carried out, for the first time under German command. All in all, the PfP concept has proven to be a great success.

Required Capabilities of the German Fleet

Within the enlarged task spectrum, "the main aim of the German Navy is to maintain a capability in all classic elements of sea warfare."[13] In the new strategic context, however, the main aim of maritime warfare will no longer be to repel or neutralize a powerful naval enemy (like the former Soviet navy) in a large-scale conflict. Instead, the paramount goal will be to influence, or indeed to determine, the course of a crisis or conflict in a limited geographical area. Thus, the *Schwerpunkt* (emphasis) of maritime operations is shifting from the high seas ("blue water") to littoral areas.[14]

Due to this shift, there will be greater requirements for shallow-water antisubmarine and antisurface warfare in littoral areas, as well as for countering threats from land-based aircraft and missiles. With its traditional, proven capabilities and experience in littoral warfare in the Baltic's shallow waters, the German Navy can contribute effectively to those new tasks, and it should therefore maintain these capabilities. However, because of the changed situation of operating from the sea toward a coast or in unaccustomed sea areas, in the framework of the Bundeswehr's broadened task spectrum the Navy has to concentrate on enhancing its crisis-reaction capabilities. What is required?

From the German view, what is needed are capabilities for: reconnaissance; rapid and coordinated operations against surface forces offshore; independent long-term presence under all weather and climatic conditions; defense against surface, subsurface, and air threats; mine countermeasures and minelaying; extensive sea surveillance; and command, control, communications, computers, and intelligence. These capabilities cannot be provided by naval warfare assets of any single type. Therefore, a balanced mixture of types—and thus the assets of different flotillas—is required.

The Flotillas of the Fleet

It was in 1992, as a consequence of the changes in the security, policy, and force structure environment, that the German Navy introduced, as noted, the "Navy 2005" concept. This document envisaged a gradual cutback in ships, aircraft, and personnel in the years up to 2005. However, despite the reductions in quantity, this program emphasizes an ability to operate throughout the whole Nato area and beyond, as well as a continuous upgrading of capabilities.

The *Fast Patrol Boat Flotilla*, with its Type 143 and 148 FPBs, contains the assets for offshore operations, rapid reconnaissance, and minelaying. The fast patrol boats have tenders at their disposal for logistical support. The Fast Patrol Boat Flotilla became in autumn 1994 the first agency of the Navy, and the only force afloat, to be relocated to Warnemünde, Mecklenburg, in western Pomerania (in former East Germany). Fast Patrol Boat Squadron 2, with its ten

Type 143 boats and the Type 404 tender *Donau*, was also relocated to Warnemünde (from Olpenitz, on the Baltic coast), at the end of 1994. Fast Patrol Boat Squadron 7, with ten Type 143A boats and the tender *Elbe* (Type 404) followed at the end of 1995, from its previous base at Kiel.

The flotilla has been reorganized, and the squadron headquarters have been integrated. The two squadrons with Type 148 boats (FPB Squadron 3 at Flensburg and Squadron 5 at Olpenitz) will be reduced by 2003 from fourteen boats to a total of five and will be consolidated, as FPB Squadron 5, at Olpenitz. Commencing in 2005 the fast patrol boats are to be replaced by Type 130 corvettes, on an incremental basis.

The *Destroyer Flotilla* represents a particularly important aspect of the required capabilities, because of its ability to provide independent long-term presence and sea surveillance and to conduct antisubmarine warfare. All these vessels have antiship-missile defense systems. The flotilla, at Wilhelmshaven, was reorganized in 1993. Until then there had been four independent subordinate squadrons. In the new organization, the squadron headquarters have been disbanded (with the exception of that of Destroyer Squadron 1, at Kiel) and integrated into the flotilla command. Destroyer Squadron 1, with its three destroyers of the *Lütjens* class (Type 103B, similar to the U.S. *Charles F. Adams*–class DDGs), will remain at Kiel until the last of them is decommissioned in 2003. Tbe Type 124 frigates planned as their replacements (discussed below) are to be based at Wilhelmshaven.

In the anticipated structure the Destroyer Flotilla is expected to comprise fifteen frigates: eight Type 122 (the *Bremen* class), four Type 123 (the *Brandenburg* class), and three Type 124. All frigate types are to be helicopter equipped. The flotilla additionally operates fifteen support units for transport and logistical tasks.

The *Mine Warfare Flotilla* is specialized for mine detection, minesweeping, and minelaying. At present, it has forty-one units of different classes. The flotilla headquarters was relocated in August 1994 from Wilhelmshaven to Olpenitz, where Minesweeper Squadrons 1 and 5 were integrated. In the planned structure for 2005 the flotilla will have twenty-two mine countermeasures vessels in these two squadrons—twelve Type 332 minehunters in Squadron 1, and ten Type 343 minesweepers in Squadron 5.

Minesweeper Squadron 3 has been established at Olpenitz for the time being. It has five Type 394 inshore minesweepers and five Type 520 utility landing craft (from the now-disbanded Amphibious Group). Minesweeper Squadron 4 with Type 331 minehunters, and Squadron 6 with Type 351 minesweepers (each remotely operating three Troika magnetic/acoustic/mechanical drone minesweepers) will remain in Wilhelmshaven until the decommissioning of their last boats in 2000. The Mine Warfare Flotilla also includes the Weapon Diver Battalion, made up of the Clearance Diver Company and the Underwater Demolition Company, at Eckernförde on the Baltic coast.

The *Submarine Flotilla*, currently with sixteen Type U 206 and U 206A boats, has antisurface warfare as its primary task. It also, however, has capabilities for independent, long-term presence, antisubmarine warfare, minelaying, and reconnaissance. A relocation of the Submarine Flotilla from Kiel to Eckernförde, whereby the Type U 206 submarines will remain in Kiel until their decommissioning in 1998, began in 1997. With integration of Submarine Squadron 3 into its headquarters, the flotilla (less units remaining in Kiel) will consist of twelve Type U 206A submarines, two Type U 205 A/B, and the support vessel *Meersburg*. In addition, the Submarine Training Center in Eckernförde is assigned to the Submarine Flotilla. Further decommissionings will follow at the end of 1998. The Type U 212 (about which more below) is planned to enter service in 2003.

Since 1993 the German Navy has had a submarine on station almost continually in the Mediterranean to provide training support to the surface units employed in embargo control operations. Additionally, these submarines take part in a number of exercises in the Mediterranean area.

The *Naval Air Flotilla* adds to the capability spectrum operations from the shore against surface forces, antisubmarine warfare, sea surveillance, and rapid reconnaissance. Its fifty-three Tornado naval fighter-bombers are employed against surface targets and to reconnoitre coasts and sea areas, while the fourteen Breguet Atlantic maritime patrol aircraft are available for antisubmarine warfare and sea surveillance. The naval air flotilla also has seventeen Sea Lynx helicopters on board the frigates for ASW and third-party targeting as well as twenty-two land-based Sea King helicopters for littoral warfare and rescue. In addition, the flotilla operates four Dornier Do 228 aircraft for pollution control and transport.

The Naval Air Flotilla has been affected by extensive reorganization. Naval Air Wing 1 was disbanded in 1993, and its base, Airfield Jagel (in Schleswig-Holstein), was handed over to the Air Force. Tornado-equipped Naval Air Wing 2 in Eggebek (also in Schleswig-Holstein) and Naval Air Wing 3 ("Graf Zeppelin") in Nordholz on the North Sea coast concluded restructuring at the end of 1994. They consist now of two components: a Flying Group, comprising three squadrons, and a Technical Group.

At Kiel, Naval Air Wing 5's Do 28 Sky Servant transport aircraft were decommissioned in the summer of 1994; its Do 228s went to Naval Air Wing 3. Wing 5 is now the home of search and rescue (SAR) Mark 41 Sea King helicopters. The target structure provides for two SAR branches: at Westerland for the North Sea area, and at Wamemünde for the Baltic. With the introduction of the new MH 90 helicopter in 2007, Naval Air Wing 5 is to be disbanded, and the new helicopter type will have its home base in Nordholz. Contrary to initial planning, the headquarters of the Naval Air Flotilla will remain in Kiel.

The *Naval Communications and Electronics Flotilla* complements all the capabilities of the fleet. It is responsible for the coastal radar stations, communications facilities ashore, and for three intelligence-collection vessels.[15]

The German Navy's Future

The Navy's main concerns today are to improve its antiair warfare (AAW) and antisubmarine warfare capabilities in coastal waters as well as its ability to operate on the high seas at great distances, to extend its logistical range, and finally to upgrade its medical support. An important step in this program was the modernization of the frigate force, which was completed at the end of 1996 with the commissioning of the fourth Type 123 frigate. At the beginning of the next century, the air defense capabilities of the fleet will be enhanced by the introduction of three Type 124 frigates, replacing the ageing *Lütjens*-class destroyers, which have high operating costs. (An option for a fourth 124 exists.) These new frigates will be given the primary task of AAW for a task group; they will also act as command ships for the task group commander and his staff. A special AAW system being developed is optimized for defense against small, fast, sea-skimming missiles.

The thirty-four fast patrol boats in the current inventory will decline to thirty by 2000. Starting in 2005, they will be replaced by fifteen Type 130 corvettes, which will be capable of long-range antisurface warfare (ASUW) operations from the sea into the littorals. These ships will meet the new demands of naval warfare in the post–Cold War environment and maintain the expertise achieved over the past decades in coastal patrol.

The number of mine countermeasures vessels will be reduced from the current forty-one to around twenty-seven, and minehunting and sweeping capabilities will be considerably modernized and enhanced.

The submarine force will gradually decrease, from sixteen to eleven by 2002. In 2000 will appear the Type U 212, an oceangoing submarine equipped with a polymer electrolyte–membrane fuel cell. This air-independent propulsion should give the Type U 212 a lasting advantage of tactical surprise. Four boats will join the fleet, to fight surface ships and submarines and perform reconnaissance. The class will represent a technological leap; in it the German Navy will possess the most advanced conventional submarine in the world.

The technological aspects of the submarine are worth emphasizing. Its hybrid diesel-electric and air-independent fuel-cell propulsion system will meet the vital requirement for low detectability. A noiseless propeller will be driven by a low-noise, high-performance, permanent-magnet motor. The reactants for the fuel cell (hydrogen and oxygen) will be stored in the after part of the boat between the pressure hull and an outer, free-flooding hull. The low-detection-probability requirement will be met also by reducing the boat's acoustic, magnetic, radar, and visual signatures and by minimizing the sonar target strength (against active detection) and sonar target level (against passive detection). The pressure hull, made of high-strength nonmagnetic steel, is optimized for hydrodynamic properties and maneuverability. When submerged, the boat will have a displacement of about 1,300 tons.[16]

The fourteen Breguet Atlantic MPA in the ASW role will receive lifetime extensions, and the four Breguet Atlantic signal-intelligence aircraft will remain in service. To look a little further into the future, the German Navy anticipates the replacement of the present maritime patrol aircraft with the "MPA 2000," perhaps a German/Italian purchase, commencing in 2007. It also plans to introduce the MH 90 as a shipborne helicopter for surveillance, ASW, ASUW, logistic support, and SAR—unfortunately, however, not until as late as the end of the next century's first decade. At the moment these roles are split between the Lynx and the Sea King helicopters.

A chronic Naval Air Flotilla problem, the lack of shipborne helicopters, has meanwhile been partly overcome by the recent signing of a contract for seven additional Sea Lynx. This will barely cover the requirements of twelve frigates, but it will be accompanied by the modernization of the Sea Lynx to the Super Sea Lynx design. Also, the flotilla will continue to include fifty-three Tornado fighter-bombers, some of which will be made deployable to the periphery of Nato.

The number of logistical and auxiliary ships will decrease, but the future requirements of tbe operating concepts of the German Navy will be met by the introduction of a new combat support ship, the Type 702 *Einsatzgruppenversorger* (task group support ship, or EGV). The EGV represents an improvement in forward logistical support for out-of-area missions (like minesweeping in the Persian Gulf), transport and medical support, and extended patrol. The new ship will enable the fleet to support better any German crisis-reaction group. Its storerooms will be able to supply destroyers and frigates, and to some extent submarines. Its medical facilities and helicopters will be of particular importance. The first of two currently planned units will enter naval service in 1999.[17]

This leaner fleet, with its multiregional and multirole forces, will be able to augment multinational maritime forces effectively in crisis situations and peace support. Also, distinct emphasis has been laid on operations throughout the Nato area; the capability to establish a German naval presence at tbe Nato periphery will be considerably improved. Littoral warfare, including shallow-water ASW, will remain the German Navy's primary contribution to the Alliance's maritime collective defense.

The German Navy does not possess, however, any assets (especially not amphibious forces) that can be brought to bear against an enemy's coastline or territory for power projection. Thus—as it is important to point out, especially for the American reader—the German Navy cannot adopt certain principles of the current United States maritime strategy.[18] But the German Navy is adjusting itself significantly to be able to make a substantial contribution to combined or coalition operations anywhere a crisis develops.

Most naval facilities are located in the coastal *Laender* (states) of North Germany: Schleswig-Holstein, Niedersachsen (in Lower Saxony), and Mecklenburg-Vorpommern (in Mecklenburg, western Pomerania, in the

former East Germany). The Navy is pursuing a regional stationing plan known as the Department Concept. According to it at least one major maritime command, one naval district command, one type command, one major training facility, and one senior medical officer will be located in each region.

Budgetary Issues

Like probably all Western armed forces, the Bundeswehr has been facing enormous financial pressure since the revolutionary events between 1989 and 1991. For Germany the old threat has receded more than a thousand kilometers to the east. The central task of German policy—to complete the process of Germany's internal unification, the *Aufbau Ost*—demands large amounts of funds. The overriding tasks to be accomplished in the unified Germany have a tremendous impact on the federal budget and consequently on defense spending.

In light of the changed security situation, the Bundeswehr, and hence also the Navy, will no longer pursue armament projects tailored to the special conditions of East-West military conflict. Those times are gone. Today the broadened task spectrum of the Bundeswehr has given the Navy roles in joint and combined crisis management. But it would be wrong to say that future defense expenditures will be made primarily to increase capabilities for crisis management in distant maritime areas. The defense of the homeland still has enormous priority, for an attack on its territorial integrity is the worst prospect a country can be confronted with. Thus all new matériel the Navy is to receive is designed both to defend the homeland *and* contribute significantly to crisis management operations. There will be no forces and assets designed only for one or the other. The force structure has already been adapted to this principle. This is no contradiction with the fact that the German Navy has to improve its crisis reaction capabilities.

Regarding future capital expenditures, the main object will be to improve the current ratio of investments as against operational spending in favor of investment, in order to reshape and modernize the armed forces. In other words, the aim is to make savings the Bundeswehr achieves through economy and rationalization measures available for new investments.[19]

In the last years of the Cold War, defense expenditures rose continually, from 50.2 billion deutsche marks in 1986 to 53.6 billion DM in 1991, when manpower figures peaked in the unified German Bundeswehr. They subsequently fell steadily, to 46.3 billion DM in 1997. Over the same period, the percentage of federal spending allocated to defense fell from 19.2 to 10.4, the 1998 percentage being 10.5 (see Table 1).

In general, the defense budget will stabilize in coming years; when it does, there will be no further significant reductions (see Table 2).[20] The Navy's important investments can be afforded and realized. The fleet will be able to operate its ships, boats, and aircraft to accomplish the Navy's mission and tasks.

Table 1

The German Defense Budget 1986–2001
(billion deutsche marks)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998*	1999*	2000*	2001*
Operating Expenditures (Personnel, Operations and Maintenance)	32.73	33.70	34.40	35.43	36.55	39.19	40.15	38.48	37.25	37.24	36.47	36.09	35.51	35.03	34.99	34.91
Investment	17.46	17.38	16.83	17.10	17.02	14.42	12.61	11.12	9.95	10.31	11.76	10.41	11.17	12.49	13.34	13.71
Total	50.19	51.08	52.23	52.53	53.37	53.61	52.76	49.60	47.20	47.55	47.10 (-1.13)	46.30 (-0.20)	46.68	47.52	48.33	48.62
Percentage of Federal Budget	19.2	19.0	18.6	18.1	17.3	13.3	12.4	10.8	10.0	10.2	10.4	10.4	10.5	10.1		

Ratio of Operating Expenditures to Investment 1986–2001
(percentage of defense budget)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998*	1999*	2000*	2001*
Operating Expenditures (Personnel, Operations and Maintenance)	65.21	65.97	67.14	67.46	68.12	73.10	76.10	77.58	78.91	78.32	75.62	77.61	76.07	73.73	72.39	71.81
Investment	34.79	34.03	32.86	32.54	31.88	26.90	23.90	22.42	21.09	21.68	24.38	22.39	23.93	26.27	27.61	28.19

* Estimated

Table 2

Inventory	1986	Current	Medium-Term Future
Frigates, Destroyers	16	15	15
Submarines	24	16	14
Fast Patrol Boats	40	34	30
Mine Countermeasures Units	59	41	27
Maritime Patrol Aircraft/ASW aircraft	14	14	12
Naval Fighter-Bombers	112	53	53
Helicopters	41	39	46
Support Ships	36	18	17
Transport/Oil Pollution Control Aircraft	0	4	4
Amphibious Vessels	19	0	0

In Germany there is no specifically "naval" budget that can be expressed as a percentage of the defense budget. The three major fields of expenditure are shared among the Army, Air Force, and Navy. These major fields, which are themselves broken down into many titles, are personnel, operations and maintenance, and investment. Personnel, and operations and maintenance together are grouped as "operating expenditures." It is thus not possible to present actual figures of allocations to the Navy. However, operating expenditures accounted in 1986 for 65.21 percent and investments for 34.79 percent of the overall budget. In 1996 the ratio was 75.62 percent for operating expenditures against 24.38 percent investments. The key factor to note in Table 1 is that while operating expenditures recently have been holding almost steady and are projected to decline slightly in the next several years, investment funds are expected to rise (both absolutely and relative to operating expenditures). This is the basis for believing the German armed forces can be modernized.[21]

Force Structure of the German Navy

In order to contribute to crisis management operations (as well as the core function of the defense of the homeland, protecting the German coasts), there is a need for reaction forces—rapidly available, well trained, and able to operate in the whole spectrum of defense and crisis management. In peacetime, the Navy organizes its Crisis Reaction Forces (Krisenreaktionskräfte) according to a typical rotation cycle of training, operations, and maintenance; this means that

there is *no* structural distinction between the Crisis Reaction Forces and the "main defense forces" (wherein a unit remains assigned to its normal flotilla). Training levels principally determine which units will be assigned to crisis reaction and which to the main defense forces. All naval units are subject in any case to both crisis reaction and main defense duty. Units afloat and aircraft are available equally for territorial defense and crisis response, as well as for special missions. This is of paramount importance in our concept—and it is in contrast to the Army and the Air Force, which have earmarked certain units for crisis response missions. This means that depending on their operational training state, our units are alternately assigned to main defense and Crisis Reaction forces. What advantages do we see in this system?

For one thing, the feeling of being "second-class soldiers" does not arise, for units in the training phase can be brought to operational readiness without much effort. Thus units can relieve others in the Crisis Reaction Forces as soon as deficiencies are removed. The German Navy already commits units to the standing Nato forces in the Atlantic, Mediterranean, and northern European regions. These units constitute the national naval contribution to Nato's Immediate Reaction Forces. Additional frigates, destroyers, mine countermeasures vessels, submarines, fast patrol boats, and naval fighter, reconnaissance, and ASW aircraft can be made available as Nato Rapid Reaction Forces. In total, the maximum national maritime contribution—40 percent of the entire fleet, including up to 4,300 sailors—can be allocated for crisis reaction missions.[22] The strength of the future fleet is thus derived from the rotational cycle of maintenance, training, and employment.

In general, the Navy will have to be capable of operating with equal effectiveness on the high seas and in littoral waters, in all three classic maritime warfare areas, with sufficient logistical support to deploy to remote theaters. As a result, several components that are optimized for certain missions are required. The combination of these components ensures that an entire mission can be completed as an autonomous and visibly German contribution. It remains important that the German Navy maintain specific and distinct capabilities, and their respective components, at an acceptable level. The objective is operational autarky in all warfare areas—under, on, and above water. To do that, as we have pointed out, the fleet will have to be composed of a balanced mix of ships, boats, and aircraft.

The Way Ahead

In 1990, the first participation of German warships in crisis management operations sparked a controversy over the legislative constraints set forth in the Federal Republic's constitution. Nevertheless, in 1991 Germany contributed a

mine countermeasures task group to the international task force sent to the Persian Gulf in support of the UN operations, and from 1992 until 1996 the German Navy participated in the enforcement of the embargo on the former Yugoslavia, within the frameworks of Nato and the Western European Union. In 1994, a German naval task group was the key player in the withdrawal of the German element of the UN forces in Somalia.

The 1994 Federal Constitutional Court ruling on the deployment of the Bundeswehr significantly expanded the scope for political action. There are today no restrictions on the action Germany can take in solidarity with allies, provided that the Bundestag agrees, on a case basis.

Such deployments have been of increasing intensity as well as importance. The German fleet today provides to the North Atlantic Alliance an appropriate, independent, and visible contribution to the conduct of composite naval warfare. The Navy also guarantees Germany's solidarity with other international organizations. Littoral, coastal warfare still forms the centerpiece of German maritime expertise. The Navy offers the German political leadership a range of options for dealing with a large variety of unpredictable risks. It has succeeded in demonstrating to political leaders that it is particularly well suited for crisis management tasks, and hence a powerful and efficient instrument of German foreign and security policy.

The artificial legislative constraints are gone, and we believe that the present high level of political and public acceptance will keep our navy on a steady course into the twenty-first century. As the German minister of defense, Volker Rühe, has put it, "The German Navy is ready, if and when her services should be needed, to support Germany's solidarity and responsibility for maintaining peace in the world."[23] Undoubtedly, reunified Germany has an increased responsibility for peace, stability, and security, and not only in the European periphery. The Navy shoulders a part of that responsibility.

The way forward beyond the year 2000 will not be easy; the financial restraints to be dealt with are strong. The economic and social recovery of the former East Germany is tremendously expensive. However, the outlook is encouraging, because there are clear strategic guidelines, goals, and concepts. From a strategic point of view, a German naval officer has always to be aware of the fact that Germany, sometimes called the new "Berlin Republic," will look further east, and that some neighbors both in the West and in the East will advise Germany to opt for a strong army.[24] Due to its geographical situation—often called the *deutsche Mittellage*, from the fact that the nation is right in the middle—Germany has been historically and is today a continental power, not a sea power in the true sense. But even as a comparatively small service, the German Navy can be self-confident, because it provides substantial contributions to Germany's freedom of action. In terms of size and numbers,

the Navy will get smaller, but it will become a more modern and more efficient service. The Navy is on the right path: as the Chief of Staff of the German Navy has stated, "Today, the Navy is better and more capable than ever before."[25]

Notes

1. Federal Ministry of Defense, *Verteidigungspolitische Richtlinien* (Defense policy guidelines) (Bonn: FMoD Print. Off., 1992), pp. 9–10.

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3. See Jürgen Ehle, "Germany's New Security Policy," *Strategic Review*, Summer 1997, pp. 53–61.

4. Federal Ministry of Defense, "White Paper on the Security of the Federal Republic of Germany and the Situation and future of the Bundeswehr" (Bonn: FMoD Print. Off., 1994), p. 118.

5. Federal Ministry of Defense, "White Paper," p. 85.

6. Harald Freier [Commanding Officer, Marineabschnittskommando Ost (Eastern Naval District Command)], lecture, Rostock, November 1997.

7. Hans-Rudolf Boehmer [Chief of Staff of the German Navy], interview by Heinz Schulte, *Jane's Defence Weekly*, 20 March 1996, p. 40.

8. Inge Dose-Krohn, "Deutschland und die See" [Germany and the sea], *Loyal*, October 1992, pp. 21–2; and Hans-Joachim Mann, "Bedeutung der transatlantischen Seeverbindungwege für Europa" [Importance of the transatlantic sea lines of communication for Europe], *Truppenpraxis*, July–August 1987, pp. 323–8.

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16. Bundesamt für Wehrtechnik und Beschaffung [Federal Office of Defense Technology and Procurement] (BWB), *Military Technology*, special issue 1994, p. 111.

17. Federal Ministry of Defense, "Naval Armaments Planning," unpublished research paper, Naval Staff, Bonn, 1996, pp. 1–10; Hans-Rudolf Boehmer, "Zur Lage der Marine" (The state of the German Navy), presentation to the Defense Committee of the German Bundestag, Bonn, 17 January 1996; and "Planning, Development and Procurement," *Naval Forces*, International Forum for Maritime Power, Special Issue 5/1996, pp. 32–54.

18. William Collins, "Can the German Navy Adopt the Basic Principles of the U.S. Navy Strategy 'Forward . . . From the Sea'?" research paper, Führungsakademie der Bundeswehr [German Armed Forces Command and Staff College], Hamburg, 1996. Collins states that although the German Navy cannot adopt the principles of the U.S. naval strategy, it is able to fulfill its commitments not only to the defense of Germany but also to combined or coalition operations anywhere a crisis develops.

19. Federal Ministry of Defense, "White Paper," p. 97.

20. Federal Ministry of Defense, "Mission, Concept of Operations and Organization," unpublished research paper, Naval Staff, Bonn, 1996, updated 1997; Boehmer; and German Fleet Command, Fleet List of 1986, unpublished paper, Glücksburg, 1 October 1986.

21. Federal Ministry of Defense, Armed Forces Staff VI 3 Bundeswehrplan [Bundeswehr Planning], November 1997 (figures adjusted to account for unexpected deficits in 1996 and 1997).

22. "Crisis Management Operations," *Naval Forces*, p. 19.

