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NAVAL WAR COLLEGE REVIEW

Our Cover: "Dawn Departure," a painting by Robert Barbour. As the artist explains the action, "dawn breaks over the Gareloch [on the southwest coast of Scotland] as the HMS *Repulse* heads out on another Atlantic patrol. She is escorted as far as the deeper waters of the Firth of Clyde by assorted craft from the Faslane base, including a police launch and an inflatable."

2   Naval War College Review

Contents 3

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We note with sorrow the sudden passing of Colonel John J. Madigan III, USA (Ret.). Succeeding Colonel Lloyd Matthews as editor of **Parameters: The U.S. Army War College Quarterly** *in Autumn 1993, Colonel Madigan maintained that journal at the peak of professional military scholarship. Readers of the* **Naval War College Review** *were indirect beneficiaries of Jack's good counsel, great humor, and high editorial standards. Jack Madigan will be missed.*

On 3 November 1998, representatives from the Navy Staff, invited defense analysts, and Naval War College war gamers and faculty members assembled in Sims Hall to begin a strategic-concepts war game. Sponsored by the Deputy Chief of Naval Operations (Plans, Policy, and Operations), the three-day game would explore "Network-Centric Warfare and C2 Implications." The President of the Naval War College, Vice Admiral Arthur K. Cebrowski, delivered the opening remarks, from which the following has been adapted.

President's Notes

I WOULD LIKE YOU TO CONSIDER the honeybee. Take it from the hive, place it in a matchbox, drive a mile, and open the matchbox. The bee comes

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Vice Admiral Cebrowski has commanded Fighter Squadron 41 and Carrier Air Wing Eight, both embarked in USS *Nimitz* (CVN 68). He later commanded the assault ship USS *Guam* (LPH 9) and, during Operation DESERT STORM, the aircraft carrier USS *Midway* (CV 41). Following promotion to flag rank he became Commander, Carrier Group Six, and Commander, USS *America* Battle Group. In addition to combat deployments to Vietnam and the Persian Gulf, he has deployed in support of United Nations operations in Iraq, Somalia, and Bosnia and has served with the U.S. Air Force, the staff of Commander in Chief, Atlantic Fleet, the staff of the Chief of Naval Operations on four occasions, with the Joint Staff (as J6), and as Director, Navy Space, Information Warfare, and Command and Control (N6). Vice Admiral Cebrowski became the forty-seventh President of the Naval War College in July 1998.

out, flies up, turns toward the hive, and makes a straight line back home. How does it do that? The brain in that bee is smaller than the head of a pin. Just think how we struggle to get the Tomahawk missile to do what the honeybee does!

There are limits to what we know and understand, what we can design in spite of what we know, and what we can build. Most important, there are limits to the way that we conceive things. When we smash into these limits, we become frustrated and risk doing things we later regret. Another limit is cultural:* all here in this room are successful people, brought up in a certain system, in which the power is located in a certain place. We're comfortable with that system, because we know it—and to some degree we understand it.

When we talk about command and control in warfare, we run into our own conceptual and cultural limits. We have a certain conception, which is inherently limiting; we hit those limits, and then we have big argnments. Our discussions are very worthwhile, very important, if they help us analyze where these limits come from. Are they valid? What is the price of these limits? Are we willing to keep paying such costs? Are there alternative approaches that are perhaps somewhat less limiting? I hope you can keep these questions in mind throughout this three day game.

Many in this meeting are saying, "We have done very well in command and control. We know how to do this." But do we do as well as we can do? Do we know all we can or should about it? Certainly not. Does the age that we are in, or are moving into, offer something not now in our body of knowledge? Certainly yes.

But first, let's make clear what we are talking about. First, *command*—which, according to the Joint Chiefs of Staff (JCS) definition, is what a commander "lawfully exercises over subordinates by virtue of rank, or assignment"—includes "the authority and responsibility for effectively using available resources . . . for the accomplishment of assigned missions." *Command and control* is subtly but significantly different: "The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission."

Finally, let's take a look at the key component of "C2"—*control*, which is defined in part as "authority which may be less than full command exercised by a commander over part of the activities of subordinate or other organizations." There is an important item missing in the Joint definition of control. If we were talking about management instead of the military, "control" would include *feedback loops*. A thermostat, for example, is a closed-circuit control loop: it collects

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* For military culture and the new sciences, see James R. FitzSimonds [Capt., USN], "The Cultural Challenge of Information Technology," *Naval War College Review*, Summer 1998, pp. 9–21 (http://www.nwc.navy.mil/press/Review/1998/summer/art1Su98.htm).

feedback regularly and makes adjustments. But there is no mention of feedback in the official definition of control. Is the presumption that we can have effective control without feedback, which is simply not true? Why did our colleagues who crafted or approved this definition not include feedback? What barriers kept such an obvious thing, which is taught in every management course, from appearing in our definition? What is it about our culture that disallowed its explicit inclusion?

Consider another term, one for which there is no JCS definition: what is "battle management"? When you go into battle, do you want to be led, or do you want to be managed? What's going on, when we find ourselves talking about "battle management"? Is it just a way to insert some kind of feedback loop, so we can have true control? Or perhaps people think they can reach down onto the battlefield and manipulate soldiers and Marines from afar. Is that what we want it to mean? What is "battle management" trying to get us to do that we are not now doing? Do we like that? I think not.

Do you expect that in three days you will reach conclusions that the Joint Staff can pour concrete around? Then you think that we here in this room can predict the future, and the people who follow us will be burdened with the baggage of your decision for the next fifteen years. If you do, I want this war game shut down—I will not tolerate it. We would be doing a great disservice to the men and women who will follow us. Or are we going to do this in a way that will allow the solution to move with the circumstances and the advances in knowledge that will certainly come? I think that is what we want; we have to work in a way that will tolerate change. It took years to get to those definitions we discussed, and all that they imply; now we are saddled with them.

One of the reasons we want to be led instead of managed is that in our heart we know that we lead *people* and manage *things*. That brings us to the question, what wins wars—people or things? My answer is that human factors dominate in outcomes. How well do we model this? Poorly. In the course of a discussion this morning I raised the matter of the bombing of Dresden in February 1945: 135,000 casualties in essentially a single day, almost all civilians. Of course, the reply was that the raid had been an effort to get at the human factor. Readiness is a function of cohesion, morale, will, cognition, courage, leadership, training, and many other such things before one comes to the first piece of hardware. The idea had been that perhaps killing 135,000 civilians would break the enemy's will, suppress his morale, destroy his cohesion. Will it? Did it? We have in existence proof that it did not. Yet that kind of approach continues to find its way into our strategic thinking.

The point is that we have not invested in research that will allow us to couple military action with the factors that determine the outcome of warfare. Perhaps that is why the feedback loop does not show up in the Joint definition of the word "control": we do not know what it would look like. If you are going to

have proper control, you must have a feedback loop, so you are able to measure effectiveness, and—most fundamentally—you have to know what to measure.

Sadly, many in the defense science and technology community do not think that such a difficult and truly huge issue merits