23. Volker Rühe, "A New Era," *Military Technology*, p. 4.

24. For the "Berlin Republic," James Kurth, "Germany and the Reemergence of Mitteleuropa," *Current History*, November 1995, p. 384. Today Germany possesses the strongest army of Western and Central Europe. A contributing factor to this is the conscript system, which provides large reserve potentials. In total, the Bundeswehr has the capacity to mobilize a wartime strength of about 700,000 troops. Germany will be sustaining main defense forces that no other country in Europe can provide in such quality and quantity. See Volker Rühe, "The New NATO," lecture, Johns Hopkins School of Advanced International Studies/American Institute for Contemporary German Studies, Washington, D.C., 30 April 1996.

25. Hans-Rudolf Boehmer, "Today, the Navy Is Better and More Capable Than Ever Before," *Naval Forces*, p. 6.

Ψ

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The Union Navy's Blockade Reconsidered

David G. Surdam

THE UNION NAVY'S BLOCKADE during the American Civil War (1861–1865) possesses a blemished reputation, as it did not completely deprive the Confederacy of imports of food, arms, and munitions. Historian Stephen Wise provides a typical summation:

> In terms of basic military necessities, the South imported at least 400,000 rifles, or more than 60 percent of the nation's modern arms. About 3 million pounds of lead came through the blockade, which by [Josiah] Gorgas's estimate amounted to one-third of the Army's requirements. Besides these items, over 2,250,000 pounds of saltpeter, or two-thirds of this vital ingredient for powder, came from overseas. Without blockade running the nation's military would have been without proper supplies of arms, bullets, and powder.[1]

However, the blockade's contributions to the war effort have been largely underestimated. Some of this underestimation arises from the focus on imports, but there were other major effects of the blockade. The antebellum South was the nation's primary export region; exports of cotton constituted the bulk of American exports. The blockade severely reduced exports of staple products and curtailed Southern purchasing power. The blockade also deranged intraregional movement of goods, particularly fodder and meat. Finally, although enough arms and munitions were smuggled through the blockade to equip the Confederate armies, the inability to import bulky rail iron and iron

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plating contributed to the deterioration of Southern railroads and to delays in constructing Confederate ironclads.

The blockade was a long-term form of attrition. The sailors were unable to see many dramatic victories that historians would later call "turning points." Instead, their efforts led to a gradual exhaustion of the Confederacy's ability to sustain its military. While one hesitates to label the blockade a "sufficient condition" for Union victory, one can think of it as a "necessary" one.

The first section of this article describes previous analyses of the blockade; the second examines the data commonly used in assessing the blockade, then develops a more complete analysis. The third and fourth sections describe the antebellum Southern economy, in order to contrast the antebellum trade flows with the wartime flows. The fifth section discusses the blockade's effect upon the Confederate war effort.

Previous Commentators on the Blockade

When we examine opinions regarding the efficacy of the Union navy's blockade, we discover a wide range of opinions. Among the detractors are Richard Beringer et al., Raimondo Luraghi, Frank Owsley, Stephen Wise, and William Still, Jr. Luraghi disputes the primacy of the blockade in defeating the South economically, instead touting the collapse of the Southern rail system as instrumental in the defeat: "The Confederacy was being defeated, and not, as the legend still maintains, because of the blockade. Simplifying the issue, one might surmise that the basic cause of defeat was, rather, the breakdown of the Confederate railway system." Beringer and his colleagues believe that a collapse in morale, triggered by religious guilt, caused the South's defeat and that an "effective" blockade could "not have equaled the task of crippling quickly so large and nearly self-sufficient a country as the Confederacy." Moreover, they do not believe that the Union navy's blockade was effective; indeed, at best they view it as a sieve with holes of varying sizes. In addition, in their view, the Union's failure to knock out or capture a few key Southern ports reduced the effectiveness of the blockade. Further, these authors conclude that even with those ports rendered useless,

> in view of the Confederate ability to improvise, the quantity of consumer goods brought in throughout the war, and the relative Confederate independence of imports in the latter part of the war, it seems unlikely that a more effective blockade would have broken the military stalemate or seriously affected the capabilities of the Confederate armies.

A third critic of the blockade, Frank Owsley, claims that the blockade was easily penetrated and that Southern leaders were therefore largely unconcerned

about its economic effects. In fact, he points to these leaders' self-righteous anger that England was allowing the North to perpetrate a "paper blockade." The most recent and most thorough student of the blockade, Stephen Wise, also criticizes it. He asserts that the blockade was not a key contributor to the Confederate defeat as it did not prevent sufficient munitions and supplies from reaching the Confederacy. Finally, in the pages of this journal William Still, Jr., has concluded that

> it would be an oversimplification to say that [the blockade] was either effective or not effective. It was both. In general, its effectiveness increased as the war progressed. . . . Was it an important fact . . . in the Confederate defeat? In this case, the answer is no. It was not a major factor in the collapse of the Confederacy.[2]

The blockade also has its defenders. Edwin Coddington disputes the alleged ineffectiveness of the blockade:

> Such analyses are unconvincing because they tend to divorce a study of the blockade and its effects from a consideration of Southern wartime economy in its entirety. It is hard to imagine a conquest of the South without the establishment of a blockade, defective as it may have been.

Coddington agrees with Luraghi that the deplorable state of the Southern railroads was a major reason for the Confederate defeat, but he credits the blockade with starving the South of needed replacement rails, locomotives, and rolling stock. He concludes that "even an imperfect blockade was an important element in weakening the Southern economy under the stress of war" and that blockade running could meet only "the immediate, but not the basic requirements of Southern war economy." He also believed that the Union chose to "loosen" the blockade when doing so would serve Northern interests (such as to procure cotton for Northern mills and perhaps to help the British cotton industry).[3]

Bern Anderson, a naval historian, is a more enthusiastic believer in the blockade's effectiveness. He credits it with disrupting the normal channels of trade to an extent that smuggling could never rectify. While he admits that other factors beside the blockade created the chaos in the Southern economy, he still gives it top billing: "Yet it should be recognized that it was the chief instrument for bringing about that condition [Southern economic chaos] directly or indirectly." Anderson claims that "the Confederacy was drained of essential goods to the point that it could not continue the war" and that "the Union Army's major victories did not occur until the South was suffering from shortages imposed by the Union blockade." William Seward, U.S. secretary of state during the war, may have provided the best gauge of the blockade's effectiveness, when he wrote the following to the minister in France, William Dayton:

> The true test of the efficiency of the blockade will be found in its results. Cotton commands a price in Manchester and Rouen, and Lowell, four times greater than in New Orleans. . . . Judged by this test of results, I am satisfied that there was never a more effective blockade.

Stanley Lebergott too has commented on the burgeoning price differential between the price of raw cotton in Southern port cities and in New York: in 1864, cotton sold for six cents per pound at Houston and fifty-six cents in New York.[4]

The Data and a More Complete Analysis

We begin by examining the capture rates of blockade runners. Marcus Price demonstrates that throughout the war the majority, even a vast majority, of recorded attempts to run the blockade were successful (Table 1). However, Price touches upon some facets of these rates that demand caution in their interpretation. Successful operators of blockade runners increasingly had to rely upon steam power instead of sail. By the end of 1862, they used specialized ships; as a result, the supply of ships that could attempt a run became constricted. These new vessels were designed to elude the Federal fleet both by speed and by such characteristics as shallow draft and low silhouette; they also burned expensive "smokeless" coal. Price also points to the uncounted ships that turned back when sighted by Federal patrol vessels and, of course, ships that decided not even to try to smuggle goods. Thus the capture rates are as liable to mislead as to illuminate, and a key argument in the detractors' arsenal becomes suspect.

Moreover, these historians may be asking the wrong questions. The effectiveness of the blockade cannot be measured solely by how many vessels ran through it or how frequently blockade runners succeeded in piercing it. After all, for a high enough price there will always be someone willing to smuggle goods. Indeed, the claim that "a lot" of materiel was brought through the blockade is inconclusive; we can use the same evidence to make the blockade look effective. The fact that 5,389 successful runs (roughly 2,700 round trips) occurred during the blockade seems impressive until we realize that in a typical year at New Orleans alone more than 1,900 vessels entered from the Gulf of Mexico.[5] Clearly, such data does not give an unambiguous picture of the blockade's effectiveness.

Moreover, the volume of imports is an incomplete measure of the blockade's effects upon the Confederacy's imports. The blockade raised the cost of carriage and eroded the Confederacy's ability to purchase war materiel. The shortage of purchasing power has been noted by most commentators; a finding that the blockade was a significant contributor to that loss of purchasing power (because of increased shipping costs) would help redeem its reputation.

Table 1

Number and Percentage of Successful Runs through the Blockade, 1861–1865

Year	Attempts	Successful Attempts	Unsuccessful Attempts	Success Percentage
		Steam Vessels		
1861	1,411	1,407	4	99.7
1862	205	155	50	75.6
1863	545	472	73	86.6
1864	474	401	73	84.6
1865	108	90	18	83.3
Total	2,743	2,525	218	92.5
1862–5	1,332	1,118	214	83.9
		Sailing Vessels		
1861	2,168*	2,058	108	94.9
1862	653	413	240	63.2
1863	458	259	199	56.6
1864	249	121	128	48.6
1865	45	13	32	28.9
Total	3,573*	2,864	707	80.2
1862–5	1,405	806	599	57.4
		All Vessels		
1861	3,579*	3,465	112	96.8
1862	858	568	290	66.2
1863	1,003	731	272	72.9
1864	723	522	201	72.2
1865	153	103	50	67.3
Total	6,316*	5,389	925	85.3
1862–5	2,737	1,924	813	70.4

* Price's figures are off by 2.

Source: Price, 1948, 1951, and 1955.

Factors that increased freight rates included the necessity to use less cargo-efficient vessels; having to burn "smokeless" coal, for at least part of the journey; inability to choose ports freely; longer turnaround times in blockaded ports; and having to put into Caribbean ports to unload cargo and transfer it to blockade runners. The buildup of supplies in the Caribbean harbors awaiting the final run into Southern ports is indirect evidence of increased shipping costs.

If sufficient ships consistently could not be found to ferry the supplies the last several hundred miles, one should wonder why. The blockade raised transportation costs enough to preclude entirely the shipment of many bulky products, especially railroad iron and machinery. Thus although the blockade failed to "starve" the Confederacy of all necessary war materiel, it severely constricted its supply and therefore impeded the Confederacy's war-making ability.

Thus the focus upon imports has been somewhat myopic and misses what may have been the blockade's most important achievement. Although some historians have lauded the blockade for its adverse impact upon the Confederate economy, none has measured the full extent of its deleterious effect upon the exports of Southern staples. Owsley and others have documented the reduction in the physical flow of raw cotton, but they have not estimated the revenue shortfall. The seven hundred thousand bales of cotton that slipped through the blockade to Europe during the war pale beside the antebellum South's normal European shipment of two to three *million* bales per year.[6] Considering that raw cotton was the most important Southern export, this gap is striking.

The war and the blockade also disrupted the internal movement of goods. The naval blockade offers an opportunity to examine the costs imposed by disruption of the internal movement of goods, as well as a region's ability to minimize these costs. In order to address these issues we need to establish what the antebellum trade patterns were and why they developed as they did. An important facet of the antebellum trade was the coastwise trade. In the absence of customs records this traffic is difficult to document; however, it appears to have been significant. Although the war itself would disrupt the normal flow of such trade, the use of Southern coasters to transfer produce from region to region might have spared the railroads excessive use, lowered shipping costs, and allowed resources to be used elsewhere. The blockade made this transportation alternative impossible and thereby imposed a cost upon the Confederacy. Was it significant?

The Movement of Goods in the Antebellum Economy

In the years before the war, Southern ports were leading exporters of domestic produce. Although New York was the largest, New Orleans, Mobile, Charleston, and Savannah ranked second through fifth, respectively. New Orleans handled about 90 percent of the value of New York's domestic exports, while the other three Southern ports easily outranked Boston (the sixth-largest exporter). Richmond and Texas ports were also significant export centers, rivaling Philadelphia in terms of value.[7] New Orleans was the great Southern trade center, dwarfing all the remaining Southern ports; indeed, the value of its domestic exports was more than those of the remaining Southern ports

combined. The antebellum South exported primarily staple products, ranging from raw cotton to naval stores. Raw cotton, of course, dominated the value of exports, but such other staples as tobacco, rice, naval stores, and lumber were at least locally important (Table 2). New Orleans exported almost half of the South's raw cotton, as well as the bulk of foodstuffs and provisions from the Mississippi Valley (including goods from the upper Mississippi). Mobile was a large exporter of cotton, as were Charleston and Savannah. Richmond and New Orleans were the two main Southern exporters of tobacco; New Orleans exported $7.4 million worth of tobacco, while Richmond exported $3.0 million. Richmond's other lucrative export was wheat flour ($1.9 million), while New Orleans had only half a million dollars' worth of flour exports. Charleston handled almost a million dollars' worth of rice exports; Savannah also exported rice. Wilmington's exports were largely naval stores; Charleston had a smaller share of this trade. The Texas ports shipped hides and a growing amount of raw cotton.[8]

Table 2

Value of Domestic Exports from Leading Southern Ports

(Year ending 30 June 1860)

Port	Total Value	Raw Cotton Total Value
New Orleans	$107,812,580	$96,166,118
Mobile	38,670,183	38,533,042
Charleston	21,179,350	19,633,295
Savannah	18,351,554	17,809,127
Texas	5,772,158	5,744,981
Richmond	5,098,720	41,483
Wilmington	650,092	0
Key West	580,165	401,919
Norfolk	479,885	14,783

Source: U.S. Department of the Treasury, 1860, pp. 317 and 350.

Direct Southern imports of foreign goods were relatively small. The region's imports ($30 million) were only one-seventh the value of its exports. However, this ratio understates the Southern importation of foreign goods, many of which initially arrived in Northern ports. Still, an examination of direct Southern imports is illuminating. In terms of value of foreign imports, New Orleans took in over five-sixths of the Southern ports' total value. What wartime officials (and historians) would later characterize as luxuries constituted a significant share of the imports. Coffee accounted for over six million dollars' worth of

imports; surprisingly, no tea imports were listed (New York dominated this import for the United States). Alcoholic beverages and cigars amounted to well over three million dollars. Over $800,000 worth of china and earthen, porcelain, and stone wares were also imported. New Orleans imported $122,000 worth of musical instruments. More practical items included over four million dollars' worth of manufactured cotton and woollen goods. Fruits (green, ripe, or dried) accounted for another third of a million dollars. Molasses imports amounted to over $750,000. The Southern ports directly imported only trivial amounts (fewer than seven thousand pairs) of boots and shoes; however, New Orleans did import $141,000 in tanned and dressed leather skins. Southerners imported large quantities of manufactured iron and steel, the bulk of it railroad iron (almost two million dollars' worth). Tin imports were valued at $460,000. The Southern ports imported no saltpeter prior to the war, and only a handful of guns.[9]

Although the United States was amply endowed with salt deposits, Southerners often found it cheaper to buy salt from British suppliers. The salt arrived as ballast at the Southern ports (where it was removed to make room for return cargoes of raw cotton). An adjutant-general of Alabama stated that the Confederacy required, at a minimum, 300 million pounds of salt per year. Much of this salt was needed to preserve pork, a mainstay in the diet of Southerners. Virginia was the South's leading producer of salt in terms of production and value. However, Virginia's output of two million bushels was not nearly enough to supply the entire Confederacy; Southerners imported 6.5 million bushels of salt in the year ending 30 June 1860.[10]

Northern products and reexports of foreign products were more important sources of supplies for the South. For instance, Boston shipped 182,634 cases of boots and shoes to Southern ports in 1860. Memphis received over sixteen million dollars' worth of manufactured goods during the year 1859–1860.[11] Indeed, some Southerners thought that Northern ports like New York and Boston would in wartime lose not only from the cessation of the raw cotton trade but also from the loss of Southern imports of domestic products and of foreign products sent via the North. *DeBow's Review* summarized this belief:

> The fact must continually be borne in mind that the Middle and New England States can, of themselves, have little or no trade with England and Western Europe, because they are producers of the same articles. New England competes with Old England in the purchase of raw materials and food, and the sales of manufactured articles. There are no trading interests between them. Of the importations that are brought into New York, a large portion goes to the South, which raised the produce with which they were purchased through New York commercial houses. . . . What England receives is Southern produce, direct from the South; but what she sends to the North, that is to say, New York, is on its way to the South.[12]

While the author simplified the situation, Southerners did consume more foreign products than indicated by the import statistics.

What goods did the South receive from the North? The census provides clues as to the likely commodities traded between the North and the South. In most manufacturing categories, the Southern states produced less than 10 percent of the value of the total United States production (see Table 3). The South's production of woollen goods, men's clothing, boots, and shoes were each less than 5 percent of total national output; the region's production of cotton goods and leather was only slightly more than 5 percent. The Southern production of agricultural implements was roughly 6 percent of the nation's

Table 3

Value of Manufacturing Production

	Confederate	Total U.S.
Agricultural Implements	$ 1,018,913	$ 17,597,960
Scythes	$ 0	$ 552,753
Shovels, Spades, Forks, Hoes	$ 0	$ 1,638,876
Boots, Shoes	$ 3,973,313	$ 91,889,298
Cotton Goods	$ 8,072,067	$ 107,337,783
Firearms	$ 72,652	$ 2,362,681
Flour and Meal	$37,996,470	$ 248,580,365
Bar, Sheet, Railroad Iron	$ 2,449,569	$ 31,888,705
Bar (tons)	14,072	227,682
Rail (tons)	12,180	235,107
Boiler Plate (tons)	0	30,895
Car Wheels (Railroad)	$ 0	$ 2,083,350
Locomotive Engines	$ 133,000	$ 4,866,900
Engines (number)	19	470
Machinery, Steam Engines	$ 5,750,650	$ 46,757,486
Pig Iron	$ 953,903	$ 20,870,120
(tons)	36,790	987,559
Men's Clothing	$ 2,573,045	$ 80,830,555
Provisions	$ 145,000	$ 31,986,433
Salt	$ 451,484	$ 2,289,504
Ship and Boatbuilding	$ 772,870	$ 11,667,661
Wagons	$ 1,381,887	$ 8,703,937
Woollen Goods	$ 1,995,324	$ 61,895,217

Source: U.S. Bureau of the Census, *Eighth Census of the United States—Manufacturing*, 1865, pp. clxxviii–clxxxvi, 715–8, and 733–42. (Data from 1860.)

output; indeed, the census did not list any Southern production of shovels, spades, forks, hoes, or scythes, although some such tools may have been produced by blacksmiths on plantations or in the towns. Southern output of wagons and carts was about 16 percent of the national output, while the region's share of ship and boat building was 7 percent. The Southern states built eighty-four of the nation's 1,071 vessels, including forty-five of the 264 steamers, with Virginia, North Carolina, and Louisiana building the most. Southern output of railroad iron (12,180 tons) was about 5 percent of the national figure. All of the railroad car wheels were produced by Northern firms, as were all but nineteen of 470 locomotive engines. The South produced less than 4 percent of the pig iron (36,790 tons). The region also lagged in producing machinery, steam engines, and guns.[13]

The Confederate states did produce more home manufactures (goods produced and used on tbe farm or plantation) than the rest of the country. The Southern states produced about 14 percent by value of the nation's flour and meal; Virginia was the nation's fifth-largest producer of flour and meal; it produced half of the South's value. Virginia was the nation's second-largest producer of salt, but its output was only a twelfth of the nation's.[14] Southern states produced a trivial proportion of the nation's output of provisions (packed meat, lard, butter, potatoes).

Thus, the South needed to import boots and shoes, clothing, heavy manufactures, arms, munitions, and railroad supplies. A railroad official estimated that almost fifty thousand tons of rails were needed annually just to *maintain* the Southern railroads and that existing iron mills in the South were capable of supplying less than half of the fifty thousand tons. Indeed, during the antebellum era Southern railroads had imported the bulk of their railroad iron from Europe; in some years, these imports amounted to sixty-five thousand tons.[15]

However, the South was not entirely bereft of the heavy industry needed to supply its railroads and new navy. The Tredegar Iron Works, near Richmond, Virginia, was a major producer of iron products. The company had experience in producing naval ordnance, but the Confederate states were destined to be short of iron for armor plating and rails.[16] The Confederate secretary of the navy, Stephen Mallory, sent a naval officer to Tennessee and Georgia to see whether rolling mills there could produce the requisite iron plating; this officer reported in late May 1861 that the mills south of Kentucky were unable to roll iron of the desired thickness.[17] In addition, the seceding states could not manufacture the large engines and boilers necessary for ironclad warships. The Confederacy's inability to roll iron plating of sufficient thickness or to produce propulsion machinery would not have been severe drawbacks had the Confederate navy enjoyed easy access to British production.

The antebellum South required considerable intra- and interregional movement of foodstuffs. Large quantities of Northern packed meat were shipped down the Mississippi River to New Orleans for consumption there or for reshipment to river towns and Gulf ports. In addition, New Orleans received over fifty thousand head of cattle per annum from "Western" and Texas sources. Many of the Texas cattle arrived via the Gulf of Mexico; Mobile too received cattle via trans-Gulf shipments. Along the eastern seaboard, Virginia and South Carolina required imports of meat. Both states probably received meat from Tennessee and the Old Northwest (today's upper Midwest) via internal movement (trails, rail, or canals). However, Tennessee's ability to sustain large Confederate armies for extended periods was questionable. The state's holdings of hogs were impressive but easily exhaustible, and those of beef were less large. Richmond may have received up to four thousand tons of bacon annually from Baltimore. The Southern states probably did not receive much meat from the northeast ports of New York, Boston, and Philadelphia; nor did the South receive substantial amounts from foreign producers. In the event of a war and commercial nonintercourse, the South might turn to Texas and, to a lesser degree, Florida and Arkansas: the antebellum trans-Gulf shipments of Texas cattle represented a potential solution to the South's meat supply problem.[18] In addition, in the absence of an effective blockade, foreign and even Northern producers could have alleviated any potential shortages of meat.

As to grain, while the antebellum South's production paled in comparison with the Middle West's, it was adequate for Southern needs. The Mississippi Valley was the main import section of the South; New Orleans retained hundreds of thousands of barrels of Northern-produced flour per annum. If this supply of flour were cut off, the Valley might be forced to increase its own production of grain or attempt to get flour from states in the eastern Confederacy. Virginia was the main wheat-producing state in the Confederacy, and antebellum Virginia growers frequently had exported hundreds of thousands of barrels of flour per annum to northeastern and foreign ports. The Carolinas were more modest exporters of flour and other grains. Still, the eastern Confederacy appears to have been fairly well supplied with grain; there is little evidence that northeastern or foreign ports shipped much grain to South Atlantic ports. Virginia's relatively low production of corn partially offset its wheat production. However, northeastern North Carolina produced significant amounts of corn for export, and Norfolk, Virginia, received almost two million bushels of corn in 1859 from its surrounding vicinity.[19]

Most of the grain shipped along the Atlantic seaboard went by sailing vessels. In addition, much of the wheat received internally at Richmond arrived via river and canal; railroads typically were not the main carriers of foodstuffs. A similar situation occurred in the Mississippi Valley. Loss of water transportation

(whether through blockade or nonintercourse) would force an overreliance upon rail and wagon transportation.

Supplying cavalry, artillery, and transport animals with adequate fodder was potentially a greater problem than supplying humans with food. When an army was on the march its animals might find adequate grazing along the way; however, a stationary force would rapidly deplete available forage and require shipments of bulky foodstuffs. The Confederate states were not large producers of hay, so the region imported it; New Orleans imported twenty-five thousand tons in 1859–1860. Virginia produced the most hay in the Confederacy, but that state itself imported hay from other states. Richmond received over 12,500 tons of hay from coastwise shipments in the three years prior to the Civil War. In addition, Richmond received hay via canal, river, and railroad, although the last was probably a minor carrier for this bulky and not very valuable commodity. Southern livestock probably subsisted more on forage and corn than did Northern livestock. However, the difficulty of collecting adequate amounts of fodder and transporting it by rail might prove insurmountable during a war.

Transportation Facilities

The antebellum Southern transportation system was designed to drain goods toward such ports as New Orleans, Richmond, Norfolk, Charleston, Savannah, and Wilmington. It was not meant to ship them across the South. Indeed, the provincial nature of the system was quite marked.

The antebellum Southern railroads were a fragile foundation upon which to rest the Confederate logistical needs. Many of the Southern railroads were primarily intended to ship cotton to navigable rivers and seaports or to protect local commercial interests. The system suffered from differing gauges, incomplete linkages between lines in major cities, critical gaps in the east-west rail lines, and dependence upon Northern and foreign suppliers. Even if these deficiencies had been remedied, the Southern railroads' ability to meet a significant increase in demand would have been dubious: almost all were single tracked, as the antebellum volume of traffic had not warranted the expense of double trackage. One official reckoned that a double-tracked line could handle up to five times the volume of a single-track railroad.[20]

Jefferson Davis's journey in 1861 to his inauguration as president of the Confederate States of America (at Montgomery, Alabama, then the capital of the Confederacy, less than three hundred miles due east of his plantation at Vicksburg, Mississippi) should have alerted him to the deficiencies of the Southern railroad system. Davis had to turn north at Jackson, Mississippi, because of gaps in the rail lines between there and Montgomery. He traveled to Grand Junction, Tennessee, and then east to Chattanooga. From there he rode

to Atlanta. Finally, he headed back west again to the temporary capital. While Davis was able to mitigate the effects of the long trip by making speeches and appearances along the way, the journey boded ill for Confederate logistics.[21]

The Southern railroads' deficiencies were unlikely to improve during wartime. An effective blockade coupled with the nonintercourse acts* would force Southern railroads to rely upon domestically produced railroad supplies; while the South was capable of supplying modest quantities of locomotives, cars, rails, and supplies, doing so would forfeit the large gains from the comparative advantages of dealing with Northern and foreign producers of such items. Collectively, the deterioration of the Southern railroads, an effective blockade, nonintercourse acts, and the necessary rearrangement of intraregional movements of goods to supply new concentrations of men and animals in armies and in Richmond were to increase dramatically the demands on rail services. Clearly, the Southern railroads would have had to perform extraordinarily well in order to meet the new requirements.

Although Southern railroads have received most of the attention of historians, water transportation loomed large in the Southern economy. For moving bulky goods any considerable distance, water transportation was the most efficient means. Historian Archer Jones has astutely assessed the merits of railroads and river steamers:

> Although the railroads . . . were primitive by modern standards, they enabled armies far from water transport to supply themselves. Yet the slow, short trains, which carried 10 to 15 tons of cargo per car, were less efficient than large river steamers, which could carry 500 tons of cargo. A river could easily carry more steamers than a rail line could trains, a factor counterbalancing the higher speed of locomotives. Sabotage or destruction by raiders could disable railroad tracks far more easily than it could harm steamers in a river.[22]

The Mississippi River was certainly the most important artery in the Southern transportation system, while other rivers and canals conveyed upland produce to ports. Coastwise movement of goods was also important, from Texas cattle shipped across the Gulf to bulky grainstuffs moved along the Atlantic coast.

Animal-drawn transport was another mode of conveying supplies, but one that was feasible for short hauls only. There were a number of difficulties in wartime: a typical military wagon required six mules; bad roads and forage requirements limited the range of wagon hauls. The antebellum South produced only one-fifth the Northern states' output of wagons. Fortunately for the Confederacy, Virginia and Tennessee were two of the largest Southern producers of wagons, but

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* Both the Federal and Confederate governments passed laws prohibiting their citizens from trading with the enemy.

Virginia's per capita holdings of horses and mules were lower than the Southern per capita figure. Of the eleven Confederate states, Texas and Arkansas had the largest per capita number of horses and mules, although Tennessee was fairly well endowed with such animals. However, Tennessee was vulnerable to Northern attack. Had Kentucky and Missouri joined the Confederacy, the supply of draft animals would have heen more bountiful.

The Blockade's Effects upon the Confederate War Effort

Southern revenues from exporting raw cotton, tobacco, rice, and other staple products dropped precipitously during the war. Table 4 shows the diminution of trade at New Orleans: even with the resumption of trade at that port in mid-1862, the port's exports plunged. Mobile and Savannah suffered even greater relative declines in export revenue, as very few blockade runners left those ports during the war. Charleston and Galveston probably had decreased export revenues too. Of the remaining ports, Wilmington, North Carolina, and the Rio Grande towns had greater export revenues during the war, but these fell far short of offsetting the decline in export revenues of other Southern ports.

Table 4

Volume and Value of Receipts Received at New Orleans from the Interior

Year	Cotton	Sugar	Molasses	Tobacco	Value
1856–57	1,573,247	43,463	84,169	58,928	$ 158,061,000
1857–58	1,678,616	202,783	339,343	90,147	167,156,000
1858–59	1,774,298	257,225	353,715	85,133	172,953,000
1859–60	2,255,448	195,185	313,840	95,499	185,211,000
1860–61	1,849,312	174,637	313,260	43,756	155,864,000
1861–62	38,880	225,356	401,404	7,429	51,511,000
1862–63	22,078	85,531	202,616	4,774	29,766,000
1863–64	131,044	75,173	143,460	15,547	79,234,000
1864–65	271,015	9,345	18,725	16,346	111,013,000

Year: 1 September through 31 August
Cotton: in bales
Sugar: in hogsheads
Molasses: in barrels
Tobacco: in hogsheads and bales
Value: value of all receipts received from interior

Note: New Orleans surrendered to Farragut's forces in May 1862; the capture of Vicksburg opened the entire Mississippi River to Union commerce in July 1863.

Source: New Orleans Price Current, "Annual Reports."

Although the informal Confederate-imposed embargo on raw cotton exports initially helped squash export revenues, the blockade was the main impetus for their reduction. Southern planters produced some six million bales of cotton during the war; an actual shortage of cotton to export was not the cause of the diminished exports. Large amounts of raw cotton were stored in Alabama, for instance, until near the war's end; shipping the cotton to blockade-running ports and then through the blockade was so difficult that neither the Confederate government nor planters were able to market much of their cotton.[23] During the war the South exported perhaps 1.5 to 1.9 million bales of raw cotton, much of which was traded across the lines with Yankees. This volume of exports was roughly one-ninth the antebellum volume.

The Southerners would have had to receive nine times the antebellum price per bale of raw cotton for export revenues not to have been adversely affected during the war; unfortunately for the Southerners, real prices of raw cotton only trebled or quadrupled, so export revenues tumbled. A conservative estimate of the revenue shortfall is $500 million during the four years of the war; if, as has been estimated, the real cost of the war to Southerners was $1.1 billion, the revenue shortfall from exports of raw cotton was significant.[24]

The nonintercourse acts and the Northern blockade of the mouth of the Mississippi River and of Mobile wrecked the Valley's economy. Cotton growers in Mississippi, Louisiana, Arkansas, and western Alabama were left with unattractive alternatives for marketing their crop: to ship cotton by wagon and rail to eastern ports; to ship it by river and wagon to Texas ports (or even to the Rio Grande); or to store the cotton on the plantation, subject to deterioration, burning, confiscation, and theft. *DeBow's Review* showed in 1861 that sending raw cotton from Memphis to Norfolk (or other eastern ports) by rail was significantly more expensive than shipping downriver. According to its article, shipping cotton from Memphis to Liverpool via Norfolk would cost roughly twelve dollars per five-hundred-pound bale, while sending it from Memphis to Liverpool via New Orleans cost $8.25 per bale. The author used antebellum rail freight rates, so the disadvantage of shipping by rail across the Confederacy was understated; since the railroads were unlikely to be able to accommodate large increases in shipments, any increased demand for rail services across the Confederacy would surely ignite freight rates.[25] The blockade of Galveston, Texas, caused desperate growers to resort to a two-hundred-mile wagon haul to the Rio Grande, where their cotton faced Mexican duties and dilatory loading aboard cargo ships.

The revenue shortfall contributed to the Confederacy's chronic lack of purchasing power. Purchases of foreign-produced arms, munitions, food, iron plating for warships, machinery, and other war materiel were delayed while the Confederate and state governments scraped together the requisite funding. Of course, such purchasing-power deficiencies were part of a larger failure by the

Confederate government adequately to finance the war; government purchases of domestic produce were also often delayed for lack of funds.

The rising cost of importing goods also contributed to the Confederate government's problem. Although the government imported enough war materiel to keep the troops fighting, the blockade raised the cost of such supplies, through higher shipping costs and through actual losses and captures of vessels conveying the Confederate purchases. The Confederate secretary of the treasury, George Trenholm, described the expense of importing goods via private blockade runners:

> The Collie contract [between a British firm and the Confederate government] alone will furnish supplies to the extent of £200,000, and this amount and all others of like character should be deducted from the estimates. Two steamers under this contract have already arrived. By the terms of this agreement 50 per cent. is to be added to the value of the goods, so that the sum to be allowed for these supplies in reduction of the estimates is in fact £300,000. And as payment is to be made in cotton at 6 pence, it will require 30,000 bales of cotton for this single contract. As 5,000 bales at present prices in England would have yielded £200,000, this unfortunate arrangement entails a positive loss of 25,000 bales of cotton, and places in a conspicuous point of view the necessity that existed for abandoning this mode of obtaining supplies.[26]

Chief of Ordnance Brigadier General Josiah Gorgas, equally frustrated, lamented that "a large proportion of his [purchasing agent's] purchases have fallen into the hands of the enemy."[27]

Despite these disadvantages, imports were the main source of small arms for the Confederacy, as the Southerners were able to manufacture only modest numbers of these weapons. It is estimated that the South imported at least the majority of its total arsenal of shoulder-fired arms. The Confederacy also needed to import nitre, as it had been unable to stockpile enough from British India before the blockade became stringent. Although some nitre seeped through the blockade, the Confederacy was forced to establish a Nitre Bureau in early 1862; the bureau succeeded in providing the South with minimal levels of the chemical, but the cost was very high, perhaps five times as high as the market price in Britain.[28] One list of blockade runners passing through Bermuda reveals the continued need for imported saltpeter and lead. Of the 179 vessels headed into the Confederacy, fifty-two listed saltpeter on their manifests (roughly ten thousand sacks, bags, and barrels), and fifty-nine listed lead (over ten thousand pigs). Iron was also imported (in bundles, plates, and sheets), especially after 1863. Cartridges and ammunition were imported until 1863, but the traffic fell off in 1864.[29]

Since blockade running was so expensive, some Confederate leaders urged Jefferson Davis to promote interbelligerent trading—that is, with the North.

Davis never reconciled himself to the necessity of such trade, unlike some of his secretaries of war. One of them, George Randolph, advised Davis that the Confederate government (but not private citizens) could legally trade with Northerners; indeed, he argued, that such trade was necessary to sustain the Confederate army.[30]

In addition to the increasing difficulty of importing foreign supplies, moving supplies intraregionally proved an insuperable problem, as the blockade also disrupted the movement of foodstuffs within the Confederacy. The Texas cattle shipments across the Gulf of Mexico disappeared almost immediately with the onset of the war. Although some Texas cattle were driven across the Mississippi River, these drives were limited by forage, lack of wranglers, and by Union patrols along the river.[31] The coastwise trade between the Atlantic ports was also disrupted. The Confederacy's supply situation would have been considerably eased if coastwise shipments had been available. Grain produced in North Carolina and Georgia could have been shipped by rail or water to Norfolk, Wilmington, Charleston, Savannah, or other ports and then coastwise and upriver to Richmond, relieving pressure on the railroads into the capital. Also, of course, the South could have more easily imported goods from foreign and Northern producers in the absence of an effective blockade; indeed, Northern packed meat could have been the most convenient source of supply for Lee's troops in Virginia had there been no blockade.

Southern railroads also suffered because of the Northern blockade and nonintercourse. They were inadequate conduits for the mass of war materiel and foodstuffs required to sustain the Confederate armies and the burgeoning population of Richmond (as well as other urban centers). The Confederate government attempted to improve the railroad system by filling in some of the gaps between lines; the Piedmont Railroad was the most important upgrade. These improvements, however, were delayed by shortages of rail iron and other supplies.

The Southern railroads were hard pressed just to maintain themselves; domestic resources were woefully insufficient for improving the existing lines. However, in the absence of an effective blockade, Southern railroads might have easily purchased and shipped the requisite material from Europe (and perhaps even from the North). After all, the Southern railroads had imported most of their rails and other supplies from Europe and the North during the antebellum period. Southern railroads attempted to import railroad iron and supplies through the blockade, but with limited success. With the growing stringency of the Federal blockade, blockade runners naturally preferred to bring in small-volume, high-value commodities, not bulky iron rails and railroad equipment. The railroads decided in January 1862 to press the Confederate government for help in importing supplies, but it declined. Eventually the Confederate War Department assisted some Virginia railroads in

obtaining supplies from England, but such instances were isolated. Some companies used cotton exports as a basis for purchasing supplies to be smuggled through the blockade; however, those efforts netted trivial amounts. As a sop to the railroads, the Confederate government rescinded its duty upon railroad iron and other supplies.[32]

In addition to their physical shortages of equipment, many Southern railroads faced financial difficulties. The initial uncertainty triggered by secession, the imposition of an informal embargo on exports of raw cotton, and eventually the Federal naval blockade combined to disrupt the normal flow of raw cotton to the ports, so receipts from shipping private freight plummeted. Thus many railroads found themselves in financial trouble early in the war, impeding their ability to maintain themselves. The government's policy of paying below-market freight rates exacerbated the railroads' situation.

As the war continued, the Southern railroads' carrying capacity dwindled significantly. Assistant Adjutant-General [of Railroads] William Wadley issued a gloomy report on the condition of Southern railroads in April 1863, estimating freight capacity for thirty-four of the key lines. Fourteen were able to run only one train in each direction per day, or fewer, and none of the lines was able to send more than three trains in each direction per day. The daily tonnage capacity was equally distressing.[33] Unfortunately for the Confederacy, the dwindling carrying capacity of Southern railroads coincided with growing burdens on rail shipment due to wartime and blockade-induced changes in shipping patterns. The loss of Gulf and Atlantic coastal shipping and the interruption of inland traffic on the Mississippi River and Chesapeake Bay compounded the demand for rail service.

The increasing cotton trade at Wilmington reflected a fundamental derangement of the intraregional movement of goods. Antebellum Wilmington had been a minor exporter of raw cotton, typically shipping coastwise fewer than twenty-five thousand bales per year. During the war, exports of raw cotton from Wilmington increased to perhaps seventy thousand bales per year. Railroads carried most of the raw cotton into the port, but the increased cotton shipments tied up a significant proportion of the limited carrying capacity of the Wilmington & Manchester Railroad, which entered Wilmington from the west.[34] Thus, the shipments of raw cotton clogged inbound freight to Wilmington, lessening the ability of the port to forward supplies from the Deep South to the armies in Virginia and North Carolina. Confederate military leaders complained about the diversion of rail traffic from military supplies to raw cotton.[35] Of course, however, without the raw cotton shipments into Wilmington, much-needed military materiel from Europe could not have been obtained. Still, the derangement of the pattern of raw cotton shipments added to the burdens of the Southern railroads.

The Rio Grande cotton trade demonstrates the desperate lengths to which Southerners were driven in seeking outlets for their cotton. Blockade runners had an easier time getting materiel into the Rio Grande area; with Mexican neutrality and international jurisdiction on the other side of the river, Federal blockaders were unable to interdict trade there as effectively as at other ports. While a significant amount of cotton (probably three hundred thousand or more bales) crossed the Rio Grande at Brownsville, Texas, and was then exported out of Matamoras and Bagdad, Mexico, it is doubtful that the Confederacy derived much benefit from the trade.[36] The Confederates had to expend a great deal of effort to transport cotton to the Rio Grande and then move the imported materiel back into the interior, greatly reducing net profits. In addition, the Mexican authorities levied import and export taxes upon the cotton, further reducing its vitality as an economic asset. The loss of oxen and wagons en route to Matamoras was large; the South possessed few wagon manufacturers, so the Texans were often unable to make good their losses of the latter.[37]

There were five additional disadvantages to the Texas cotton trade with Matamoras. First, there was a shortage of rope and bagging to bale the cotton; indeed, rope and bagging were high on the list of goods shipped to Matamoras. Second, Matamoras was ill equipped to handle the volume of trade; because of the shallowness of its harbor, lighters had to be employed. Not many lighters were available, and they could not operate when the tide was low; thus many ocean vessels were forced to wait for cotton, sometimes for months. Third, the long overland haul exhausted the forage en route, and droughts sometimes halted movement. Fourth, the volatile political situation in Mexico occasionally disrupted the trade.[38] Finally, the Confederate officials were on tenuous ground generally: Texas contained a significant number of Unionists and lukewarm secessionists. Government action to impress or regulate the cotton trade was constrained by the possible reaction of the citizenry.

These factors combined to create a huge wedge between the price of raw cotton in Texas and those in Liverpool and New York. In 1864, raw cotton sold for six cents in Texas but almost fifty-six cents (in gold) in New York. One scholar has broken down the difference in price. First, a trader had to obtain an export permit, valued at five cents. The cost of transportation to the Rio Grande accounted for three cents; smuggling expenses (including transferring cargoes in Cuba) amounted to almost fourteen cents; the Mexicans levied taxes in excess of seven cents per pound; the final transportation cost from Cuba to Liverpool was twenty cents.[39] Presumably, shipping from Galveston to Cuba instead of smuggling across the Rio Grande would have avoided the twenty-four cents incurred by transporting raw cotton across the river and paying Mexican duties. We can deduce, then, that people who opted for the Rio Grande faced blockade-running costs (from Galveston) in excess of twenty-four cents per pound.[40]

A final effect of the blockade on the Confederate war effort was that in the process of enforcing it, the Union navy helped stunt the embryonic Confederate navy. By blockading the mouth of the Mississippi River, the Federals forced the New Orleans shipbuilders to bring the iron and machinery they needed from Virginia and the eastern Confederacy by rail. The rickety Southern railroads were inadequate to transport these vital materials. Completion of the CSS *Mississippi* was delayed while a Richmond firm shipped the propeller shaft (recovered from a vessel that had been burned) across the Confederacy to New Orleans, and while railroad iron was collected for the ship's armor; the vessel was not completed in time to contest Farragut's attack on New Orleans and was destroyed to prevent its capture.[41] Since Southern manufacturers lacked sufficient raw material, skilled labor, and in some cases the ability to produce machinery and armor for warships, the strategic necessity for a rapid buildup of ironclad vessels entailed imports from England and France. Indeed, a Confederate naval officer, James Bulloch, advised the secretary of the navy, Stephen Mallory, that instead of concentrating on buying European-built warships and risking violation of neutrality laws, the Confederacy should import the iron plates, rivets, bolts, and other supplies needed to construct the warships in Southern ports.[42] Clearly, the Federal blockade stymied any such possibility; blockade runners were hesitant to ship those bulky and relatively low-value items. Finally, the Federal navy's capture of New Orleans and Memphis as well as the reoccupation of Norfolk eliminated key Confederate shipbuilding centers. The Federal blockade was a form of self-protection for the U.S. Navy: a weak blockade would have eased the Confederacy's difficulties in constructing or obtaining a force to sweep away the blockaders.

* * *

The Union Navy's control of the American waters had three main effects: denying the Confederacy the badly needed purchasing power that exporting its staple products would have generated; raising the costs, and reducing the volume, of imported goods; and deranging intraregional trade. While it would be too much to claim that the Union naval superiority alone tilted the scale against the Confederacy, these factors demonstrate that without its superior naval power the North would have faced much greater and perhaps insuperable difficulties in subduing the South.

Notes

1. Stephen R. Wise, *Lifeline of the Confederacy: Blockade Running during the Civil War* (Columbia: Univ. of South Carolina Press, 1988), p. 226.

2. Raimondo Luraghi, *The Rise and Fall of the Plantation South* (New York: New Viewpoints, 1978), p. 137; Richard E. Beringer, Herman Hattaway, Archer Jones, and William N. Still, Jr., *Why the South Lost the Civil War* (Athens: Univ. of Georgia Press, 1986), pp. 139 and 201; Frank L. Owsley, *King Cotton Diplomacy: Foreign Relations of the Confederate States of America* (Chicago: Univ. of Chicago Press, 1931), p. 290; Wise, pp. 26–7; and William N. Still, Jr., "A Naval Sieve: The Union Blockade in the Civil War," *Naval War College Review*, May–June 1983, p. 44.

3. During the war, Northerners traded crucial quantities of meat, salt, and other goods to Southerners for raw cotton and other staple products. The meat and salt obtained from Northern traders were necessary in sustaining the Army of Northern Virginia near the end of the war, while the Lincoln administration believed that the amounts of cotton obtained helped alleviate the distress caused by the shortage of raw cotton in the North and Europe. The Lincoln and Davis administrations sanctioned some of the interbelligerent trade, but much of it was illegally conducted by private parties. Ludwell Johnson, "Blockade or Trade Monopoly: John A. Dix and the Union Occupation of Norfolk," *Virginia Magazine of History and Biography*, January 1985, pp. 54–78.

4. Edwin B. Coddington, "The Civil War Blockade Reconsidered," in *Essays in History and International Relations in Honor of George Hubbard Blakeslee*, ed. D. L. Lee and G. E. McReynolds (Worcester, Mass.: n.p., 1949), pp. 299, 300, and 304; Bern Anderson, *By Sea and by River: The Naval History of the Civil War* (New York: Alfred A. Knopf, 1962), pp. 232 and 303; Carlton Savage, ed., *Policy of the United States towards Maritime Commerce in War* (Washington, D.C.: U.S. State Dept., Govt. Print. Off. [hereafter GPO], 1934), pp. 440–1; Stanley Lebergott, "Through the Blockade: The Profitability and Extent of Cotton Smuggling, 1861–1865," *Journal of Economic History*, December 1981, p. 896; and Arthur Fremantle, *Three Months in the Southern States* (New York: John Bradburn, 1864), p. 10.

5. Marcus Price, "Ships That Tested the Blockade of the Carolina Ports, 1861–1865," *American Neptune*, July 1948, pp. 196–241; "Ships That Tested the Blockade of the Gulf Ports, 1861–1865," *American Neptune*, October 1951, pp. 262–90; "Ships That Tested the Blockade of the Georgia and East Florida Ports, 1861–1865," *American Neptune*, April 1955, pp. 97–132; and *New Orleans Price Current*, 1859–1861 (first September issues).

6. Lebergott, p. 881, and *Hunt's Merchants' Magazine*, 1858–1861.

7. U.S. Treasury Dept., *Report of the Secretary of the Treasury: Commerce and Navigation, for the Year ending June 30, 1860*, 36th Cong., 2nd Sess., S. Ex. Doc. 8 (Washington, D.C.: GPO, 1861), pp. 350–1.

8. U.S. Treasury Dept., pp. 316–49. Charleston exports are also listed in the *Charleston (South Carolina) Daily Courier* (various annual reports in early September); Savannah and Wilmington exports are from *DeBow's Review*, 1860, vol. 29, pp. 669–70, and 1861, vol. 30, p. 369.

9. U.S. Treasury Dept., pp. 408–517.

10. U.S. War Dept., *Official Records of the War of Rebellion* [hereafter *OR*] (Washington, D.C.: GPO, 1880–1900), ser. IV, vol. 1, p. 1010; Ella Lonn, *Salt as a Factor in the Confederacy* (Tuscaloosa: Univ. of Alabama Press, [1933] 1965), pp. 13–7; U.S. Bureau of the Census, *Eighth Census: Manufacturing* (Washington, D.C.: GPO, 1865), p. cciv; and U.S. Treasury Dept., p. 489.

11. *Hunt's Merchants' Magazine*, 1861, vol. 44, p. 352, and *DeBow's Review*, 1860, vol. 29, p. 667.

12. *DeBow's Review*, 1862, vol. 32, pp. 122–3.

13. U.S. Bureau of the Census, *Preliminary Report on the Eighth Census* (Washington: D.C.: GPO, 1862), p. 107.

14. Ibid., pp. 177 and 188.

15. *OR*, ser. IV, vol. 2, pp. 512–3; U.S. Treasury Dept., p. 461; Angus J. Johnston II, "Virginia Railroads in April, 1861," *Journal of Southern History*, August 1957, p. 317; and Robert C. Black III, *The Railroads of the Confederacy* (Chapel Hill: Univ. of North Carolina Press, 1952), p. 23.

16. For a description of Confederate production of heavy ordnance, see Charles B. Dew, *Ironmaker to the Confederacy: Joseph R. Anderson and the Tredegar Iron Works* (New Haven, Conn.: Yale Univ. Press, 1966), pp. 50 and 277.

17. U.S. Navy Dept., *Official Records of the War of Rebellion: Navy* [hereafter *ORN*] (Washington, D.C.: GPO, 1894–1922), ser. II, vol. 2, pp. 72–3.

18. See David G. Surdam, "The Antebellum Texas Cattle Trade across the Gulf of Mexico," *Southwestern Historical Quarterly*, April 1997, pp. 477–92; and *Richmond (Virginia) Whig*, 7 January 1861.

19. *New Orleans Price Current* (first September issues, 1857–1861); U.S. Bureau of the Census, *Eighth Census: Agriculture* (Washington, D.C.: GPO, 1865); and *DeBow's Review*, 1860, vol. 28, pp. 100–1.

20. *OR*, ser. IV, vol. 1, p. 1094; and Dennis Showalter, *Railroads and Rifles: Soldiers, Technology and the Reunification of Germany* (Hamden, Conn.: Archon Books, 1975), p. 45.

21. William C. Davis, *Jefferson Davis: The Man and His Hour* (New York: HarperCollins, 1991), pp. 304–6.

22. Archer Jones, *Civil War Command and Strategy* (New York: Free Press, 1992), p. 129. Henry Sharpe, a former Union commissary officer, wrote that an "ordinary Ohio River steamer" could carry five hundred tons of supplies, which would supply forty thousand men and eighteen thousand animals for two days. Henry G. Sharpe, "The Art of Supplying Armies in the Field as Exemplified during the Civil War," *Notes on the Supply of an Army*, ed. O. Espanet (Kansas City, Mo.: Hudson-Kimberly, 1899), p. 189.

23. Walter L. Fleming, *Civil War and Reconstruction in Alabama* (New York: Peter Smith, [1905] 1949), pp. 187 and 286.

24. See David G. Surdam, "Northern Naval Superiority and the Economics of the American Civil War," Ph.D. dissertation, Univ. of Chicago, 1994, pp. 14–41; and Claudia Goldin and Frank Lewis, "The Economic Cost of the American Civil War," *Journal of Economic History*, June 1975, pp. 299–326.

25. *DeBow's Review*, 1861, vol. 30, pp. 142–3.

26. *OR*, ser. IV, vol. 3, p. 588; see p. 529 in the same volume for the contract. Of course, Trenholm is ignoring the fact that the Confederate government would face high transportation costs in smuggling its five thousand bales overseas.

27. *OR*, ser. IV, vol. 1, pp. 220 and 343, and vol. 2, p. 227. Allan Nevins suggests that had Northern purchasing been better organized, it might have purchased all of the existing European weapons and contracted for the entire European output for the remainder of the year, thereby hindering the Confederates in getting sufficient weapons. Allan Nevins, *War for the Union* (New York: Charles Scribner's Sons, 1959), vol. 1, p. 351. For Gorgas's lament, see *OR*, ser. IV, vol. 2, p. 227.

28. Alfred Chandler, "DuPont, Dahlgren, and the Civil War Nitre Shortage," *Military Analysis of the Civil War: An Anthology by the Editors of Military Affairs*, American Military Institute (Millwood, N.Y.: KTO Press, 1977), pp. 199–200; *OR*, ser. IV, vol. 2, pp. 299 and 957, and vol. 3, p. 987; and Ralph Donnelly, "Scientists of the Confederate Nitre and Mining Bureau," *Civil War History*, December 1956, pp. 69–92.

29. Frank Vandiver, *Confederate Blockade Running through Bermuda, 1861–1865* (Austin: Univ. of Texas Press, 1947), pt. II.

30. *OR*, ser. IV, vol. 2, p. 151.

31. See Surdam, "Northern Naval Superiority," pp. 139–87.

32. *OR*, ser. IV, vol. 1, pp. 844 and 868; vol. 2, pp. 381, 388–9, 394–5, 409, 842, and 852; and vol. 3, pp. 9–10, 442, 478, 508, and 514. Also, Confederate States of America, "Proceedings of the First Confederate Congress," *Southern Historical Society Papers*, 1925, vol. 7, p. 67. Historians Ramsdell, Diamond, Black, and Johnston characterize the results as "trifling" and "negligible." Charles Ramsdell, "The Confederate Government and the Railroads," *American Historical Review*, July 1917, p. 804; William Diamond, "Imports of the Confederate Government from Europe and Mexico," *Journal of Southern History*, November 1940, p. 487; Black, p. 134; Angus J. Johnston, *Virginia Railroads in the Civil War* (Chapel Hill: Univ. of North Carolina Press, 1961), p. 225.

33. *OR*, ser. IV, vol. 2, pp. 485–6.

34. William Wadley estimated that the freight capacity of the two major railroads leading into Wilmington—the Wilmington & Weldon and the Wilmington & Manchester—was 150 tons of freight per day (*OR*, ser. IV, vol. 2, pp. 486–7). Conveying seventy thousand bales per year would tie up 25 percent of this carrying capacity; however, since the Wilmington & Weldon entered Wilmington from the north, that railroad probably did not carry much of the cotton. Trotter and Wise discuss the overburdened Wilmington railroads. William R. Trotter, *Ironclads and Columbiads: The Civil War in North Carolina: The Coast* (Winston-Salem, N.C.: John F. Blair, 1989), p. 301; and Wise, p. 218.

35. General Joseph Johnston, in particular, complained about the use of freight cars to convey raw cotton to Wilmington. See *OR*, ser. I, vol. 52, pt. II, pp. 585–6 and 593.

36. The materiel obtained in return was quite likely required to sustain the ragtag trans-Mississippi Confederate forces, even though these troops were of minor importance to the war's outcome. It was difficult to ship from Texas across the Mississippi. Since Confederate troops in the trans-Mississippi were chronically short of arms and other supplies, most of the Rio Grande imports were probably retained there, and only a fraction of what entered Matamoras ever helped the main Confederate effort east of the Mississippi. James Irby believes that different Confederate policies might have made better use of the Rio Grande as a supply source for the Confederacy as a whole, but in light of the transportation difficulties, he may be too optimistic. James A. Irby, "Backdoor at Bagdad: The Civil War on the Rio Grande," in *Southwestern Studies*, monograph 53 (El Paso: Texas Western Press, 1977), p. 52.

37. New York merchants were willing to remedy some of the wagon shortage by shipping wagons to Matamoras (*ORN*, ser. I, vol. 20, pp. 741–2).

38. U.S. House of Representatives, *Trade with Rebellious States*, House Report No. 24, 38th Cong., 2nd Sess. (Washington, D.C.: GPO, 1864–1865), pp. 79–80. For international considerations, see Ronnie C. Tyler, "Cotton on the Border," *Southwestern Historical Quarterly*, April 1970, p. 463; Tuffy L. Ellis, "Maritime

Commerce on the Far Western Gulf, 1861–65," *Southwestern Historical Quarterly*, October 1973, pp. 209- 10; and Tom Lea, *The King Ranch* (Boston: Little, Brown, 1957), vol. 1, pp. 195 and 222. The political system in Mexico was a wild card for the policies of both Union and Confederate officials (Irby, p. 44).

39. Lebergott, p. 869.

40. If Secretary of State William Seward had desired an outlet for Southern cotton to relieve European demand for raw cotton, the Rio Grande must have been pleasing, as the trade was not particularly harmful to the Union cause.

41. *ORN*, ser. II, vol. 1, pp. 461, 534 -5, and 605- 6. Dew describes the Tredegar Iron Works' difficulties in getting pig iron from New Orleans in late 1861: the railroads needed months to get the material to Richmond, and the freights were greater than the original cost of the pig iron; in addition, 120 tons were lost in transit (Dew, p. 103).

42. *ORN*, ser. II, vol. 2, 184. Tom Wells believes that Bulloch's idea was feasible and astute, but Raimondo Luraghi disagrees. Tom H. Wells, *The Confederate Navy: A Study in Organization* (Tuscaloosa: Univ. of Alabama Press, 1971), p. 136; and Raimondo Luraghi, *A History of the Confederate Navy* (Annapolis, Md.: Naval Institute Press, 1996), p. 203.

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IN MY VIEW . . .

Chinese Intentions

Sir:

In "Calculating China's Advances in the South China Sea" (*Naval War College Review*, Spring 1998), Lieutenant Michael Studeman provides a refreshingly comprehensive analysis of the nationalistic and economic forces behind China's push into the South China Sea.

His article helps explain why China has laid the groundwork for a military modernization that emphasizes improved naval capabilities, including the purchase of newer submarines and anti-ship cruise missiles. The People's Liberation Army (PLA) also is focusing on ways to achieve "crippling attacks" on an enemy's information systems, and is pursuing anti-satellite, anti-radar, and anti-stealth techniques designed to complicate the United States' ability to operate close to the Asian littoral.

The sea lanes that run through the South China Sea carry one-half trillion dollars of long-haul interregional sea-borne shipments each year. Overall, 25 percent of worldwide merchandise and 56 percent of northern Arabian Gulf oil pass through these sea lanes.

Although the PLA Navy currently lacks the ability to sustain interdiction operations in Southeast Asia's sea lanes, China's strategic penetration of the region and PLA modernization could lead to such a capability in the future. That is why the United States must maintain its military-technological lead over all potential adversaries in the region and a robust forward presence. This means investing in advanced naval surface and especially undersea warfare capabilities

like the New Attack Submarine, along with theater ballistic missile defenses like the Airborne Laser.

Whether you attribute China's advances to a "defensive" strategy as Lieutenant Studeman suggests, or an offensive one, as many of China's neighbors interpret them, a superior U.S. military presence continues to be a critical component of regional stability.

Merrick Carey
Chief Executive Officer
Lexington Institute

"To Bomb Or Not to Bomb"

Sir:

The Spring 1998 issue of the *Naval War College Review* has come to my hand, and I have had the chance to read Dennis Giangreco's review entitled "To Bomb Or Not to Bomb." You should know that this review received wide exposure and was read with much interest by those of us who served in the Air Force in World War II.

This was a masterly take-down of some publications that have been used as tilting forces toward the revisionist point of view vis-à-vis United States military operations in World War II. The shallowness of the revisionist research is fully exposed in the review of the books by Newman, Chappell, and Skates.

A fair number of us did battle with the Smithsonian over the planned exhibit at the Air and Space Museum, which proposed to use the *Enola Gay* as a tool for drawing visitors to an exhibit that was dreadfully flawed in its original concept. We saw the dismal research on which the exhibit originally proposed was based. Mr. Giangreco effectively brings this shallow research to light in his review. It is stimulating to us to see this piece published in such a creditable journal as yours.

William A. Rooney

The African Crisis Response Force

Sir:

I read Captain Derek J. Christian's article (*Naval War College Review*, Summer 1998) on the African Crisis Response Force with interest. Having served in two operations in West Africa in 1996, I understand the need to empower African nations to take charge of crises in the region. I believe African nations will be more receptive to taking ownership of their crises if we train them not only in dealing with armed insurgencies but to take possession of the humanitarian disasters that usually follow. African military personnel need to he

trained in field medicine, preventive medicine, "buddy aid," and primary medical care not only to care for their troops serving on a peacemaking or peacekeeping mission but also to deal with the flux of refugees that overwhelm a neighboring nation.

During a 1996 noncombatant evacuation operation in Liberia, refugees overwhelmed the nation of Sierra Leone. This led our ampbibious forces to establish a field medical treatment facility in Sierra Leone to treat troops as well as deal with refugees. African forces need to have the ability to maintain themselves medically and thereby increase their combat effectiveness in the field. They also need to be able to set up medical tents and treatment units as a focus for starting a refugee processing center. The measure of success for the African peacekeeping force should be based on lives saved and how well they integrate with nongovernmental organizations like the International Red Cross and tbe UN High Commissioner for Refugees. African peacekeepers need to be educated on how to aid victims of suffering without becoming caught in the power struggles of the local despots. An exception to this would be if the UN wished African forces to go into a nation to support an insurgency or democracy.

My vision is of an Africa that is stable, and an African military dedicated to teaching basic literacy and hygiene in rural areas. This would occupy the military in constructive nation building instead of political intrigue and gain. Military operations other than war have brought medical issues to the forefront of contingency planning, both for the care of troops in the field and the victims they have been assigned to protect.

Lt. Youssef H. Aboul-Enein, MSC, USNR
Naval Hospital Great Lakes
Great Lakes, Ill.

The Dardanelles and Littoral Mine Warfare

Sir:

What a relevant, powerful and timely article—Dr. E. Michael Golda's "The Dardanelles Campaign: A Historical Analogy for Littoral Warfare" in the Summer 1998 issue of the *Naval War College Review*. It is definitely a must read for all naval and Marine officers.

"The Dardanelles Campaign" is indeed relevant, because this nation as the superpower of the 21st century is gearing up for littoral warfare "anytime, anywhere." A major part of littoral warfare is mine warfare, particularly mine countermeasures. In fact, our CNO, Admiral Jay Johnson, has made mine warfare a core competency for the entire Navy along with strike warfare and amphibious warfare. In addition, the CNO is leading the Navy's charge for

development of organic mine countermeasures (MCM) wherein battle groups will have integral MCM systems to do MCM in stride, to go "anytime, anywhere" when performing battlespace dominance and power projection.

Dr. Golda's article graphically brings out how relevant and critical mine warfare is to littoral warfare. He offers the British and French naval campaign in the Dardanelles as a powerful example of how strategically great (or bad) the resulting outcome can be—in this case, the subsequent disaster at Gallipoli. He presents this powerful example of the "show stopping" potential of mine warfare because, as he explains, the battles of Mobile Bay and Wonsan—while they involved mine warfare—were not at all "show stoppers" for our Navy. DESERT STORM did call attention to the importance of mine warfare in littoral warfare. However, since the land and air campaigns went so well and so quickly, the fact that the planned naval amphibious landing did not take place has not received the visibility or impact it *should* have had on our nation. And, although USS *Princeton* and *Tripoli* did hit mines, fortunately no lives were lost and, due to heroic damage control efforts, they did not sink.

Dr. Golda's article is extremely timely because it provides the needed powerful and graphic historic event that demonstrates clearly that mine warfare must be a core competency of *all* naval and Marine Corps officers—not just the very few full-time professionals in the Mine Warfare Command at Ingleside, Texas. It is timely because it provides just the dramatic example needed to reinforce the CNO's ongoing "Fleet Integration Strategy" to "mainstream" mine warfare into the core competency of all seagoing sailors and Marines.

Because this article is so relevant, powerful, and timely, it should be read and discussed by the students and faculty this fall at the Surface Warfare School, the Submarine Officers School, the Naval Postgraduate School, and the Naval War College. Dr. Golda's article with all its substance and 21st-century relevance should generate a lot of "food for thought" and an awakening in each reader's mind of how necessary it is to learn and practice mine warfare as a professional sailor or Marine.

As a former Commander Mine Warfare Command who spoke to each graduating class of the Naval War College from 1979 to 1984, I certainly wish I had been able to use Dr. Golda's example of the Dardanelles campaign to get across the fundamental relevance of mine warfare to those "bright eyed" graduating officers!

Charles F. Horne III
Rear Admiral, U.S. Navy, Ret.
Charleston, South Carolina

Inchon and Command Relationships

Sir:

Your reprint of the 1967 Colonel Bob Heinl lecture on Inchon in the Spring 1998 *Review* is timely in view of the increased emphasis on expeditionary and littoral warfare. Heinl credits Inchon's success primarily to fully qualified amphibious and landing forces in being using well-formulated, well-tested, and commonly understood doctrine. But his observations on Navy–Marine Corps command relationships are also worth repeating.

In the Joint Task Force 7 organization (p. 130, Figure 4), the commanders of the attack force (Phib Gru 1—RADM Doyle) and the expeditionary troops (Army X Corps—MGEN Almond) were on the same command level under CJTF 7 (7th Flt—VADM Struble) with the commanders of the carrier, covering, logistic, and patrol forces. However, as Heinl points out, X Corps had no amphibious capability or function, and it would engage only after the battle ceased to be amphibious. "To get around the amphibious impotence of X Corps, jointure of command did not take place until one level lower—that of the attack force under Admiral Doyle and the landing force (Marines) under General Smith." The Tactical Air Command (1st Marine Aircraft Wing) was placed directly under the command of the supported unit.

In Admiral Doyle's lecture to the Naval War College in 1974, he also points out that the command "line from the X Corps directly to the landing force, 1st Marine Division, is not a solid line until after the 1st Marine Division commander has landed and reported to me that he has assumed command ashore." He also mentions that because of the differences in doctrine and control between the Navy and Air Force, CJTF 7 decided that air tasks centered around Inchon would be performed by the Navy and Marine Corps.

But leaving wiring diagrams aside, Doyle reminds that "the Naval Attack Force Commander can only go so far in his plans and then he must have the troop commander because he has to make his plans and they have to fit together." Further, "Now that General Smith, the commander of the 1st Marine Division, and his staff were on hand, the two staffs—his and mine—worked together. I think that's an important point. The members of both staffs spoke the same language. We, of the Navy, knew what we required but we also knew what the landing force required. And this worked both ways."

We read a lot these days about information superiority (which we did not have at Inchon); network-centric warfare; tiered grids for command and control, engagements, and sensors; flat organizations; speed of command; empowering the warfighter; and business models. Information technology may eventually provide *reliable* new tools to improve command and control, share data, assist in the targeting process, and facilitate coordinating engagements.

The fleets and Marine Expeditionary Forces are experimenting. But I doubt that technology will replace the planning and execution process by skilled professionals experienced in their warfare areas that is described above. Whatever Navy–Marine Corps command relationship emerges from the current debate, it must provide for flexibility to organize the professionals at the optimum level and in a relationship best suited to accomplish the expeditionary and amphibious warfare mission at hand. And don't neglect fundamental and tested doctrine for planning and execution, as well as a point of departure for innovation.

James H. Doyle, Jr.
Vice Admiral, U.S. Navy (Ret.)

Ψ

SET AND DRIFT

The Law of the Sea Convention Is Critical to National Interests

Claiborne Pell

THE CAPTAIN OF EVERY U.S. NAVY SHIP operating in the Persian Gulf as part of the forces poised to deal with Iraq has had close at hand the text of an international agreement designed to promote law and order at sea. This agreement is known as the United Nations Convention on the Law of the Sea.

Claiborne Pell graduated cum laude from Princeton University, holds a master's degree from Columbia University, and has received fifty-one honorary doctorates. He joined the U.S. Coast Guard in World War II (retiring in 1978 as a captain, Coast Guard Reserve) and served seven years in the State Department and as a Foreign Service Officer. In 1960, winning the Democratic Party's nomination as the first unendorsed candidate in Rhode Island history ever to win a statewide primary, he was elected to the U.S. Senate by the largest plurality in Rhode Island up to that time. In his thirty-six distinguished years in the Senate he was Chairman of the Committee on Foreign Relations; Chairman of the Subcommittee on Education, Arts, and Humanities; and the Committee on Rules and Administration. He was also a Senate advisor to the U.S. delegation to the UN Conference on the Law of the Sea. He is author of *Power and Policy* (1972) and *Megalopolis Unbound* (1966) and the coauthor of *Challenge of the Seven Seas* (1966). Retiring from the Senate in 1997, he is now the Distinguished Visiting Professor at Salve Regina University, Newport, Rhode Island.

It has become a bible for those mariners who ply the seas and want to be sure of their rights and obligations as they skirt or approach various nations or go through nearby waters, straits, or other check points.

The Law of the Sea Convention is particularly relevant since the United States Navy operates in or near the Persian Gulf. To get there, our ships must pass through the Strait of Hormuz, which separates revolutionary Iran from Oman, a friendly but fiercely independent state. To reach their stations, our ships must navigate through territorial waters.

The Iranians (who were very difficult during the Carter administration and who continue to support terrorists and might well be actively at odds with us again should any major issue develop) regularly deride us for our failure, so far, to become a party to the Convention. (These complaints take a certain amount of brass, since Iran is not a party either.) Oman, which is a party, also complains about our nonmembership.

Becoming party to the Convention would not resolve U.S. differences with Iran, but it would give legal force to the U.S. position on the right of its warships to transit through Iranian and Omani waters without asking or needing permission.

The treaty was concluded in 1982, at the end of a nine-year conference. It is, in essence, a constitution that guides the use of the 70 percent of the world covered by oceans and seas. Unfortunately, the Convention, as concluded, contained provisions related to deep-sea mining that pleased many developing nations—at the price of offending industrialized states—by holding out the prospect that poorer nations could benefit economically from deep-seabed mining under the watchful control of an international authority. Developed nations intensely disliked this outcome, and no industrialized nation was willing to ratify the Convention containing those deep-seabed mining provisions.

Informal discussions to fix the problem began in 1990 under United Nations auspices. With strong efforts by the Bush and Clinton administrations, an agreement was reached in 1994 that restructured the deep-seabed mining provisions along free market principles, guaranteed access by U.S. firms to deep-seabed minerals under reasonable terms and conditions, eliminated production controls and mandatory transfer of technology, scaled back the administrative organization, and gave the United States the power to protect its interests regarding deep-seabed minerals.

With these changes, most industrialized nations now support the Convention and have ratified. A total of 123 nations are now parties, including most of Europe, Mexico, Brazil, Argentina, South Africa, Australia, New Zealand, China, Japan, the Philippines, Indonesia, and India. Notable nonparties include Canada, Turkey, Israel, and the United States. The treaty entered into force in 1994, ratified by sixty nations.

The Clinton administration sent the Convention to the Senate in 1994 for consent to ratification. Earlier this year, Secretary of State Madeleine Albright listed ratification of the Convention as one of her three top treaty priorities. The Department of Defense wants very much to have the treaty in force. The U.S. Navy, the service most affected by this treaty, is also an avid supporter.

U.S. oceans policy was a major interest of mine throughout my thirty-six-year career in the U.S. Senate. In September 1967 I introduced the first in a series of resolutions that related to oceans policy issues. It called for the negotiation of a treaty that would extend the international legal order for the oceans beyond the then-existing international regime. A subsequent resolution laid down specific principles to govern the activities of states in the exploration and exploitation of ocean space.

In addition to presaging the Law of the Sea Convention, these resolutions, and related measures that I introduced, led to the negotiation of the Seabed Arms Control Treaty, which forbids the emplacement of weapons of mass destruction on the seabed floor. This treaty shut down one potential avenue for the U.S.-Soviet arms race, which in the late 1960s and early 1970s was particularly intense. The Seabed Arms Control Treaty was later reaffirmed in the START treaty. When formal negotiations on a new Law of the Sea Convention began in 1973, I participated as a frequent Senate observer. Subsequently, I joined in the effort to devise the 1994 agreement to open the way for a truly broad acceptance of the Convention.

There are many reasons to favor the Convention as amended in 1994. It will be of significant value regarding U.S. fisheries and economic interests. The Convention directly promotes U.S. economic interests in many areas. It provides the following:

- Exclusive rights over marine living resources within the U.S. two-hundred-mile exclusive economic zone
- Exclusive rights over mineral, oil, and gas resources over a wide continental shelf that is recognized internationally
- The right for U.S. communications industries to place cables on the sea floor and continental shelves of other countries without cost
- A much greater certainty with regard to marine scientific research, and a groundbreaking regime for the protection of the marine environment.

In August 1994, in testimony to the Committee on Foreign Relations, Rear Admiral John E. Shkor, chief counsel for the Coast Guard, explained the importance of the Convention in the war on drugs by promoting cooperation in suppressing the narcotics trade in such regions as Southeast Asia. In addition, since special permission is needed to operate within territorial waters, the

Convention's limitation of territorial waters to twelve miles gives the Coast Guard assurance of where it can operate freely.

That we truly value our society and our young people, in particular with regard to the drug war, should be reason itself for ratification.

With regard to U.S. defenses, the navigational rights and freedoms guaranteed by the Convention are of daily value to army, marine, naval, and air forces around the world.

• Innocent passage, which allows continuous and expeditious innocent passage of ships on the surface through territorial waters.

• Transit passage, which allows ships and aircraft to pass through more than 135 straits and archipelagos that otherwise have been legally restricted (since the Convention extends territorial waters to twelve miles). This right means that ships and aircraft may, without prior notification or approval, pass through straits on regular routes in normal modes. This means that submarines may be submerged, naval task forces may be in formation, and aircraft carriers may conduct flight operations. Aircraft may go over these passages unannounced and unchallenged.

This right is crucial. Israel's survival in 1973 depended on the ability of the United States to get aircraft over, and later ships through, the Strait of Gibraltar, when no other route was available. The Strait was needed again in 1986, when the Reagan administration decided to strike Libya after a terrorist attack in Berlin. During the Persian Gulf War, almost all the fuel and cargo transported by the allies to the war zone passed through international straits. According to the Pentagon, Operation DESERT STORM required the transport to U.S. forces and those of allies of 1.4 million tons of dry cargo and 6.6 million tons of fuel—95 percent of it by ships through the straits.

Currently, the right of transit passage is particularly important regarding Iran, and to other nations at other times. Under customary international law (which the United States must rely upon as a nonparty to the Convention), we are permitted innocent-passage rights only for ships on the surface. It does not permit the United States passage rights for submerged submarines or overflight by aircraft. The rights spelled out in the Convention as transit passage can be vital to the United States in crises, in such places as the Persian Gulf. At the very least, they permit U.S. naval forces to conduct normal operations without raising diplomatic issues.

• A third core right is freedom of navigation and overflight within the two-hundred-mile (or more) exclusive economic zone that is allowed coastal states under the treaty. Without this right, passage on a third of the world's oceans and seas, such as the Mediterranean, could be impeded.

These are important rights, and the United States should be quick to join with others to guarantee the treaty. Such rights are regularly challenged, and the Law of the Sea Convention can be a significant protection. Recent challenges include a Malaysian denial of passage through the Malacca Strait because a ship had nuclear cargo; Argentina's attempts to gain international approval of a rule that would allow coastal states to require prior approval for ships with nuclear cargoes to pass within the two-hundred-mile economic zone, and efforts by Japan and China to create illegal restricted zones.

There have been repeated attempts by various nations to forbid flights by foreign aircraft well beyond their recognized territory. In an outrageous instance in 1992, Peruvian fighters intercepted a U.S. aircraft flying over the open seas. It was fired upon; one crew member was killed, and two were injured. An attempt was made to justify the action on a spurious claim of a two-hundred-nautical-mile territorial airspace. With most of the world now accepting the limits set forth in the Convention, consistency in territorial claims is steadily growing, and there is far less chance for needless controversy.

The post–Cold War world is one with many uncertainties and dangers. Our military is taking on new challenges with regularity. The Convention serves the vital purpose of making it unequivocally clear that the availability of key sea and air routes is a matter of international legal right.

I do not doubt that if necessary the U.S. Navy will sail where it needs to go to protect U.S. interests. However, if the United States fails to embrace the Convention, preservation of these rights in peacetime situations will carry an increasingly heavy price. Already, in this time of heavy demand on our people and resources, the United States finds some challenges are not met simply because others are more urgent. By remaining outside the Convention, the United States would have to challenge excessive jurisdictional claims of states not only diplomatically but also through conduct that opposes these claims. A widely ratified Convention that includes the United States would significantly reduce the need for such expensive operations. It would also afford the United States a strong and durable platform of principle to ensure support from the American people and our allies when there is no choice but to confront claims regarded as illegal.

The Convention provides means for settlement of disputes. Moreover, it may even prevent some disputes from happening. For example, in 1994 Canada decided to levy a fee of a thousand dollars on U.S. fishing vessels going from Washington or Oregon to Alaska through the Canadian inland passage. The Canadians collected more than $300,000 from U.S. fishing boat captains. The United States protested, but the Canadians still have the money. Had the United States and Canada been party to the Convention, that levy would have been illegal, and the Canadians, with whom we have good relations in many ways, would have known that and backed away.

The Senate has a busy election-year schedule, but it has already started fresh, informal discussions on the treaty with the departments of State and Defense. Senators and staff will also he sounding out people who were critics of the treaty before it was amended to fix the deep-seabed-mining provisions. I believe these former opponents will find both that their concerns have been met and that there are significant benefits, most particularly for those whose livelihoods involve the sea.

Time is critical. Unless the United States ratifies soon, it will begin losing benefits. If it does not ratify by 16 November 1998, it will no longer be allowed involvement in the International Seabed Authority, which will oversee all future international seabed mining. This is a serious concern for the United States, and it makes no sense for it to be a nonparticipant in that governing authority.

In my conversations about the Convention around Washington I have found that the strongest supporters are the military officers who must put their lives at risk over, on, and under international waters. They understand that this Convention is critically important to U.S. national defenses. We should pay them heed.

At this point in our history, with so many urgencies, it is easy to put the Convention aside and deal with other issues. I hope the president and the Senate leadership can take the small amount of time necessary to study the treaty, recognize its merits, and make the United States a party.

Ψ

From Our Winter 1977 Issue . . .

Remarks

Admiral Arleigh Burke, U.S. Navy, Retired

IT IS NOT VERY OFTEN THAT an old retired sailor has the opportunity to meet old friends, and so it is with special gratitude that I thank [Vice] Admiral [Julian] LeBourgeois [President of the Naval War College, 1974–1977] for his kind invitation to me to attend this assembly of distinguished graduates of the Naval Command College. It is also a great honor for me to be among men who have contributed so much to the security of their own countries.

These are troublesome times in our rapidly changing world. There are many problems confronting all nations. The problems are not only huge, they cover the spectrum of all a nation's activities—both internally and internationally. They are economic, political, and military problems, and the actions taken in one discipline or in one geographic area affect the solutions of the problems in other disciplines and in other areas. Very few problems these days are self-contained. It is a confused world we live in—made more complex by rapid communications and new technical innovations—so it is sometimes necessary for a nation to take action without long deliberation. It is difficult to determine whether the information so quickly transmitted by many different methods is accurate or complete, let alone whether that information is deceptive or has

Admiral Arleigh Burke (1901–1996) was one of the most celebrated U.S. naval combat commanders of the twentieth century, distinguishing himself in World War II first in twenty-two surface actions in the Solomons—where he won his nickname, "Thirty-One Knot Burke." He was Chief of Naval Operations for an unprecedented six years, 1955–1961, a period in which the Polaris ballistic missile submarine program was developed.

Admiral Burke's experience in allied and Nato operations led him in the initial year of his tour as CNO to found the first international program at the Naval War College—the Naval Command Course (now College); it convened in 1956. Admiral Burke, who had retired in 1961, gave these remarks on 13 July 1976 at the dedication of International Plaza (between Spruance, Mahan, and Pringle halls) in commemoration of the twentieth anniversary of the NCC.

been deliberately distorted. Truly the responsibilities resting on the shoulders of naval officers are great. Their actions and advice may have great influence on the futures of their countries—and of the world.

But nations have always had problems, and I suppose each generation believes that its problems are more complex and difficult than those of any preceding generation—and they may be right. But decisions on what to do about these many problems still must be made by men.

Men have vastly different opinions on how to solve these issues. That is natural and good, for societies are composed of many groups with different backgrounds, with different objectives and with different convictions as to what would be best for their society as a whole. Of course, there are always some men and some groups who work very hard to obtain advantages and benefits for themselves at the expense of other groups by either demanding more from their society or producing less to support that society. There are always those who want to exercise control and to force their ideas on everybody else.

This is true within a nation as well as among nations. It is also true within a navy. There are always strongly held but differing opinions as to what kind of navy a country should have to best protect the interests of that country within the resources it can provide. Men have strong convictions about whether the resources available should go to big ships or little ships, about types of ships, weapons systems, and propulsion, to say nothing of the strategy and tactics that are best for the nation.

These strongly held, different convictions are not frivolous conclusions of irresponsible men. Most of those men have spent years of devoted, hard work in their service, and their views are not to he disregarded lightly. Yet decisions must be made, and the best decision is not necessarily a compromise decision. Usually the differing views are based on different ideas of what is expected to happen in the future, and what happens in the future is again dependent on what many other men and other groups try to do, and what means they employ to do it. The future is not wholly imponderable, but neither is it predictable with any certainty.

On what basis should these and other decisions be made? There are two factors that must always be taken into account. The first is the capability of other nations to force their domination or undue influence on another nation. Present capabilities of all nations are generally evident. Possible future capabilities can be estimated by analysis of trends and research effort. It takes a long time, frequently many years, for any nation to develop significantly increased capabilities.

The second factor is intent, which is not so easy to determine. Words in statements and proclamations may reveal intent, but they may be used equally well to deceive. Guesses can be made on what another nation's intent may be, but that exercise is prone to error. There is only one good indicator: what has

been done in the past. The actions that a man has taken in the past bespeak the type of actions he will probably take in the future. But it is wise to remember: history is full of examples where intent has changed overnight. A man, or a nation, cannot rely on another's intent, unless he has proven trust and confidence in that man or nation.

As a man gains experience in the navy, or in any other profession, he learns to rely on other men in whom he has trust and confidence. He learns from his association that certain men have integrity, a high sense of values. He knows that certain men are scrupulous, staunch, and trustworthy. Therefore, they are reliable.

And when a man reaches the end of his active career in his service he finds—as many men before him have found also—that the greatest assets accrued from his lifetime's work are his friends: men who know all about him and still like him; men whom he knows and respects and admires; and above all, men he can trust.

That is the genesis of the Naval Command College.

In 1955, when the heavy responsibilities of the Chief of Naval Operations became my duties, I learned once again what I had already found: one man by himself cannot do much good. Harm he can do with ease—but good, not much. However, many men working together can do tremendous things. The hard work of my brother officers—my friends—proved this to be so. The advice and counsel of many foreign friends in other navies had its place in helping us solve some of our problems. The job was made possible by the staunch support of many men.

But I had found many of my foreign friends late in life, and I regretted that I did not know them years before. Perhaps if we all had had more friends in other navies, events might have taken another turn. I wondered what could be done about that.

Would it really be beneficial to bring together mature, experienced officers from several navies for a period long enough for them to form real friendships with officers of other navies? Would that long period out of the most important part of their careers be helpful to them? Would such duty be beneficial to the nations who sent their best officers? Those questions began to shape themselves into an idea. If the general idea seemed worthwhile, what sort of an organization should be formed? How many people should be involved in any one year? What could be done to improve the officers' knowledge and skills?

In time such general matters were discussed with my friends in other navies, and the response was mainly favorable—provided the groups were not too big and consisted of well-qualified officers. The thought was that the officers should be assembled someplace where they were not subjected to other duties. An advanced school seemed to be indicated. We thought it was worth a try. If it didn't work out well, it could be disbanded easily enough.

So it was determined that a special course would be set up in the Naval War College. Nations would select outstanding officers of the rank of captain or commander, and ideally their wives would accompany them to Newport. Each class would number about twenty to thirty officers. The most important instruction would come from the attending officers themselves through their mutual exchange of views and ideas. The main objective was for the attending officers to know—really know—their brother officers of other navies and to develop trust and confidence in each other.

We knew that the impact on world affairs of such a college would not—could not—be significant. We did not expect great results. It would not solve any major problems.

All it could do, even over many years, would be to produce a group of conscientious officers who knew officers in other navies and who also were favorably known by those officers. Maybe such respected friends might be able to help each other when problems arose in the future. Maybe they could keep in touch with one another in the future and exchange views that would be helpful.

It's easy enough to figure out wonderful concepts of what should be done and even how it should be done, but concepts are only dreams. To turn a concept into reality requires work and initiative and understanding and solid convictions. If this concept was going to work, I had to find an exceptional officer to start it.

Captain Dick Colbert* proved to be just the man who was needed. He was enthusiastic about the idea. He was a hard-working, conscientious, and brilliant man, but those were not the only characteristics we needed. Dick was a quiet man. He had that rare quality of real humility, and so he would dedicate himself wholeheartedly to his task. He was warmhearted and understanding. He liked people. He listened. He was a skillful professional in all naval matters—he was the ideal man for this important responsibility. And so Dick Colbert left his indelible imprint on this Naval Command College. The warm, friendly atmosphere established at the beginning persists to this day.

When Dick Colbert slipped his cable, we—each of us—lost a gallant and true friend.

You, the graduates of this College, were the ones who made this course worthwhile. The nations did send their very best officers. Over the years you have established courses of action and basic principles which have proved to

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* Richard J. Colbert, first Director of the Naval Command College (1956–1958), later President of the Naval War College (1968–1971, as a vice admiral), retired in November 1973 as Commander in Chief, Allied Forces Southern Europe; he died in December of that year.

have value to yourselves, to your successors, and to your countries. You worked, you taught your associates, you exchanged views, and above all, you became friends with one another.

I am deeply grateful to you and to all graduates for what you did here, and for what you are doing now for the security of your own countries.

May you always enjoy your service in your navy—and may you always have fair winds and a calm sea.

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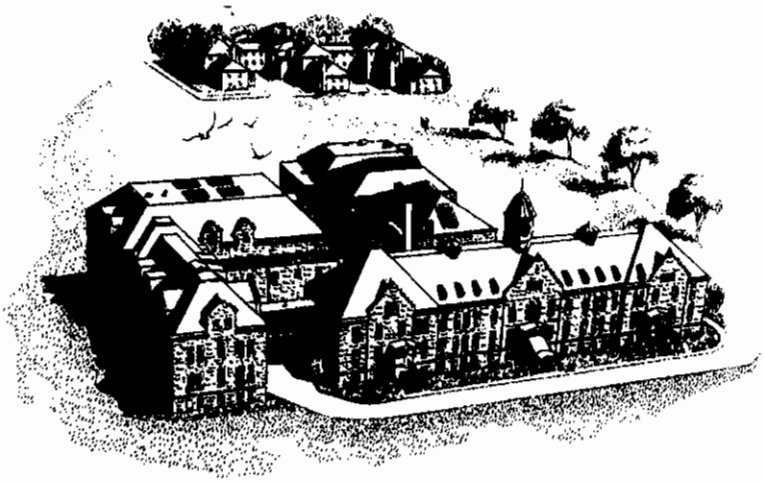

BOOK REVIEWS

"A Vision for the Twenty-First Century"

Malik, J. Mohan, ed. *The Future Battlefield*. Geelong, Victoria, Australia: Deakin Univ. Press, 1997. 288pp. $27.95

HISTORICALLY, MILITARY REFORM DURING PEACETIME has never been an easy task; budget constraints, parochial interests, pressing commitments, organizational inertia, and uncertain forecasts all can stymie efforts to introduce organizational or doctrinal change. This was the challenge the British Army faced during the interwar years, and it is the challenge many defense organizations face today. One clear lesson learned from the British, however, is that senior military leaders must articulate their vision of the nature and character of future warfare. That vision should reflect an appreciation for potential geostrategic environments, an assessment of possible technologies and their impact on military art, and an understanding of the nation's historical and cultural style.

While the value of such a vision is obvious, the mechanism for achieving it is not. In fact, as bluntly suggested in this book, "nobody has established an unbeatable lead in their approach" to this challenge. Within the U.S. defense establishment, several initiatives are currently under way. For example, the Office of Net Assessment under the Secretary of Defense has sponsored a series of war games to examine various aspects of the expected Revolution in Military Affairs (RMA). Another approach (especially familiar to this reader) is a more comprehensive effort called the Army after Next (AAN), sponsored by the U.S. Army Training and Doctrine Command. Through a series of war games and subordinate studies, AAN is exploring the nature of warfare in 2025 and its implications in terms of technology, military art, and organizational behavior.

An Australian effort is carefully documented in Malik's superb anthology, *The Future Battlefield*. It employs a different technique, one that yields an equally rich harvest of ideas about future conflict.

Under the leadership of its Chief of General Staff, Lieutenant General John Sanderson, the Australian Army hosted a conference in May 1996 to capture the collective wisdom of representatives from various academic and defense communities in one compendium that could focus future research and development. The strength of this work is found in the credentials of the conference participants, which included senior leaders from the Australian

Defense Force, the Australian Army, the Royal Australian Air Force, the Royal Australian Navy, and representatives from academia and various government offices. Also attending were senior representatives from several regional and allied nations. Malik's work serves as a repository of the contributions of this extraordinary assembly.

Equally impressive is the spectrum of issues addressed. Sanderson had a clear grasp of the elements necessary to develop a coherent vision of the future, and he carefully chose for discussion topics that would fully investigate each one. The initial set of presentations address the possible geostrategic environments that Australia might confront, and they generate several interesting ideas that are particularly relevant to Western military planners. Paul Dibb's presentation on the potential discontinuities in the Asia-Pacific region suggests some challenging scenarios that warrant further investigation, especially in light of the Asian approach to regional security, a notion he labels the "police balance of power." Malik, who also presented at the conference, offers a scholarly discussion of the emerging Asian-Pacific security environment, from which he derives seventeen key features of future warfare and their implications for future force structures and capabilities. There is remarkable convergence between his ideas and the U.S. insights gained from both the AAN effort and the Office of Net Assessment RMA war games.

Having developed a better understanding of the possible Asian-Pacific geostrategic setting, the book's focus moves on to the future requirements for land forces, including the role of technology, doctrine, and training. Sanderson arranged presentations by Lieutenant General Anderson, then the U.S. Army Deputy Chief of Staff for Operations and Plans (Force Development), who outlined the U.S. Army's approach to the challenges of the future; and by Brigadier Pringle, the Director of Land Warfare, who provided the British perspective. From this section's materials Sanderson attempted to answer the question, "How will the Australian Army do business in the future?" His answer, which is perhaps the foundation for his vision, contains some considerations and concerns that are as applicable to the U.S. Army as they are to the Australian Army.

Two clear cautions emerge. First, military planners should never assume that technological superiority will provide a shield of invincibility. "An adversary, fearful of crushing defeat if attempting to play by the rules preferred by the powerful opponent, will often seek to change the equation." The theme of low-tech but effective counteractions to high-tech capabilities surfaces in this work, just as it emerged in the AAN effort. Second, the approach to the future must be "bifocal." While efforts must be directed at maximizing future force capabilities, military leaders must keep a sharp focus on the readiness of the current force. As U.S. AAN studies also suggest, future forces may be a hybrid of fully modernized forces and others outfitted with "legacy" systems. Both must be ready and able to execute all assigned missions.

The five considerations informing Sanderson's vision are prescient and particularly relevant. First, the values and ethos of the Australian Army are key to its success. Both must be maintained, and the standards that define the culture of the force can and should be raised. Second, there must be an "economy of effort" attempt to enhance jointness, minimize interservice rivalry, and exploit the complementary capabilities of the sister services, as well as the potential contributions of the civilian community. Third, mobility may well be the enabler of an effective future army—mobility that permits maneuver over great distances at great speeds to concentrate forces at the decisive point and time. Fourth, "discrimination and precision" are critical fundamental concepts of a future force. The ability to discriminate between targets and then to attack with great precision will obviously enhance force effectiveness. These same notions may well enable effective and adaptive logistical operations. Finally, alliances will be as vital in the future as they are today; coalition operations will be "the generator of international power."

This book is a work of significance. Well written, interesting, and comprehensive, it chronicles a landmark effort to understand the future and to define a vision that breeds "certainty and confidence" in a world of uncertainty. It is must reading for those who will lead us into the future, even if that future is at best only dimly perceived.

STEPHEN KIRIN
Colonel, U.S. Army

Larsen, Jeffrey A., and Gregory J. Rattray, eds. *Arms Control toward the 21st Century*. Boulder, Colo.: Lynne Rienner, 1996. 348pp. $55

Interest in arms control has risen and fallen in the twentieth century. The idealism that led to a flurry of arms control initiatives after World War I was shattered by the scope and brutality of World War II and the intransigence of the two superpowers early in the Cold War. A more realistic and cautious approach to arms control, which seemed to bear more fruit, emerged in the latter half of the Cold War. It emphasized strategic weapons and viewed arms control as just another tool in the national security toolbox. However, the breakup of the Soviet Union and the perceived diminished threat of global nuclear war resulted in diminished interest in the subject. With the approach of the new century, new security challenges and opportunities have arisen. These, in turn, justify a reexamination of the role of arms control in U.S. national security.

In *Arms Control toward the 21st Century*, Jeffrey Larsen and Gregory Rattray have compiled a diverse and balanced series of essays that

accomplishes such a reexamination. Part One delineates the underlying principles of arms control, beginning with an excellent discussion by Kerry M. Kartchner, "The Objectives of Arms Control"; it also includes articles on the arms control process by Trevor Taylor ("The International Context") and Jennifer Sims ("The U.S. Domestic Context"). Part Two consists of four articles covering the history and continuing impact of Cold War arms control; it includes a thorough review of "Strategic Defensive Arms Control" by Sidney N. Graybeal and Patricia A. McFate. Parts Three and Four focus on current trends: proliferation control regimes, and regional arms control efforts. In Part Three, Jo L. Husbands enumerates the obstacles to successful conventional arms control, in "Preventing the Spread of Arms: Delivery Means and Conventional Weapons"; and Peter R. Lavoy provides a more optimistic, if guarded, picture regarding the prospects for control of nuclear weapons in the South Asian subcontinent, in his essay "Nuclear Arms Control in South Asia."

In Part Five, Larsen draws the book to a close by identifying the key and recurring themes of the collected articles. He concludes that bilateral negotiations, focused on U.S.-Russian strategic balance, are no longer the key component of arms control activity. Nonetheless, the control and dismantling of these strategic weapons will remain salient issues. He contends that the most active and potentially the most productive areas for future arms control will be proliferation-control regimes and efforts to limit regional conflicts. Larsen maintains that further efforts to control weapons proliferation will, unlike the Non-Proliferation Treaty, require significant reciprocal efforts by the major powers rather than just concessions by lesser powers. He also argues that despite increasingly intrusive verification measures now being accepted by the nations, it will be more difficult to confirm compliance for the regimes anticipated in the future. He asserts that the U.S. public no longer feels arms control is necessary for national survival, but that nonetheless the process has become institutionalized and legitimized in the public eye. Finally, he concludes that the formerly discredited concept of disarmament may reappear as an objective of future arms control efforts.

This book provides a balanced and thorough review of the complex topic of arms control. While one may take issue with particular authors, the articles are well researched and well written, and they lead to logical conclusions. One legitimate criticism is that this book, like many in the field of arms control, is somewhat ethnocentric. Other than the section on regional arms control, it clearly looks at arms control from the U.S. perspective. While focus on U.S. national security concerns is understandable, in arms control there is another side (or many other sides) involved. Can one truly understand the arms control process if one does not understand the objectives, concerns, and processes, of the other parties as well?

Despite this omission, this book is worthwhile reading for either the arms control novice or for those with some knowledge of arms control who are

trying to move beyond our Cold War conceptions.

JON A. GREENE
Commander, U.S. Navy

Gartner, Scott Sigmund. *Strategic Assessment in War.* New Haven, Conn.: Yale Univ. Press, 1997. 177pp. $32.50

One of the most vital yet difficult tasks a wartime commander must perform is strategic assessment. Are his actions working? Is he winning? Scott Sigmund Gartner, a political scientist at the University of California, approaches this problem from an interesting angle. He argues that during peacetime, military organizations devise certain quantitative measures of merit that will be used to assess the effectiveness of a given strategy. Once war breaks out, the strategy will be continuously evaluated against these criteria and adjusted as necessary. This is not a remarkable finding. However, Gartner then hypothesizes that the key measures of merit—what he calls the "dominant indicators"—will be watched most closely for the rate at which they change. In other words, if things are going badly, a commander or an organization will not necessarily change strategy unless the situation seems to be getting worse at an accelerating rate. Until that time, a commander will tend to muddle through. This is an important insight. In addition, organizations generally do not change their dominant indicators, partly because it would appear self-serving. As a result, even if a military organization chooses the wrong criteria for measuring its effectiveness, it is more likely to stick with them rather than change its strategy. Finally, Gartner notes that these dominant indicators may vary between organizations within the same country. This is crucial, because it means that two or more organizations can view the same situation, examine the same data, and arrive at totally different conclusions regarding the success of a war strategy—because they are using different measures of effectiveness. Gartner tests his hypothesis in several case studies: the submarine campaigns of World Wars I and II, the ground campaign in Vietnam, and the failed hostage rescue attempt in Iran in April 1980.

For the first three years of World War I, the Royal Navy eschewed the use of convoys to protect merchant shipping from German submarines. Despite heavy losses, and despite pressure from the British government, the Admiralty refused to change its strategy from one of offensive patrols. Even as shipping losses continued to mount and the government of David Lloyd George called ever more loudly for change, the admirals continued to resist until April 1917, the worst month of the war. At that point, so conventional wisdom goes, the tonnage sunk by German submarines was so great that even the mossbacks of the Admiralty were forced to recognize the need for change and finally ordered the use of convoys. Gartner, however, sees a different story.

The Royal Navy's chief measure of effectiveness was not the tonnage lost to enemy submarines (the criterion used by the government) but the number of German submarines

destroyed. The admirals believed that aggressive patrols by the surface fleet had the best chance to destroy German submarines—ideally at a faster rate than new ones could be built—and that this in turn would ensure the safety of the merchant fleet. Significantly, while allied merchant shipping was being sunk at a steady and increasing rate throughout late 1916 and early 1917, the number of enemy submarines destroyed was also rising. In short, the Royal Navy did not see a problem, while the government most certainly did. This is an excellent example of two organizations within the same country using different measures of effectiveness. What changed in April 1917? The tonnage of merchant ships being sunk dramatically increased at a record rate—prompting the government finally to *demand* a revised strategy—while at the same time the number of enemy submarines destroyed notably decreased. Thus the dominant indicators for *both* the government and the Admiralty deteriorated at such a rate that both organizations were finally ready for change. Moreover, when the use of convoys began, not only did the tonnage losses drop dramatically but the Navy discovered that convoys were actually more effective in destroying enemy submarines. Everyone was happy. The strategy altered, and the dominant indicators stabilized.

Gartner's other case studies are equally intriguing. Social science methodology can often produce mind-numbing models, statistical quagmires, and impenetrable jargon, but mercifully that is not the case here. This work is readable, clear, and concise. Strategic assessment in war is vital because it can directly affect strategy and policy, which in turn can directly affect the outcome. This is a fascinating and important book that deserves a close reading by all military strategists.

PHILIP S. MEILINGER
Colonel, U.S. Air Force

Haass, Richard N. *The Reluctant Sheriff: The United States after the Cold War.* New York: Council on Foreign Relations, 1997. 148pp. $24.95

Richard Haass continues with this book to advance clear thinking about and cogent analysis of U.S. foreign policy. His strong and authoritative prose has helped an entire generation to understand the Cold War and the end of the Cold War. In *The Reluctant Sheriff*, Haass first reviews U.S. foreign policy during the Cold War and then discusses the problematic and challenging nature of contemporary world affairs. He then takes the discussion from the problem stage to a suggested solution—a doctrine of "regulation."

The book's title does not sufficiently reflect the depth of Haass's thinking or the width of his prescriptions. Where *The Reluctant Sheriff* is both creative and provocative, the subtitle does not alert the unsuspecting reader to his proposal for a new theoretical framework, complete with appropriate conceptual development and policy implications.

In the first chapters, the reader's attention is directed to the doctrine of containment, which provides intellectual structure and framework for policy during the period of the Cold

War. Haass emphasizes that it was a highly regulated world then, with a comfortable level of orderliness resulting from a remarkable degree of international consensus on the primacy of the general and global good over the particular and local.

The post–Cold War world (a phrase which the author remarks is redolent "of where people know they have been, not where they are now, much less where they are heading") is one of deregulation. It is an era of competing visions, simultaneous integration and fragmentation, uneven change, and instability. Haass identifies three problematic trends: (1) loosening of international relations, with new centers of decision making, corresponding diffusion of power, and absence of universally accepted norms; (2) weakening of the nation-state; and (3) the widespread appeal of democratic and market-oriented models. He concludes that while there are both positive and negative aspects to this period of deregulation, the post–Cold War era is not likely to be stable, due to a lack of regularized behavior. He advocates a new set of norms predicated on the assumption that parties "subscribe to a set of norms [because] they realize they are better off if they do, or because reluctant members of the international community are forced to go along." He contends that the United States should take on this role, because other regulators are unavailable (leadership by default); he offers the supporting argument that a policy of regulation would be the most effective way to support and enhance U.S. interests.

Haass argues that the suggested alternative doctrines of hegemony, isolationism, Wilsonianism, economism, humanitarianism, and realism are based on fallacious or overly idealistic assumptions that inevitably lead to failed policy. The doctrine of "regulation" is based on the assumption that order is a prerequisite for and integral to the peaceful development of other economic and political goals. Regulation would help establish norms of regular interaction, set the parameters of acceptable behavior, establish procedures for handling disputes, and offer a final resort when individual actors do not comply with internationally established rules. Whether he proposes this as an end state or a transition to another doctrine is unclear. What is suggested may simply he a set of ideas that would ensure a modicum of order while a new consensus is being built.

To enact the policy of regulation, the author suggests, the United States should take the leadership role of "sheriff," with other countries volunteering to be the posse—informal coalitions based on the nature of a given problem, not simply as a consequence of former alliance structures or membership in international organizations. The tools of a policy of "regulation" are those familiar to students of international relations, such as defense, intelligence, foreign assistance, and diplomacy. These tools are to be used separately and in an integrated fashion in support of policy goals—which are definable and doable, for which the benefits outweigh the costs, and in which the ratio of benefits to costs outweighs that of other policy tools. They should he used in concert with other states whenever possible.

The goals and implied benefits of a policy of regulation are myriad: suppression of difficult actors; defense of U.S. territory against terrorism; support of preventive diplomacy, nation building and economic interests; control of illegal immigrations; support of allies, and so on. Haass concludes with three practical suggestions as to how the United States can bridge the gap between the demands of regulating a deregulated world and those of a society reluctant to play the role of sheriff, to prioritize, develop leadership and related alliances, or retain the means for policy effectiveness.

Haass's use of the metaphor of the United States as world "sheriff" is intellectually provocative. It brings to mind old western films with such characters as the self-effacing Jimmy Stewart as leader of a citizen group forced to take action against the bad guys, strapping on the guns only when forced to by the actions of the villains against the innocent (usually a feisty but helpless woman). Leading a group of concerned citizens, the sheriff, riding a big white stallion and clear in his purpose, makes law and enforces rough justice.

The picture had a certain appeal, but the reality was rather grim. The need for a hero-sheriff reflected a lack of systematic government, resulting in vigilantism, extra-judicial hangings, and a world in which rough justice predominated. Authority was uncertain, and law was referred to only in support of final actions. Due process was subsumed by expediency. (Perhaps Richard Haass did not intend for the metaphor to be taken to this length? Intentionally or not, the title inspires more than its share of creative thinking.) So, taking the metaphor further, the roles of sheriff and posse disappeared, because rough justice had to be replaced by a regularized system of justice that supported the values, principles, and processes of a democracy. Officers of the law, sworn to serve and protect but with clear limits to their authority, replaced sheriffs and citizen posses.

The analogy is clear. When the world is in a frontier stage there may be a perceived need for a sheriff and posse, but they will eventually be replaced by a system of law and order. Herein lies the dilemma. A sheriff-and-posse system is not the norm, nor is it legally based. There is no set of organizing principles, no "elected" center of decision making, and no enforcement mechanism based on a legal authority. The rule is expediency and self-interest. Is the call for a sheriff-posse system of international regulation consistent with a call for a more normative international order?

"So many ideas and so few pages"—one of the problems of this book is that it so engages the mind that many other questions arise which should be addressed. For example, Haass (never one to shy away from controversy) suggests that the budgets of the Department of Defense, Department of State, and the intelligence community be maintained at current levels, but he makes no suggestion as to how this policy amalgam of regulation might dictate internal changes in the role and structures of those organizations.

Another issue may be one of communication. How do other people and their governments feel about the United States taking on the role of "sheriff"? Haass suggests the United

States act as sheriff by encouraging, supporting, and enforcing new orderly relationships between international actors. The authority for doing so is not just hegemony but "acknowledged leadership." This linguistic distinction may or may not make sense to the rest of the world. Will this be perceived as cultural arrogance? Hegemony with a white hat? Raw power? Impotence? More importantly, will those perceptions and interpretations limit the possibility of forging coalitions?

The Fall 1997 edition of *Foreign Affairs* contains the thinking of a number of authors who see U.S. foreign policy as at a "breakpoint" in history. According to them, the United States during the Cold War produced a clear and reflective foreign policy, because it understood the "enemy" and its own interests and capability. The framework of analysis and concepts, and the resulting policy, were integrated. Haass is one of the clearest spokesmen for this model. As with many authors writing from experience gained during the Cold War and from "inside the Beltway," Haass takes as his reference point the past fifty years rather than the whole evolution of U.S. foreign policy.

The author, though often identified as a "realist," is remarkably idealistic, perhaps justifiably so. He appears to assume (or perhaps only hope) that the motivations for U.S. foreign policy will be consistently good and that the pursuit of U.S. national interests will seldom, if ever, be antagonistic to the support of justice, equality, law, or the freedom of others. Perhaps the last few pages, in which he calls for domestic support of foreign policy goals, reflects his faith that democratic principles and practices may constrain foreign policy directions antagonistic to those ideals in the international arena. This book is an excellent illustration of idealistic objectives pursued in a realist manner.

This is one of many recent publications that have tapped the intellectual resources and carefully honed skills of a foreign policy guru to interpret contemporary foreign affairs, predict the future, and suggest appropriate U.S. foreign policy.

PAULETTA OTIS
Visiting Scholar
National Security Education Board

Turner, Stansfield. *Caging the Nuclear Genie: An American Challenge for Global Security*. Boulder, Colo.: Westview, 1997. 163pp. $21

One might not think that 163 pages would be enough to address adequately an issue as weighty as nuclear weapons. However, Admiral Stansfield Turner manages to pack quite a potent message in this relatively short book. Using layman's language, he systematically lays out the problems posed by nuclear weapons, then proposes a thoughtful and pragmatic plan to lessen them. He draws heavily from his extensive professional contacts—a virtual "who's who" of scholars, scientists, politicians, military leaders, and world-renowned nuclear experts—and combines their information with his own personal experience in order to tell his story from an "insider's" point of view. The result is a readable, well researched,

personal, and thought-provoking book.

Turner begins by explaining the extensiveness of the nuclear problem, admitting his own naiveté about nuclear weapons when he was a task group commander. The reader shares Turner's incredulity when he discovers that nuclear weapons under his command are targeted against a railroad bridge in Bulgaria, a structure too small to be visible in intelligence photos. He then discovers the unmanageable vastness of the million-page Single Integrated Operational Plan (SIOP), and he tries to sort out the arcane logic behind U.S. nuclear weapons policy. Turner methodically explains why the United States and Russia have far too many nuclear weapons. Succinctly said, military planners were not able to break away from the "more is better" logic of conventional warfare. Therefore, the arms race caused the United States and the Soviet Union to try to match each other weapon for weapon.

The author points to several reasons why this thinking is fallacious. (1) Numbers and types of weapons alone do not equate to lethality. Consideration must be given to the effectiveness of targeting and of launch vehicles and systems. (2) In an actual wartime situation one's weapons should be targeted against the enemy's center of gravity, not weapon against weapon. The numbers of weapons required to push an enemy effectively past the "point of nonrecovery" is far fewer than the total number of weapons in the opponent's arsenal. (3) No consideration is given to chaos and complexity theory, which says that as one factor goes wrong in a complex chain of related events, it distorts other factors. The end result is greater chaos than would appear warranted by the original event. The lasting impact of multiple nuclear detonations upon an economy and a society would be far greater than the sum of the effects of individual blasts. (4) No consideration is given to the "point of self-deterrence," that is, whether or not the damage received by the offending country in retaliation would be acceptable. The author believes no foreign political objective exists today that would cause the United States to use nuclear weapons and accept the risk of receiving even one missile in retaliation.

Turner carefully makes a strong, careful case for drastically reducing the numbers of nuclear weapons held by both the United States and Russia. He calculates that the number of weapons required to push an opponent past the point of nonrecovery is approximately 250. Holding, maintaining, accounting, and paying for weapons in excess of that number, he argues, makes little sense.

In the second half of the book Turner explains why arms control negotiations are so painfully slow and ineffective. Even if we were successful in reducing the number of weapons to between 2,000–2,500 by the year 2010, as proposed by presidents Clinton and Yeltsin, that would still leave both sides with almost ten times the necessary number of weapons, and it would take more than a decade to accomplish the task. Turner states that the ultimate goal of the United States ought to be the total elimination of nuclear weapons, but he admits that no one knows how that can be accomplished. He does, however, present a reasonable and viable

alternative that in the meantime may drastically reduce the threat of nuclear weapons, through a three-part program.

Strategic Escrow. This involves removing a number of warheads from operational strategic launchers and placing them in designated storage areas some distance away. Observers from the Russian Federation would be invited to each storage location to monitor the inventory and warhead movement. Turner believes that the Russians would follow our lead and reciprocate with a similar program, just as President Gorbachev followed President Bush's lead in 1991 when he withdrew almost all of our tactical nuclear weapons from forward land bases and from all naval ships.

A Treaty for "No First-Use" of Nuclear Weapons. The United States would pledge not to conduct a first strike and would promise unilateral sanctions as well as possible military action in the event of nuclear aggression. Also, it would negotiate international adherence to a formal no-first-use treaty.

Development of Strategic Defense Systems. The nation would continue to invest in the development of defensive systems in the event of a preemptive attack, a terrorist attack, or an accidental launch.

Implementation of this three-part program would not only provide the immediate and obvious benefits inherent in reducing the number of available weapons but also allow the United States a much closer look at the safety and accountability procedures of the Russian Federation.

Turner points out that the United States currently is in a truly favorable position to make preemptive moves toward nuclear reductions and eventual disarmament. It can be done by embracing revolutionary, vice evolutionary, thinking. Part of the U.S. difficulty in breaking away from conventional thinking is in its assumption of an inevitably adversarial relationship with Russia. Why is this so? History has proven that former enemies can become strong allies (e.g., Great Britain, Germany, and Japan). In addition to immediate implementation of his three-part plan, Turner also calls for more public involvement in nuclear weapons policies. He points out that citizens need to understand the risks of nuclear war, since it is impossible to use nuclear weapons for strictly military purposes—that is, without political implications.

Throughout this work, Turner does a good job of presenting his own ideas, but he plays devil's advocate when approaching possible obstacles, questions, and opposition to those same ideas. This is an important work that addresses what is arguably the largest global problem not only of our time but for the future. Turner has done a remarkable job of presenting the seriousness of the problem in terms that are understandable to everyone. He proposes a rational, well thought out, and pragmatic plan. Every concerned citizen should read this book.

LEAH D. JOHNSON
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Johnson, Stuart E., and Martin C. Libicki, eds. *Dominant Battlespace Knowledge: The Winning Edge.* Washington, D.C.: National Defense Univ., 1995. 149pp. (no price given)

This anthology provides a useful description of dominant battlespace knowledge

(DBK) and opens a discussion about its implications for future warfare. Designed to give the reader an overview of DBK, this short volume makes a timely appearance, as the U.S. Navy focuses on shifting from a platform-centric to a network-centric philosophy of warfare. The contributors to this book are all experts in the field and have written extensively about command and control–related issues.

In the book's introduction, Admiral William Owens restates his compelling observation that technological advances in sensors, computers, and communications are the foundation for a revolution in military affairs (RMA) which will allow all commanders involved in future military operations to have access (in near real time) to a correlated view of their potential battlespace, which is essential for the effective employment of precision guided weapons. By achieving DBK, Owens observes, commanders "will increasingly assign the right mission to the right force, matching our forces to the most successful course of action at both the tactical and operational levels of warfare."

Stuart Johnson's essay, "DBK: Opportunity and Challenges," notes that DBK offers the United States the opportunity to increase the effectiveness of its military forces at relatively low cost. However, he contends, choices must be made today if the United States is to maintain its lead in applying relevant technologies. The decision to make the transition to DBK is important, according to Johnson, because it is a new concept of warfighting that makes affordable a sufficient (though reduced) force structure for dealing with multiple contingencies. It also enables the targeting of precision weapons to counter the asymmetric threat of weapons of mass destruction, and it decreases the response time to indications of aggressions.

In the essay "DBK and Its Consequences," Martin Libicki puts into context the issues associated with improving battlespace awareness. He notes that DBK is shaped by how visibility is sought: comparing what we are able to see with what our adversary can see. Perhaps most importantly, Libicki points out that DBK is not a static metric but a relative calculus that varies by target, resources brought to bear, and an opponent's ability to influence what is observed.

Paul Bracken concludes in his "Significance of Dominant Battlefield Awareness" that DBK offers decision makers the ability to shift their focus and warfighting assets in a timely manner from one regional contingency to another (e.g., Southwest Asia to Northeast Asia). He also warns that DBK will flatten warfighting organizational hierarchies and change the planner's role to that of a resource assembler (instead of a resource allocator). He notes that DBK also affects how information will be used in future warfare, because key information is as likely to come from the field as from a commander in chief's headquarters.

"The Future of Command and Control with DBK," by David Alberts, takes the view that DBK can dramatically change command and control (C2) for the better if the linkage can be broken between the chain of command and the flow of information. Alberts tells us it will require a C2 architecture that emphasizes communication connectivity,

processing power, and smart tools to take full advantage of the information DBK will give commanders. In such an environment, he believes, computers will correlate and fuse disparate data, freeing commanders to pay more attention to choosing the best course of action for the situation at hand.

Carrying on this theme is Jeffrey Cooper's "Dominant Battlespace Awareness and Future Warfare," in which he argues that DBK, by bringing the right forces to bear at the right time in the right place, heralds the return of warfare to the Clausewitzian concept of decisive victory, in place of the more recent strategy of winning through linear battles of attrition. With the entire picture available through DBK, a commander will be able to maneuver his own forces inside the decision-cycle time of the adversary, which will increase for the adversary both the fog of war and its accompanying friction, thus lengthening that decision-cycle time. Cooper, however, notes the DBK is vulnerable to information warfare strategies that interrupt connectivity or inject information overload into a commander's command, control, computers, intelligence, surveillance, and reconnaissance loop.

In "DBK with Autonomous Weapons," Michael Sovereign makes the point that DBK alone is meaningless unless it can direct the next generation of autonomous weapons. An "autonomous weapon" is one that can be launched with less-than-precise targeting information because it is capable of selecting its own aimpoints based on its own view of the battlefield and its instructions. According to Sovereign, DBK is essential to determining which weapon and which launch platform should be tasked to achieve the commander's desired results.

"Just-in-Time Warfare," by James Hazlett, the final essay, describes a new philosophy of warfare that DBK makes possible. With DBK, massed forces are no longer required to achieve concentrated firepower. Moreover, because both sides enjoy greater battlefield awareness, future confrontations are likely to be meeting engagements, with both sides on the offensive and with victory going to the force most agile at shifting between offense and defense at the correct time. This need for agility, he believes, will push the services toward greater jointness, with DBK providing an increased horizontal integration among the services that will increase their warfighting capabilities.

Despite an understandable amount of overlap between the essays, this text does outline the advantages that the warfighter can expect using DBK, and it argues that investments should be made now to ensure the United States is the first to achieve it. Unfortunately, none of the authors discusses in detail what he expects the cost to be or how to measure DBK's effectiveness. Nonetheless, all the contributors appear to hold the belief that DBK's impact will be positive and that technology will make it both inevitable and affordable. There is also common agreement among the authors that DBK will change the nature of warfare, by allowing a concentration of firepower without a concentration of force and by ensuring that all involved in military operations have the same, complete picture.

In addition to cost and utility, there also should have been more discussion about who should make what decisions in the horizontal C2 environment that DBK will create. For example, can a Marine battalion commander ashore call for Navy-launched cruise missile strikes against a command and control node that is directing an enemy force approaching his position from beyond the range of his organic sensors and weapons? If he cannot, does he really need DBK? If he can, how will targets and weapons be prioritized? (It will presumably not be by who requests them first.) When achieved, DBK will encourage more decentralized control of weapons increasingly lethal due to their precision, which will stress the hierarchical structure of the military and raise new questions about who controls what forces in such an environment. Also, in every essay there is an underlying assumption that DBK is to be discussed only in terms of maneuver warfare in an overseas arena, as opposed to asymmetric threats of terrorism by information warfare attacks against the Americans inside the continental United States. While the case presented for the advantages of DBK is compelling, it is one premised on extrapolation from current capabilities, and it is made through intuitive, anecdotal accounts.

Clearly Johnson and Libicki did not intend this book to be a reference for defense planners but an introduction to a general audience about an emerging concept of warfare. As an introduction to the issues this work succeeds, because it is nontechnical and relatively short. That makes it easy for the uninitiated to assimilate and develop an interest in DBK and better understand how it should be used.

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Huchthausen, Peter, and Nguyen Thi Lung. *Echoes of the Mekong*. Baltimore, Md.: Nautical & Aviation Publishing Company of America, 1996. 165pp. $24.95

This slender but handsome volume is remarkable for its dual recollections of the Vietnam War on the part of a Vietnamese woman and an American naval veteran.

The two had originally been thrown together in 1967 on the Mekong River, near My Tho. Lieutenant Peter Huchthausen's patrol boat had rescued Nguyen Thi Lung when her leg was blown off by the irresponsible test-fire of an American monitor (armored river gunboat) into a populated area. Now a retired captain, Huchthausen traces Lung's initial medical evacuation, his crewmen's regular kindness to the child, and his part in the American response to the Tet Offensive as commander of his own river patrol boat (PBR) squadron. Finally, Huchthausen outlines the role he played almost twenty years later as sponsor to Lung, now a woman with her own daughter, during the long, chancy process of their immigration to the United States.

Huchthausen's narrative shows American riverine sailors both as occasional blundering racists and

(more often) as compassionate warriors. In my own observation, both parts of this dual characterization were sometimes true. Poor naval fire discipline (such as that of the American monitors discussed by the author) no doubt wounded or killed dozens of noncombatants. Yet it is also true that typical PBR sailors were often capable of great compassion toward the Vietnamese who lived along the river, both in individual acts of kindness and in collective rescue missions, like the disastrous one near Sa Dec, which Huchthausen describes. In that mission, three of his sailors died and several others were severely wounded attempting to carry thirty South Vietnamese aboard their two PBRs down a canal and away from a beleaguered outpost.

This is an honest memoir of an officer who was very proud of his own unit but was often astonished by the callousness of other American forces, including a couple of casually monstrous U.S. advisors to the secretive "Phoenix" program.

Lung's story is very different and perhaps even more interesting. For many months this reviewer personally served in the same waters that Lung so deeply loved. Until reading this book I had never quite understood the daily predicament of the Vietnamese who lived along the Mekong, the people we in the PBRs met and "talked" with every single day. One night, when Nguyen Thi Lung was nine years old, dreaming of her very first trip alone to the market, she was awakened by a propagandistic night visit by efficient, black-clothed Vietcong guerrillas, who, while eliciting the villagers' cooperation, incidentally killed a young village boy and brutalized the village head. Then, in the morning, en route to the market, Lung loses her leg to "friendly" American fire. Her simple personal history is compelling. Besides suffering her wound, amputation, and the death of family members, she endured the terrifying Tet advances, which overran her school's compound in My Tho. Because of her rescue by the Americans, for years after the war she had to hide from the vengeful, brutal victors. Only the kindness shown her in the postwar period by other hunted Vietnamese (especially one man who similarly treasured his past relationship with the Americans) enabled her to survive and eventually get to the United States. The help of Huchthausen and a reporter named Sylvana Foa (who wrote a brief foreword for the book) was also important.

Both Huchthausen's graphic, brief portraits of PBR engagements and (more unusually) Lung's account of her own troubles make this an engaging book. Though both are apparently amateur writers, for the most part they avoid moralizing and the use of clichés but simply tell their stories. The key to this book's freshness is the respective naiveté of its main characters. In the end, the two seem to have retained something of their innocence despite all their fearful experiences—a characteristic somewhat unusual in personal narratives about this tragic war.

ROBERT SHENK
Mandeville, Louisiana

Solis, Gary D. *Son Thang: An American War Crime.* Annapolis, Md.: Naval Institute Press, 1997. 340pp. $29.95

As stern as the United States government has been with regard to the punishment of both enemy civilians and military personnel charged with the commission of war crimes (after World War II the United States conducted over five hundred trials of over 1,600 accused in Europe alone), the American public has generally taken quite a different view when the crimes were committed by its own military. They apparently regarded the events at My Lai as a war crime, but a war crime that should go unpunished! The only person convicted for that offense, Lieutenant William Calley, was found guilty for the murder of twenty-two Vietnamese civilians. He received a life sentence of imprisonment at hard labor. He was released after only three and one-half years of house arrest. One can only hope that the enactment by Congress of the War Crimes Act of 1996 indicates a change in the public attitude regarding this matter; otherwise the United States cannot count on receiving the respect of the people of the world. The events so clearly and precisely chronicled in this book are certainly not such as to qualify the United States as the dispenser of equal justice for all.

On 19 February 1970 a U.S. Marine Corps "killer team" of five men, led and incited by one Private Randy Herrod (who had never previously served on such a team), shot and killed at close range sixteen Vietnamese women and children, ranging in age from three to fifty, in three different areas of a hamlet known collectively to the Marines as "Son Thang-4." The team had been briefed to "kill any gooks in the area," apparently on the theory that the Vietcong themselves believed there was no such thing as a noncombatant.

The author provides details of each of the four trials conducted by the U.S. Marine Corps, all of his quotations being taken from the trial records. (One member of the "killer team," who claimed to have fired over the heads of the victims, testified for the prosecution and was not prosecuted.) Unlike the Calley case, these trials were conducted in a combat zone, where only rarely was a reporter present, and seldom was there mention of this episode in an American newspaper. Perhaps this is why, once again, American public opinion favored the accused. Private Michael Schwarz, the first man to be tried for this offense, was found guilty of having participated in the murder of twelve of the Vietnamese women and children. He was sentenced to imprisonment for life. (The convening authority later reduced his sentence to one year!) Private First Class Thomas Boyd, defended by a civilian lawyer from his hometown, elected to be tried by the judge alone. He was acquitted. Private First Class Samuel Green elected to have enlisted personnel sit as the members of the court that would try him. He was found guilty of participating in fifteen murders and was sentenced to imprisonment for five years. (He, too, was free in less than a year.)

Private Randy Herrod, the leader and last member of the "killer team" to be tried, and the man primarily responsible for the massacre, was represented by four civilian lawyers from the United States in addition to his

assigned military counsel. In Herrod's trial, for the first time, there was testimony that enemy machine gun fire had been heard. This was outright perjury. At none of the previous trials had any witness testified to hearing machine gun fire, as they certainly would have if there had been any. Nevertheless, the court believed it, and Herrod was acquitted.

Gary Solis was in the U.S. Marine Corps for twenty-six years. He served in combat for two tours in Vietnam, and then after earning two law degrees he became a military prosecutor and a military judge. His career is unique in that in addition to his degrees in law he received a doctorate from the London School of Economics, where he also taught. He presently teaches law at the U.S. Military Academy at West Point. His book *Marines and Military Law in Vietnam: Trial by Fire* (1989) is part of the official history of the Marine Corps in the Vietnam War.

The author has done a superb job of putting the reader on a hill in the combat zone in Vietnam, demonstrating the problems that arise when fairly unskilled military lawyers attempt to prosecute and defend barely trained men—men who have received no training whatsoever in the law of war, including the rights of civilians, friendly or enemy. While legally oriented, this work can still be understood by, and will be of interest to, the layman.

HOWARD S. LEVIE
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May, Ernest R., and Philip D. Zelikow. *The Kennedy Tapes: Inside the White House during the Cuban Crisis*. Cambridge, Mass.: Harvard Univ. Press (Belknap), 1997. 716pp. $35

It would be too easy to dismiss this fine book as a mere collection of tapes made thirty five years ago about the Cuban Missile Crisis. In reality it is impossible to review this examination of history without feeling the crackling atmosphere of those very dangerous thirteen days in October 1962 when nuclear war appeared imminent.

The meetings of the National Security Council Executive Committee (ExCom), an ad hoc group created by President John F. Kennedy to consider the crisis and determine what measures were necessary to resolve it, were secretly taped by the president. They were not released to the public until 1996.

The history of the tapes is itself interesting. Presumably, only President Kennedy (who began taping meetings in late July 1962), his secretary Evelyn Lincoln, the two Secret Service agents who installed the recording system, and perhaps Robert Kennedy knew of the system and that these tapes and others were being made. Of course, the number of people who learned about the existence of the tapes grew with the passage of years. Gradually, from 1983 on, portions of the conversations were released by the John F. Kennedy Presidential Library as the material was declassified. A major problem of the recording was that good transcriptions could not be made, because of the poor audio quality that resulted from 1962-era equipment. Only after the Kennedy Library

acquired the technical means to improve their quality were portions of the recordings released. While the library reviewed the tapes for release, information about the missile crisis was concurrently declassified by various government agencies.

Despite the release of all the tapes by the JFK Library in late 1996 and early 1997, transcripts were not provided, because much of the recorded conversation was unintelligible. It was necessary for May and Zelikow to engage the services of both audio forensic experts and highly skilled court reporters (the latter reviewing the tapes numerous times) to create adequate transcripts.

But even with such technical assistance, the authors had to solve another problem before turning out a meaningful text. Not every ExCom meeting was recorded, and so it was necessary to forge links between the information provided on the tapes with known facts, memoirs of the participants, and minutes of the meetings in order to provide the reader with the required points of reference.

To set the scene for a proper understanding and appreciation of the tapes, the authors, both professors at Harvard University, have provided a forty-three-page introduction. In those pages the reader is given a well organized summary of the history that formed the attitudes of the principal American players during this crisis. Additionally, the Cold War and its connections not only to Cuba but to Berlin, Southeast Asia, South America, and Western Europe are examined, and how they related to Khrushchev's ill-conceived missile adventure. Of equal interest and importance, the authors have written a concluding section that explores in detail many of the questions surrounding how and why the crisis occurred in the first place.

Readers will find themselves engrossed in a real-life drama in which the future of the world hangs in the balance. Indeed, the book has all the essential elements of a drama: the ships with unknown but suspected cargoes, moving toward a quarantine line; the receipt of the grim news that Major Gary Anderson's U-2 high-altitude surveillance plane had been shot down over Cuba by a Soviet surface-to-air missile; the increasing possibility of a U.S. military mobilization involving substantial numbers of reservists; and the always present specter of Soviet military action against Berlin. In the end, one can experience the relief that everyone felt when, as Secretary of State Dean Rusk said of the climax of the eyeball-to-eyeball confrontation, Khrushchev "blinked."

The many and various human reactions exhibited by ExCom members are also obvious. The personalities of the major participants—each molded by different experiences and training—become evident during discussions, as well as the shifts in their views about how to accommodate different courses of action as the crisis changes.

May and Zelikow have labored long and have overcome many obstacles to give us a book that should be valued by anyone having an interest in history or crisis management. It is also a splendid book for those who simply want to gain an appreciation of how close the world came to what many before the crisis had believed was only

a remote possibility—strategic nuclear war.

JACK GOTTSCHALK
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Fursenko, Aleksandr, and Timothy Naftali. *"One Hell of a Gamble": Khrushchev, Castro, and Kennedy, 1958–1964—The Secret History of the Cuban Missile Crisis.* New York: W. W. Norton, 1997. 420pp. $27.50

No episode of the Cold War has captured more public interest than the Cuban Missile Crisis of October 1962. With the declassification of many of its documents in the past few years there has been a rush of interpretative work, documentary studies, and special conclaves of those who participated in the crisis. There appears to be a desire to gain perspective on the events of those October days in 1962 when the world stood on the edge of nuclear war. But there is also a desire to develop more sophisticated methods to deal with crises. Crisis management seeks to control the forces of emotion and irrationality within ruling circles. It is hoped that the process will offer political leadership on all sides the opportunity to consider alternatives to solely military means in their list of crisis-response options. This work is an excellent example of how a major crisis was handled without losing control.

"One Hell of a Gamble" is a unique work, because the authors were permitted access to the most secret documents from the highest levels of the Soviet government, such as the KGB (now SVR), GRU (the military intelligence directorate), the foreign ministry, and the Presidium and Politburo, as well as other government sources. They also made use of the archives in the United States, France, and the Czech Republic. (The only critical materials still prohibited to researchers are the Cuban records.) Fursenko and Naftali have also included interviews of various officials from both the Soviet Union and the United States, such as the highly respected Soviet ambassador to Cuba, Aleksandr Alekseev; the former CIA station chief, William Caldwell; an unnamed GRU officer who was familiar with the affairs of Latin America; a longtime friend of the Cuban revolutionaries, Soviet intelligence officer Nikolai Leonov; special assistant to President John F. Kennedy, Ted Sorensen; and CIA Cuban specialist Samuel Halpern.

The authors have provided a classic intelligence primer on how the intent of one's actions is not always perceived as it was meant to be by those who are most affected. Kennedy had difficulty dealing with Nikita Khrushchev, because he had never dealt with anyone like him before in local, state, or national politics. What had worked for Kennedy in his rise to the presidency did not move Khrushchev, whose political axioms had been developed during the paranoia of Stalinism. This is an excellent presentation of the dynamics between these two leaders.

I admire Fursenko's and Naftali's portraits of Khrushchev and also, surprisingly, of General Issa Pliyev. Previous books had misled me about why Khrushchev selected him as Soviet commander in Cuba. The

authors help the reader to appreciate Pliyev's character, military experience, ruthlessness, nerve, and closeness to the premier. Also, and although the question "Why did Khrushchev place those missiles in Cuba?" will probably always remain, this book offers a multicausal and reasonable explanation.

The strength of this book is in its presentation of the perspectives on the situation of both the United States and the Soviets. While the authors discuss the actions of the U.S. government, they also present in counterpoint the reactions of the Soviets. As the book moves from Moscow to Havana to Washington and back again, the reader is given an insight into how Kennedy, Fidel Castro, and Khrushchev worked with (and against) each other.

The authors provide as background to the missile crisis the Bay of Pigs episode and also the desire by both the Chinese and Soviet Union to befriend Castro, his brother Raul, and "Che" Guevara. The Cuban revolutionaries attempted to spread radical revolt throughout Central and South America and to manipulate the Soviets. The authors offer insight into the Soviet Union's sometimes clumsy, sometimes inspired handling of the Cuban movement. Significant attention is also given to the Vienna summit and its influence on the missile crisis.

However, there are some problems with this work. Although this text is well documented, the authors had the usual problem of accessing foreign documents: sources and their interpretations are left to other scholars to verify. Also, many questions have been left unanswered. For example, did the Soviet commander in Cuba receive blanket permission to use nuclear weapons during the crisis without specific direction from Moscow? In a conference in Havana in 1992, General Anatoli I. Gribkov (one of the military planners of Operation ANADYR—Soviet code name for the delivery of nuclear missiles to Cuba) claimed that the local commander had been given that option. Yet in *Operation Anadyr* (by Gribkov and General William Y. Smith, 1994), Gribkov claims just the opposite. On the basis of a Soviet document written by Defense Minister Rodion Ya. Malinovsky (under Khrushchev's direction), Gribkov clearly asserts that nuclear control never left Moscow. Why is this point not clearly presented? One wonders if anything else is missing from this work. That is why this book, along with all the others, represents only a step toward continuous research. Responsible revisionism remains the essence of history.

I recommend this book to intelligence officers and to crisis managers as an apt case study in crisis management. It is a historical interpretation that challenges some widely held opinions on the missile crisis. While not definitive, this book belongs on the shelf of every military leader who deals with human behavior under pressure of chaos and uncertainty.

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Murphy, Edward F. *Korean War Heroes*. Novato, Calif.: Presidio, 1997. 304pp. $16.95

Nearly a half century after the North Korean People's Army invaded the

Republic of Korea on 25 June 1950, the Korean War remains "the forgotten war." In the latest attempt to explain the ambiguities of the conflict and to honor the heroic servicemen and women who fought it, Edward Murphy has produced a highly readable narrative that focuses on the 131 men who earned there the nation's highest military award. This list includes seventy-eight Army, seven Navy, forty-two Marine, and four Air Force Medal of Honor recipients, all of whom are listed in an appendix that cites their military units, locations, and hometowns. So savage was the combat in the mountains and paddies of Korea that only thirty-seven recipients survived their exploits, marking the second time (the first being World War II) that posthumous awards outnumbered awards to living heroes.

The author, who is the editor of the Medal of Honor Historical Society's journal, *The Medal of Honor Annals*, is no stranger to military history. A Vietnam veteran, Murphy is author of two Medal of Honor books, *Vietnam Medal of Honor Heroes* and *Heroes of World War II*. His other works include *Dak To* and *Semper Fi: Vietnam*. What makes this particular book so compelling is Murphy's ability to interweave the story of each Medal of Honor recipient into the overall narrative of the Korean War. He sets the stage by introducing the reader to a brief history of the Medal of Honor, which is awarded to a member of the armed forces who performs an act of the most conspicuous gallantry and intrepidity, above and beyond the call of duty, in the presence of an armed enemy.

The Korean War's first Medal of Honor was awarded to Major General William F. Dean, commanding general of the Army's 24th Infantry Division, for intrepid and outstanding leadership during the United Nations withdrawal to the Pusan perimeter. The Navy's first recipient was Lieutenant (j.g.) Thomas J. Hudner, Jr., whose actions to save his wingman, Ensign Jesse Brown, the Navy's first black pilot, earned him the Medal of Honor. Two consecutive company commanders of Company E, 2nd Battalion, 27th Infantry (the "Wolfhounds"), Reginald B. Desiderio and Lewis L. Millett, also earned the milirary's most coveted award for bravery. Less than thirty-six hours before the armistice was signed at Panmunjon, Marine Sergeant Ambrosio Guillen received the conflict's final Medal of Honor for his actions as the sergeant in charge of his company's reaction platoon. Guillen was a member of Company F, 2nd Battalion, 7th Marine Regiment, 1st Marine Division, the same unit that had produced Medal of Honor heroes William E. Barber, Hector Cafferata, Jr., Daniel Matthews, and Navy medic William R. Charette.

Written more for the novice than the accomplished historian, Murphy's narrative lacks any substantial analysis. Still, he has written an excellent short history of a conflict that most Americans are inclined to forget. Murphy is determined to prevent this travesty from occurring, and this book is his way of rekindling interest in the Korean War and of warning the nation's leaders of the dangers inherent in waging limited war. The only aspect of the war that was not limited was the intensity and brutality of its combat, which, notes Murphy,

rivaled that of any witnessed in World War II. In short, *Korean War Heroes* is less history than a tribute to the recipients of the Medal of Honor, and it is in that respect that the author makes his greatest contribution.

COLE C. KINGSEED
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Sweeney, Charles W., James A. Antonucci, and Marion K. Antonucci. *War's End: An Eyewitness Account of America's Last Atomic Mission*. New York: Avon, 1997. 286pp. $25

Charles Sweeney took part in the only two atomic missions ever flown, and his book presents a personal account of the eventual use of atomic bombs and of the events leading up to it during the final throes of World War II.

As the fiftieth anniversary of the war's end approached, the Smithsonian Institution planned an exhibit on the plane that carried the first atomic bomb to Japan, *Enola Gay*, that would include pictures of Japanese victims of the atomic bomb. Moreover, the exhibit was to portray the Americans as the aggressor, fighting a war of vengeance, and the Japanese as the defenders of a unique culture against Western imperialism. Outraged veterans of the war, of which Sweeney was one, protested this exhibit. He describes what happened at the Smithsonian as an attempt to change the history of the war in the Pacific. This book is a result of that protest, written to set the record straight.

The book is an account of events as seen by someone who was intimately involved with the atomic mission from the early days. It covers the workup before deployment, the secrecy involved, and the main characters. The book provides the basic historical account, but it also gives a feel for the prevailing mood at the time, as well as insight into the ethos and quirks of life in an elite flying unit. In addition, there are many examples of the kind of leadership (and devotion to those leaders) that is an essential part of any complex military operation. The author's patriotism, his strong belief in his country and what its leaders were planning, is evident. One is left in no doubt that Sweeney has a clear vision of what he believed to be right and what he believed to be wrong. It is this conviction that allowed him and others to pursue a controversial path without faltering.

Sweeney was the pilot of the aircraft carrying the instruments for the first atomic mission, and the lead pilot for the second; his qualifications are beyond reproach. However, his attempt to "set the record straight" regarding the use of atomic bombs is simply a recounting of what he believes and what he perceives to be the truth. Specifically, Sweeney argues that it was a difficult but necessary decision to use nuclear weapons to end the war, that the alternative was an invasion of Japan, which would have been too costly in American lives. He also outlines why he believes the Japanese did not surrender until after the second bomb was dropped. The book puts forward one man's account. It does not discuss or argue against opposing viewpoints. This is not a criticism of Sweeney, nor do I find fault with this book; in fact

the book aims only to give the author's personal view. However, the reader will need to research the subject further in order to gain a balanced view.

This book will be of specific interest to anyone studying the only atomic missions in world history. It will also be of interest to scholars of the Second World War, in particular the war in the Pacific. Finally, it has something to offer those interested in wider subjects such as military ethics, leadership, and teamwork. The price of twenty-five dollars is good for those who have a specific interest in the subject, and reasonable for those who are more interested in the peripheral subjects. The book has the added bonus of being a good and easy read.

MIKE MERCER
Wing Commander, Royal Air Force

Kreis, John F. *Piercing the Fog: Intelligence and Army Air Forces Operations in World War II.* Washington, D.C.: Air Force History and Museums Program, Bolling Air Force Base, 1996. 501pp. $38.75 (available from Govt. Print. Off.)

The bombing campaigns of the Second World War have been well documented in publications from the *United States Strategic Bombing Survey* (1945) to Levine's *The Strategic Bombing of Germany, 1940–1945* (reviewed in the *Naval War College Review*, Summer 1994). In *Piercing the Fog*, Kreis and his colleagues offer comprehensive insight into an often neglected part of those campaigns: the organization, role, and value of intelligence. Kreis's extensive coverage of the North African, Chinese, and Pacific theater air campaigns is especially valuable, for they are often overshadowed by the continental European campaign.

Developed in the 1930s at the Air Corps Tactical School, air power theory and doctrine held that dropping bombs (precisely) on the right targets would so cripple the enemy's infrastructures that his war-making capabilities would be gravely and terminally compromised. Theory also held that enemy air defenses could not thwart the application of air power. The bomber would always get through.

That executing this beguiling doctrine was dependent on a thorough understanding of, among other things, the enemy's air defenses and industrial infrastructures seems to have been overlooked. When the war began, air intelligence was not structured for the demands about to be placed on it, which included technical assessments of enemy air defense capabilities and force deployments; prompt reporting of enemy movements, to support tactical air strikes; and most demanding of all, analyses of his industrial and economic infrastructures, to enable direct strategic attacks.

None of this is far removed from what air intelligence is about today. But in 1940 military intelligence was the province of the Army's G-2, which was insensitive to the specialized requirements of the air campaigns. Much of Kreis's work is devoted to the personalities and bureaucratic machinations necessary to create an A-2 intelligence organization responsive to the air campaign.

This is important to the historian but a bit dull in the reading.

In the operational arena, air intelligence grew to encompass the examination of captured aircraft, the gathering by ferret aircraft of electronic emanations, eavesdropping on operational radio transmissions, photographic reconnaissance and interpretation, and strategic interpretations drawn from ULTRA intercepts and decoding. Kreis describes each of these in depth. Ferret missions and the "Y" service picked up clear or lightly coded enemy radar and communications signals that yielded valuable information for tactical operations, such as routing bombers around defense concentrations. Optical technology and high-flying P-38s and B-29s (in the Pacific) brought photographic reconnaissance and interpretation to a refined level. Throughout the campaign in Europe, photographic intelligence was the major tool used for assessing the state of the enemy's infrastructure. Perhaps its most dramatic application was the identification and targeting of the German V-1 and V-2 launch sites on the Continent.

Much has been written on the extraordinary work done to break German and Japanese codes. Kreis discusses how the MAGIC, PURPLE, and ULTRA material was applied to aid the air campaigns. This intelligence gave crucial insights into the state of the German air force, the readiness and logistic depth of German forces, and the state of industrial production—all essential for the planning and execution of an air campaign.

Finding the targets that count (strategic targets whose destruction will break the enemy's war machine) was the ultimate demand on air intelligence. Unfortunately, Kreis does not develop this theme as well as one might hope. While the shifts of strategic target priorities between transportation, fuel, electrical power, and key industrial products are well documented, there is insufficient discussion of the role that intelligence played in these selections and changes.

Also, there is only fragmentary mention of the Committee of Operations Analysts. This group of intelligence analysts, industrialists, engineers, and economists appears to have had a significant impact on the selection of strategic targets. It is a pity that their role is not better reported, for they seem to have worked at that pivotal point where intelligence becomes military application.

All that notwithstanding, this is a valuable book for both historians of intelligence and those who will plan air campaigns in the era of precision warfare and joint operations.

FRANK C. MAHNCKE
Washington, D.C.

Wheeler, Gerald E. *Kinkaid of the Seventh Fleet: A Biography of Admiral Thomas C. Kinkaid, U.S. Navy.* Washington, D.C.: Naval Historical Center, 1996. 531pp. $37.95

Thomas C. Kinkaid graduated from Annapolis in the lower half of his class in 1908. During the next thirty-three years of his career, he spent only as much time at sea as was required to make him eligible for promotion to the next higher grade. He preferred duty in Washington, D.C. (his family

home), or in Philadelphia (home of Helen, his vivacious, intelligent, and perceptive wife), though he was, and they were, happy in London, Rome, Constantinople, and Newport, Rhode Island. In Washington he toiled obscurely but usefully, always in the palaces, never in the dungeons, of the naval bureaucracy. He served in the bureaus of Ordnance and Navigation, and as secretary of the General Board; all three were powerhouses in the Navy of Kinkaid's time. Ashore or afloat, he helped others, high and low, and they helped him. He also helped himself, though clearly with the approval of others. As director of the officer personnel division, Bureau of Navigation, he arranged to have himself ordered early to a deep-draft command. The ship he picked was the famous heavy cruiser *Indianapolis*. His immediate predecessor in command had been the excellent Henry Kent Hewitt, and under Hewitt the *Indianapolis* had been chosen to carry President Franklin D. Roosevelt on a long cruise to South America. So Kinkaid had arranged for himself to inherit a well run, well cared for ship. As Wheeler notes, Tom was, in Ernest J. King's scornful phrase, a "fixer."

Thus it was that late in 1941, after thirty-three years of service, this unimaginative and unadventurous but decent, efficient, and well liked officer became one of the U.S. Navy's seventy-odd flag officers. He was the last member of his Annapolis class to reach that rank.

Kinkaid arrived at Pearl Harbor a few days after the Japanese carrier planes had paid their visit. Just as did the slightly senior Raymond A. Spruance, Kinkaid spent the first few months of the war commanding the screen around one or another of the carriers. Though much of that time was a bore for Kinkaid, Wheeler pays considerable attention to it, for it was during those months that he learned as much as he was going to about carrier warfare before he himself was placed in command of a carrier task force, relieving Spruance of the *Enterprise* task force shortly after the latter's victory at Midway.

Wheeler's longest chapter focuses on the next five months, July through November 1942. They are filled not only with fierce battles but also with flaming controversies, and some of the embers of these controversies have not yet burned out. Though many have argued forcefully that Vice Admiral Frank Jack Fletcher, in tactical command of the Guadalcanal invasion early in August, exposed the amphibious and landing forces to destruction through poor handling of his carriers, Kinkaid, commanding one-third of that carrier force, was not among them. Under Fletcher, Kinkaid's ships took part in the successful battle of the Eastern Solomons late in August.

By late October Fletcher was among those who had departed the South Pacific for good. Vice Admiral William F. Halsey replaced Robert L. Ghormley as the local theater commander, but he had hardly arrived when the Japanese began a powerful offensive against the Marines on Guadalcanal, by land, air, and sea. Halsey sent his remaining carriers, now only two in number, to halt the advance of a Japanese fleet that included four carriers. In what came to be called the

battle of the Santa Cruz Islands, Kinkaid, in tactical command of the American force, rebuffed the enemy's advance, at the cost of the *Hornet* (sunk) and the *Enterprise*, which was severely damaged.

As often happens after a naval battle, highly emotional claims arose that if the officer in tactical command had fought his battle differently, the results would have been better. And so they might have been. But even the best of battles is likely to be an imperfect event. The most important fact on 26 October 1942 was that it was essential for the Japanese carrier force to be rebuffed, and under Kinkaid, it was.

Kinkaid's tour in the South Pacific was soon to end. But first Admiral Halsey ordered him, as Wheeler tells us, to "write a plan of operations for fighting the Tokyo Express," the name the Americans gave to the Japanese destroyers that under cover of night raced swiftly toward Guadalcanal with supplies and reinforcements for the Japanese troops. Kinkaid did as Halsey wished, but before he could fight the cruiser action he had planned be was detached for duty in the North Pacific. His successor, Carleton Wright, who fought the battle as Kinkaid planned it, was defeated severely in the disaster known as the battle of Tassafaronga.

Little was happening in the North Pacific. One reason for this was that the area's joint operational commander, Rear Admiral Robert Theobald, found it so difficult to get on with others, especially commanders from the Army and Army Air Force, that even Admiral King noticed. When Kinkaid took command that changed, and though hardly anything the Americans did under Kinkaid was done very well, nonetheless by mid-August 1943 the islands of Attu and Kiska, occupied by the Japanese in June 1942, were back in American hands. The author deals well with the multitude of failures and embarrassments with which the campaign was filled, but he kindly neglects entirely the night battle Kinkaid's battleships and cruisers engaged in against the radar echoes of distant mountains. Perhaps his reason was that Kinkaid was not among those present on the occasion. In any event, Kinkaid was now a vice admiral, and a new assignment was soon in prospect.

Once again, there was a difficulty among senior officers in a distant theater. General Douglas MacArthur, commanding in the Southwest Pacific, who had not liked the first admiral whom King had sent to command the naval forces in that area, did not like the second one either. Kinkaid was the third. He was to command the Seventh Fleet and as such to report directly to MacArthur, but "King wrote Kinkaid's fitness reports."

Wheeler does not address the point, but beginning in the Aleutians and coming to fruition in the several invasions of the Philippines, Kinkaid was to experience and understand the second of the two great naval innovations of the Second World War, the amphibious assault; in the carriers he had already learned about the first.

As Wheeler quotes Kinkaid in a letter to his wife in April 1944, "Working in an Army organization is extremely difficult. . . . I try to fit in with their methods and organization but they are a bunch of horse traders and horse thieves and don't know the meaning of

cooperation." Still, he managed to convince MacArthur that the command and control doctrine developed by the Marines and Navy before the war (and that in 1998 is under attack by some Marines)—that the amphibious task force commander was "to remain in command" of all forces afloat and ashore until "the troops were set up to command their own affairs"—was the soundest way to conduct an amphibious operation. In this fashion he defeated one of his most powerful opponents, Lieutenant General Walter Krueger, who under MacArthur commanded the Sixth Army. Wheeler takes no notice of the fact that during the year Kinkaid was a student at Newport fifteen years before, Krueger had been one of the instructors. Too bad.

With almost all the amphibious ships in the Pacific under his command, as well as numerous escort, bombardment, and support ships, when the United States returned to the Philippines in October 1944 Vice Admiral Kinkaid commanded more ships than any other officer of his rank. It was only the Third Fleet's Task Force 38, the carriers and their screens, under his old commander, William F. Halsey, that remained independent of him. We all know about that story: how at Leyte Gulf Kinkaid came to believe that through poor handling of his carriers Halsey had exposed his amphibious force and supporting shipping to destruction. In the fierce conditions of the Guadalcanal campaign in 1942 Halsey and Kinkaid had become friends. Now that friendship, characteristic of each, had turned to bitterness, characteristic of neither. But the bitterness lasted till the end.

In the meantime both played out their roles in the war, prominently on Halsey's part, obscurely on Kinkaid's. Nonetheless, in April 1945 Kinkaid pinned on his fourth star. However, for Kinkaid the big challenges were over, and five years after the war ended, at age sixty-two, so did his naval career.

In deciding to write the life of a man as unlikely as Tom Kinkaid to reach high responsibility in the most dangerous of times, Wheeler took on a risky task—to make interesting the life of a man who was himself not interesting.

The result is a book that is sometimes slow going but that represents fairly Tom Kinkaid. Taken all in all, this account of Kinkaid's unforeseeable growth earns Gerald Wheeler an A.

FRANK UHLIG, JR.
Naval War College

Brand, Max. *Fighter Squadron at Guadalcanal.* Annapolis, Md.: Naval Institute Press, 1996. 213pp. $25.95

Every once in a while an interesting piece of literary work comes to light, and a new perspective on an event of historical significance is afforded. This is exactly the case with *Fighter Squadron at Guadalcanal.* Written in 1943, this book was literally lost for over fifty years after the author was killed while covering the Italian front for *Harper's* magazine. Through a remarkable series of events, this wartime legacy of men who fought in the Pacific theater during a nine-month

period in 1942 has finally been published. The result is a personal account of actual events, as seen not only through the eyes of the pilots who flew the combat missions but also from the perspective of the ground crews, the Marine infantry, and the naval personnel who survived the ordeal.

"Max Brand" is the best-known pen name of novelist Frederick Faust. Born in 1892, he was an established author with over two hundred published books to his credit at the time America entered World War II. His works were to become the basis of and inspiration for both radio and television shows, as well as dozens of motion pictures. Despite a heart condition, Faust was quick to volunteer for wartime duties as an overseas correspondent. Rejected for service, he was forced to rely on meetings with returning veterans to gather materials for his proposed book about the war in the Pacific.

Fighter Squadron at Guadalcanal was intended to be neither a comprehensive analysis of Marine Corps combat operations nor a historical documentary. The interviews conducted by Brand were intended to provide a firsthand look into the harsh realities of the war, from the perspective of combat and of the daily battle against the inhospitable elements faced by "our fighting men." In the truest sense of the word, this is a classic piece of oral history, and in the end the only piece of nonfiction ever produced by the author.

As the reader may already know, the situation in the South Pacific was critical during the opening days of 1942. Singapore and Java had fallen, the Philippine defenders were slowly being overwhelmed, and the Japanese had swept south to occupy portions of New Guinea. With the fall of Rabaul, the capital of the Bismarck Archipelago, on 23 January 1942, Japanese forces threatened all of New Guinea and Australia. To the southeast, the Solomons, New Caledonia, and New Zealand also were in peril.

The Guadalcanal operation had its origin in early February with Admiral King's and the Joint Chiefs' decision to focus the U.S. strategy for the Southwest Pacific on the Solomons: "Let Efate be the first rung in the ladder from which a step-by-step general advance could be made through the New Hebrides, Solomons and Bismarcks" (exactly what was to occur during the coming twenty-four months).

Brand's book picks up in late March of 1942 as elements of the Americal Division, the 4th Defense Battalion, and a forward echelon of Marine Aircraft Group (MAG) 24 arrive in Efate. Their mission is to build an airfield, under Captain John K. Little, commanding officer of MAG 24's headquarters squadron. The conditions are less than optimum, but through sheer determination an airfield soon appears out of what was once dense muddy jungle. Shortly thereafter we are introduced to Marine Fighter Squadron 212, when on 11 May twenty-one F4F-3s under the command of Major (soon to be Lieutenant Colonel) Harold W. Bauer arrive. MAG 24 bas been given its "teeth," and the Marines are ready to carry the fight to the Japanese. It is this snapshot of time between March and November that is the focus of Brand's efforts. In a loosely connected

series of stories, the reader becomes surrounded by the miserable conditions that the men endured: scorching heat, monsoon rains, disease, the threat of overwhelming numbers of the enemy, and always the knowledge that death was all around.

The book was written in an era when the free world's survival was at stake, and it is somewhat crude in its references to the enemy. Depictions of fanatical banzai charges "by crazed Japs, all in a rush to get to heaven," of their being "scythed down by solid swathes of machine gun fire," or of the "hapless nips wiggling in the water after having their landing craft strafed by the Wildcat's .50 cals . . . swimming in circles because an arm or a leg had been blasted off" leave no douht about the national psyche. By today's standards, the tone is derogatory and even racist, but for the intended audience of that day the approach was acceptable. The author's treatment of American losses is more poignant. "Like a chess game, you've got to let that piece go, but you always remember just the saine."

As with many "eyewitness" accounts of a dynamic series of events, *Fighter Squadron at Guadalcanal* is not without historical discrepancies. Personal interpretation and biased recollections of individual triumphs and tragedy amidst chaos result in an inevitable blending of fact and legend. In the end, though, it makes for good reading and does not detract from Brand's manuscript. By the conclusion of the book the reader has experienced a personal glimpse into events that are indelibly etched into the annals of military history, offered in a fashion reminiscent of a heroic tale being retold to a captivated and hushed audience.

JAMES MCLELLAN
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U.S. Marine Corps

Kahn, David. *The Codebreakers: The Comprehensive History of Secret Communication from Ancient Times to the Internet.* New York: Scribner, 1996. 1,181pp. $65

David Kahn's massive book is fascinating and absorbing. He covers the full spectrum of ciphers and encryption, as well as methods of uncovering the meaning of such coded messages. Kahn addresses not only their use by governments to support diplomatic and military activities but also their use by businesses, by criminal organizations, for personal communications, and in espionage. He even shows the similarities between the processes employed in cryptanalysis and those used by historians and archeologists to discover the meaning of ancient languages. An editor for *Newsday* with a Ph.D. from Oxford in modern history, Kahn has been visiting historian at the National Security Agency and has been aptly described as the world's leading expert on the history of cryptology. It should be noted that this book is an updated and revised edition of a 1967 publication that Kahn intended to be the definitive history of cryptology.

The Codebreakers is filled with stories about approaches to concealing the meanings of messages and efforts to discover the meanings of the

messages. Some of the stories are well known, such as how America's "Black Chamber" allowed the United States government to know in advance the Japanese negotiating position during the 1921 Washington conference on naval armaments, and to shape its own negotiating strategy accordingly. Of course, that was before Secretary of State Henry Stimson declared that "Gentlemen do not read each other's mail" and scuttled the Black Chamber in 1929 by eliminating its funding. Perhaps even better known is the role of the ENIGMA machine in World War II. Even in the best known stories, however, Kahn provides additional information and insight. For example, I found the stories of the invention of the ENIGMA machine and of Scherbius's early efforts to market it intriguing. I had not known about them before.

Many of the stories are not as famous, but they, as well as the better known ones, seem to have been carefully selected to allow an appreciation of the many factors involved in secret and hidden communications and, more importantly, to give a broad perspective on the way such communications and their compromise impact human affairs. Mature and balanced understanding is very important for those who hold positions of leadership in politics, the military, or business. This kind of understanding should help to prevent acts of gross stupidity, such as Stimson's significant reduction of America's ability to read diplomatic messages of other nations.

Current discussion and debate about government access to encryption keys might be tempered (or perhaps enflamed) by reflection upon the wartime censorship described by Kahn. For example, U.S. censors considered the potential for clandestine communications under the guise of cables ordering flowers to be such that they forbade naming the kinds of flowers and dates of delivery. Both were left to the discretion of the local florist! Likewise, telephone requests to radio stations for particular songs were not to be honored, and stations had to hold mailed-in requests for unspecified and irregular periods of time before playing the music.

Kahn refers to the "one time" system (whether using pad, tape, or some other medium) as theoretically unbreakable. He also notes that the one-time pad was the main Soviet spy cipher. The problem with it is the distribution of the pad (key) to all who need it; this seems to be the primary reason why it is not favored as much today as it was in the past. Personally I wonder if interest in one-time systems may not revive, especially with the ease that modern computers could provide. Those who need secret communications with just a few others, such as the headquarters of a business with geographically distributed field offices, could find this kind of encryption most attractive.

There is a frustrating aspect to this book: the breadth and depth of its coverage of three decades since the original publication are skimpy compared to its earlier material. Most frustrating is the sixty-five-page chapter on the National Security Agency, which is distinctly dated. It appears that this chapter was not updated—information about its structure, activities, and personnel go only up to the

mid-'60s. It is disappointing, although understandable from consideration of both security and the magnitude of the task, that the level of coverage is not the same as that for earlier periods.

Who should be interested in *The Codebreakers*? This is the kind of book that can benefit all who hold positions of political or military leadership. It is instructive to see how naiveté about cryptology has had serious impacts on national policy and military endeavors. It is also important to appreciate the capabilities (and limitations) of both cryptography and cryptanalysis. This book provides those kinds of insights—and it is a most enjoyable read.

DALE PACE
The Johns Hopkins University
Applied Physics Laboratory

Morgan, Murray. *Confederate Raider in the North Pacific*. Pullman: Washington State Univ. Press, 1995. 336pp. $19.95 (republication of a 1948 edition)

Hearn, Chester G. *Gray Raiders of the Sea*. Baton Rouge: Louisiana State Univ. Press, 1996. 351pp. $16.95 (republication of a 1992 edition)

The recent success of Michael Shaara and son Jeff has created a wave of renewed interest in the American Civil War. These two reprints give some balance to this renaissance by covering a key element in its naval operations. The Confederate Navy usually gets short shrift on the Civil War scene. These two books, though quite different in their presentations, show dramatically how little it took in money and ships for the Confederate naval war on commerce to drive U.S.-flag vessels from the world's sea lanes.

Murray Morgan has written a saga of the cruise of one of the most successful commerce raiders, the *Shenandoah*. Morgan, a onetime writer for *Time* magazine, has written what is essentially a good sea story. The description of life at sea, the chase, and other nautical esoterica are most intriguing. (Remember the days when everyone in the wardroom was expected to be knowledgeable of not only the types of vessels using sail but also the name of each sheet of canvas?) Morgan reads best as a story, although his book is written as history: he uses numerous quotations from what must have been primary source material, but there is not one footnote or citation to be found. At times the story drags on, with much about maritime law and the rights of neutrals.

Chester Hearn's book is what Murray Morgan's is not—a detailed history. As history, it does not have the same excitement as Murray's, but it offers a comprehensive look at the eight Confederate raiders that drove U.S. bottoms to foreign flags.

Both books suffer from the deficiency most common in historical publications: a paucity of good maps placed where they are relevant to the narrative. Morgan's book, having only one cruise to deal with, is the better of the two in this respect, with a double spread map at the beginning. Hearn's book is blessed with eighty-seven illustrations, but they are grouped in one lump midway through the book. Since this wealth of material is published on forty sheets of the same paper stock as the text,

there is no apparent reason why it could not have been interspersed throughout the text. Publishers are often the potholes on the road to reader comprehension.

Hearn's history may not read as easily as Morgan's journalistic style, but it does contain some excellent examples of leadership at sea, both good and bad. Although men of iron have been superseded, to a degree, by pear-shaped people with bulging eyes glued to electronic screens, the problems of cramped living for long periods at sea have not changed. The experience of these American naval officers of a different era can still provide valuable lessons. These are the stories of *American* naval officers. Whatever the color of their uniform, they are still part of our naval heritage, and their history is our history.

Finally, if I were preparing for a long deployment, I would ensure that copies of these two books were available in the ship's library and in the wardroom library (for vessels that still maintain that noble practice).

H. W. HENZEL
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U.S. Marine Corps, Retired

Spencer, Warren F. *Raphael Semmes: The Philosophical Mariner.* Tuscaloosa: Univ. of Alabama Press, 1997. 250pp. $37.95

Mention the battle between the CSS *Alabama* and the USS *Kearsarge*, and one name springs to mind—Raphael Semmes, captain of the doomed *Alabama*. Who is Semmes that we should remember his name over that of the captain of the victorious *Kearsarge?* Warren F. Spencer, emeritus professor of history at the University of Georgia and author of *The Confederate Navy in Europe*, has written a biography of Semmes drawing on previously unpublished diaries and other private papers. Integrating this new material with Semmes's published memoirs, Spencer fleshes out the life of the man who seems to arrive on history's stage for one brief battle before departing again.

Semmes was born in Maryland in 1809 and entered the U.S. Navy as a midshipman in 1826. As was common at the time, he had many long, unpaid leaves between assignments. He used this time to read law in his younger brother's office; when Semmes made lieutenant in 1837, he had already established himself as a lawyer. His early experiences serving on several ships and his own interest in "natural philosophy" (that is, natural science) gave Semmes knowledge that would later serve him well as a Confederate commerce raider. Likewise, his experience as a lawyer would be to his advantage.

Like many other military leaders on both sides of the Civil War, Semmes gained firsthand experience during the war with Mexico. He blockaded the Mexican coast, commanding the "unlucky" USS *Somers*, which fulfilled its reputation by sinking in a sudden squall. Instead of being censured for this loss, Semmes was given orders to meet with Mexican officials to try to negotiate the release of one of his captured midshipmen. In carrying out these orders, Semmes found himself attached to the U.S.

Army for a time. After the war, his well kept journals helped him write a popular book about his experiences.

Spencer paints an excellent picture of the events leading up to secession, as seen by the South and the "sea lawyer" Semmes, who resigned his commission in the U.S. Navy to follow his adopted home state of Alabama when it seceded in early 1861. Spencer also manages to convey the naive and somewhat confused atmosphere (so incomprehensible in hindsight) that gripped both Union and Confederacy between the secessions and the attack on Fort Sumter. During this period Semmes traveled through the Union attempting to purchase arms-producing machinery and other war material for the Confederacy.

Once fighting broke out, Semmes was given command of the steamer *Sumter*, supervising its long and arduous outfitting for use as a commerce raider. The sea-weary *Sumter* eventually had to be abandoned in Gibraltar, after which Semmes continued his reign of terror among Union shipping in the British-built CSS *Alabama*.

At sea, Semmes used his knowledge of winds, currents, and trade routes to capture merchant vessels. His techniques for finding enemy shipping were so successful that Kaiser Wilhelm II was to require all his naval captains to read Semmes's *Memoirs of Service Afloat during the War between the States*. Semmes used his own background in international law to decide the status of ships he boarded and the cargoes they carried, releasing, burning, or bonding them as he deemed appropriate.

Almost two years after launching, the *Alabama* limped into Brest harbor needing an extended yard period. Denied that by the French government, Semmes nonetheless accepted the challenge of the Union navy, which had finally caught up to him in the form of the USS *Kearsarge*. After a one-hour battle, Semmes, rescued from the water by a British yacht, managed to return to the Confederacy, where he commanded the James River Squadron until the fall of Richmond, after which he served as a commander of artillery with the army.

The life of Raphael Semmes, as related by Warren Spencer, is filled with episodes that would seem more in keeping with Horatio Hornblower, or Jack Aubrey and Stephen Maturin. The Civil War, as fought on the high seas, was as much the last gasp of the age of sail as it was a harbinger of twentieth-century warfare. Raphael Semmes was a man of similar complexity and contradiction.

And for those of you who may still be wondering, the captain of the *Kearsarge* was John A. Winslow.

LAWRENCE M. BURKE II
Bath, Maine

Ehrenreich, Barbara. *Blood Rites: Origins and History of the Passions of War.* New York: Henry Holt, 1997. 292pp. $25

O'Connell, Robert L. *Ride of the Second Horseman: The Birth and Death of War.* New York: Oxford Univ. Press, 1995. 305pp. $15.95

"Since wars begin in the minds of men, it is in the minds of men that the foundations of peace must be laid."

This opening phrase from the constitution of UNESCO (the United Nations Education, Scientific, and Cultural Organization) impels one to inquire whether man's propensity to go to war and indulge in aggressive behavior is inherent or a product of his environment. Anthropologists and psychologists have increasingly turned their thought to this issue, conscious of the fact that the pressures of public opinion in favor of peace and the activity of such bodies as the United Nations seem to be virtually ineffective in preventing war. These scholars have even made increasing use of the evidence turned up by archeologists in ancient monuments or ancient graves.

Among such works, two stand out. In *Blood Rites*, Barbara Ehrenreich contends that modern man is the inheritor of his ancestor, who was the victim of a variety of predatory animals. As time passed, the prey became the predator, with a tendency to make war a religious experience involving, to some extent, the worship of blood—hence the human sacrifices of the Aztecs. "Man-the-hunter no doubt invented war; at least he invented the weapons of war. But for the tendency to secularize violence—to ritualize the slaughter of animals and bring 'religious' feelings to war [after all, in time of war the clerics on each side emphasize that God is an ally supporting the cause], we must go back further, to a time when 'man' was an object of prey." Robert O'Connell, on the other hand, in his *Ride of the Second Horseman*, argues that man is essentially an agriculturist, whose survival depends on food and land on which to grow it. Consequently, man will resort to war to defend his food and home, and he will if necessary take over the land of another when his own ceases to support him. In O'Connell's view, "humankind was not born to war but came to it late in our existence as the result of fundamental shifts in subsistence patterns."

While the political scientist may be largely concerned with the causes of modern warfare, the military is concerned with its means and methods, and with restrictions on conducting combat, but neither is terribly concerned with why man is aggressive. Therefore from a purely academic and philosophical standpoint, theories of the kind propagated by these two authors remain fascinating.

Perhaps the easiest way to comment on these two works and draw attention to their differences is by way of quotation, to emphasize their basic approaches.

In Ehrenreich's work we see a consistent argument in support of her basic contention that the warrior is a descendant of the "predatee," now himself become a predator. "It seems likely that the primordial experience of predation at least *colors* our emotional response to situations other than predation itself—the sight of violence or bloodshed occasioned by our fellow humans, for example. . . . Even in our relatively predator-free modern environment, the sight of bloodshed can trigger the fight-or-flight response, or at least a mild version of it. . . . We pay attention. . . . There are two likely psychological legacies of predation which would appear to be relevant to the institution of war. One is the automatic response of alarm in the face of a threat

. . . which we inherit from a time when our ancestors faced the world largely as prey. 'Designed' to ready us psychologically to fight or flee a dangerous animal, the response is what makes war . . . so gripping to us. The other, apparently weaker, response readies us emotionally for collective action and possible self-sacrifice for the sake of the group. . . . Neither of these responses is the 'cause' of war. They are simply part of the repertory of emotional responses we *bring* to war, no matter what happens to have 'caused' it. But it is these responses . . . that color war with the profound feelings . . . that make it 'sacred' to us. The alarm response infuses war . . . with urgency and excitement, while the solidarity response . . . mobilizes our most altruistic and exalted impulses. . . . In war we act as if the only enemies we have are human ones, but . . . the emotions we bring to war are derived, in an evolutionary sense, from a primal battle [against predators] that the entire human species might have lost. . . . The weapons [of war] have changed beyond recognition over millennia, but the basic emotional responses represent defensive mechanisms which evolved in combat with a deadly non-human other. . . . The rise of war corresponds roughly with a global decline in the number of large animals, both 'game' and predators, for humans to fight against. . . . It may have been only through the compulsive repetition of acts and spectacles of violence—the hunt, the sacrifice, the initiatory ordeal, and *eventually the war*—that our ancestors were able to reassure themselves that they were, in fact, no longer prey. . . . [War] arises, at least in part, as a new source of prestige for men who might otherwise have been employed as hunters and as defenders against wild animals . . . [serving] not only to enrich the victorious community as a whole, but to enhance the status of a specific group within it. Perhaps the war-leader indicated here is best represented by the orders of knighthood and their acceptance of the various codes of chivalry."

There may be some doubt among military people about the realism of Ehrenreich's comment that "by arousing the passions of solidarity and transcendence, *war makes nations*, or at least refreshes them." Thus, during DESERT STORM the United States, "like the primordial band confronted with a predator, leaped into a frenzy of defensive action, brandishing the fetishes of our faith—our flags and yellow ribbons—against the primordial intruding beast." That view seems to find some reflection in the media reaction to Saddam Hussein's rejection of American members of the United Nations arms-inspection teams.

O'Connell's view as to the origin of war may be more acceptable. He believes that "the origins of war must be explained in terms of how we became first farmers, then pastoralists, and finally warriors." Even so, war was frequently accompanied not merely by the carrying away of captives as slaves or for absorption into the victorious populace (as was the case in both ancient Israel and Rome) but also by "the continuing tit-for-tat confiscation of small parcels of border land, the repeated imposition of huge grain indemnities . . . and the gratuitous slaughter or enslavement of combatants and noncombatants." Without suggesting that predation is a result of

having previously been victimized, O'Connell does at times come close to agreeing with some of Ehrenreich's views. Thus by the beginning of the third millennium B.C. "aggression could be dealt with in one of three ways—flight, submission or resistance—with the choice depending to a considerable degree on population size and the value, or at least replaceability, of the territory occupied. In the case of foragers, the obvious course was retreat, since almost any alternative range could support their typically sparse inhabitation densities. Alternately, small agricultural centers farming at low levels of productivity, when confronted by similar but more determined groups, might either accept accommodation and amalgamation or fall back on the inconvenient but still possible option of going elsewhere. Yet large populations dependent on the very limited quantities of land suitable for intensive cultivation were faced with the stark choice between submission and the probable loss of at least some of this vital resource—or resistance using an equivalent level of violence."

During the next millennium, cavalry began to displace absolute reliance on foot soldiering, and by the middle of the first millennium "mounted troops would prove extremely useful; hanging on the edges, reconnoitering and harrying the survivors of broken formations to prevent them from rallying, and . . . running them down and conducting the after-battle slaughter. Isolating victims, leaving them no avenue of escape and then killing them as prey—this was the ruthlessness of the hunt applied in practically its purest form." Ultimately, therefore, it would seem that O'Connell, while making no suggestion that man was ever a predatee, also comes round to the view that while man might originally have resorted to war to preserve his possessions, he still behaved, as Ehrenreich suggests, as nothing better than a predator.

It might not be out of place to mention here the view of another writer interested in the origins of warfare. Dudley Young's *Origins of the Sacred: The Ecstasies of Love and War* (1991) has cautioned us against too easily accepting the view that war stems from hunting. While "common sense [might] say so, this has been questioned recently in the study of seemingly pacific paleolithic hunters, notably the Bushmen, the Eskimos, the Pygmies, and the Hadza of Tanzania. Each of these, however, are now living in reduced circumstances, and almost certainly practiced warfare in their heyday. . . . What is at stake here is ultimately Rousseau's noble savage, the peaceful paleolithic that knew no warfare until the neolithic and the domestication of animals. . . . To have a war you need not covet your neighbor's ass nor even his goods: his wife and above all his *territory* will suffice."

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King, Dean, and John B. Hattendorf, eds. *Every Man Will Do His Duty*. New York: Henry Holt, 1997. 406pp. $27.50

The nearly twenty years from 1793 to 1815 continue to be viewed as the "Golden Age of Fighting Sail." While some readers may have been introduced to the naval campaigns of that period by historians like Alfred Thayer Mahan, most became acquainted with them by reading the novels of Forester, Parkinson, Kent, Pope, Woodman, or O'Brian (and it is to O'Brian that this book is dedicated). *Every Man Will Do His Duty* provides the opportunity to shift from fiction to fact, to read first-person accounts of events during this same eventful period. Indeed, according to the editors, one of the articles, written by Captain Thomas Cochrane in a small, fourteen-gun brig, became the historical basis for much of Patrick O'Brian's novel *Master and Commander* (although this connection is revealed to tbe reader only in small print, buried in the notes at the end).

This book contains twenty-two articles by seventeen authors; they are personal narratives, and all have been previously published. From the title one might infer that the authors were all ordinary seamen, but although some of them were in fact seamen or midshipmen, many later went on to become warrant officers, commanders, captains, or flag officers.

The events described here include three large battles: the First of June, Cape St. Vincent, and Trafalgar. Also included are the frigate duel between the *United States* and *Macedonian*, the encounter in Valparaiso between *Essex* and *Phoebe*, as well as the subsequent battle between them, and a number of smaller but no less interesting actions. There is also an interview with then-Captain Horatio Nelson after the battle of Cape St. Vincent, at a time when he had yet to learn of the service's reactions to his audacity at that battle (in taking his seventy-five-gun ship HMS *Captain* alongside Spanish ships of much greater force—for which in fact he would win promotion and knighthood).

The editors have arranged the articles in chronological order, which is helpful to the reader, and they have also provided two useful summary maps, as well as detailed maps for six of the articles. King and Hattendorf have also provided informative summaries of each article (although readers who peruse the articles out of order should be warned that a portion of the summary of some of the articles appears at the conclusion of the article that precedes it). Readers can be thankful that the editors of this volume, as well as those of earlier works from which these articles have been taken, have corrected or updated the spelling and other errors that are likely to have appeared in the original versions, even though spellings like "Chili" and "Buenos Ayres" and "Margot" have been retained. The need for such editorial corrections is made painfully apparent by the inclusion of two articles written by Jacob Nagle that unfortunately contain the original spellings. Perhaps the original editor of Nagle's work would not permit updating.

Reading this work helps one to experience the uncertainties created by sightings of a "strange sail," as well as to appreciate the various measures that captains used to deceive other ships while trying to avoid being deceived themselves. The stories are a

useful reminder that life at sea then consisted of one part discipline, one part seamanship, and one part destruction. The essays are generally clear and direct, although some betray the writing style of the early nineteenth century. There are a few euphemistic lapses when events are described years later (such as when a Vice Admiral of the Red recalls that as a midshipman at the end of a battle he and his gun crew "committed to the deep" the bodies of shipmates killed in battle. It is more likely that they unceremoniously threw the deceased over the side).

A book like this raises an important question. Should the general reader's understandings of some historical period rely more on factual or on fictional accounts? This book suggests an ambivalent answer. For example, the Cochrane case: it is somewhat reassuring to learn that the fabulous exploits of the fictional Jack Aubrey were based on real exploits of the historical Captain Thomas Cochrane. In another case, the Nelson whom fictional Jack Aubrey encounters at a dinner table appears to be consistent with the Nelson described (after the battle of Cape St. Vincent) in an article by Colonel Bethune. But in other cases, the factual accounts contain details about flogging or avoiding impressment, for example, that would only rarely be found in fictional accounts.

Yet despite the clarity and directness of the factual accounts here, readers may sense that writers of such personal narratives may themselves have harbored some unstated but powerful motive: to persuade readers of the evils of impressment or flogging, or to impress readers with the bravery and unique experiences of the author, or to support the author's perception of honor. Writers of fiction strive to engage and sustain the attention of their readers, although they too may have larger motives. However, the reader may come away from this book with a renewed respect for the skill of the novelist who creates for us the "reality" of an earlier age.

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Recent Books

Arkin, William M. ***The U.S. Military Online: A Directory for Internet Access to the Department of Defense.*** **Washington, D.C.: Brassey's, 1997. 240pp. $29.95**

"The military is a high-tech organization," observes William Arkin, a frequent author and lecturer on security subjects, "so it should not be too surprising that . . . it has quietly led the Internet revolution. . . . The Defense Department should be thoroughly applauded for opening up to the public in this way." This tabular reference gives a snapshot (a World Wide Web site offers updates) of the sites that exist for "virtually every base and facility, command and office, unit and major ship"—essentially, but not exclusively, the "~.mil" domain. Aside from an important overview (which tackles such basic issues as what, properly, a "homepage" is) and a discussion of search resources and strategies, chapters give listings and brief descriptions of sites available for libraries and research institutions, the Joint Staff, the Air Force, Army, and Navy, and defense policies. Listings of major bases and commands and of acronyms. Also an index.

The Naval War College and its library are properly represented, but the Press online service was launched too recently—November 1996—to be in the book. Perhaps it will be added to the update listing. (The Press online service is at http://www.usnwc.edu/nwc/press.htm until 30 September. Thereafter it will be at http://www.nwc.navy.mil/press.)

Garfield, Brian. ***The Thousand-Mile War: World War II in Alaska and the Aleutians.*** **Classic Reprint Series (Fairbanks, Alaska), No. 4, 1996. 456pp. $24.95**

Since its first publication in 1969, this book has become the classic of that hard and often forgotten campaign. At the peak of the Cold War, it was required reading for the staff of the Third Fleet. In this edition, the author included new material and declassified photographs.

Attempting to divert attention from the Battle of Midway, the Japanese attacked Dutch Harbor and seized Kiska and Attu Islands in June 1942. Eleven months later American forces captured Attu from the Japanese in a cruel battle, suffering the second-highest loss ratio of any Pacific island invasion. In August 1943, American and Canadian forces invaded Kiska, only to find that the Japanese soldiers had fled the island under the cover of fog and bad weather. When the tides of the Pacific War rose elsewhere, the soldiers and sailors on the Aleutians continued their war against the cold, ice, snow, rain, fog, and wind. They prevailed—thus the special appeal this book has held for nearly thirty years.

Noer, John H., with David Gregory. *Chokepoints: Maritime Economic Concerns in Southeast Asia*. Washington, D.C.: National Defense Univ., Institute for National Strategic Studies, 1996. 99pp. $30

"Who benefits from keeping sea-lanes open, and how much do they benefit? . . . Who would be hurt if the sea-lanes were closed, and how much would it hurt them?" Answers to these questions are sought in this document, hy drawing upon "one of the largest data hases of commercial shipping ever compiled." By detailing trade patterns through chokepoints, and through the use of counterfactual measures of analysis, the economic impacts of their theoretical closure are explored.

The U.S. Navy is assigned the task of helping maintain freedom of passage through sea lines of communications (SLOCs). As noted by the author, the economic component of our national security strategy, most particularly as it applies to Southeast Asia, is to the post–Cold War era as was the military importance of keeping SLOCs open during the Cold War era. The U.S. position on freedom of navigation is unequivocal. The reader will find a profusion of facts and illustrations in support of the stated importance of maritime trade to national security, and of the documented necessity of maintaining freedom of navigation in Southeast Asian waters.

Rohwer, Jürgen. *War at Sea, 1939–1945*. Annapolis, Md.: Naval Institute Press, 1996. 192pp. $45

Beginning on page 15 with the dunupy old German battleship *Schleswig-Holstein* (it had heen dangerously ohsolete twenty-three years earlier when it fought at Jutland) firing the first guns of World War II against a Polish coastal fort on the Baltic in September 1939, and ending six years and 176 pages later with another battleship, the impressive new USS *Missouri* in Tokyo Bay (on whose 01 deck the war would soon end officially), this book covers in its large pages the many years of struggle at sea.

This is a book of photographs, with intelligent and concise (though not completely error-free) text to support them. Since the war was recorded pictorially almost entirely in black and white, it is so presented here. Because the photos are dramatic, many of them will be familiar to students of rhat war, but other views will be new to even the well informed reader.

Rohwer is one of the best, and best known, European authorities on the war at sea. He experienced that ordeal in full: first as a destroyerman, then in a mine "barrage breaker," and at the end as a naval infantryman.

For anyone seeking a quick, interesting overview of that long war, this book will serve well.

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Winners of the Hugh G. Nott Prize for 1997

The President of the Naval War College has announced the winners of prizes for the finest articles (less those on historical subjects) appearing in the *Naval War College Review* in 1997:

- First Prize, Capt. Wayne P. Hughes, Jr., USN, Ret., for "Naval Maneuver Warfare" (Summer).
- Second Prize, Lt. Mark W. Beddoes, USN, for "Logistical Implications of Operational Maneuver from the Sea" (Autumn).
- Third Prize, Gen. Richard I. Neal, USMC, for "Planning for Tomorrow's Conflicts: A Recipe for Success" (Autumn).

Winner of the Edward S. Miller History Prize for 1997

Through the generosity of the distinguished historian Edward S. Miller, the President of the Naval War College has awarded a prize to the author of the finest article on a historical subject to appear in the *Naval War College Review* in 1997.

- The winner is Prof. Frank Uhlig, Jr., for "The Constants of Naval Warfare" (Spring).
- Honorable mention was given to Benjamin L. Apt, for "Mahan's Forebears: The Debate over Maritime Strategy, 1868–1883" (Summer).

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These awards are made with the support of the Naval War College Foundation, a private, nonprofit organization dedicated to improving the quality of the educational resources of the Naval War College in areas for which government funds are not available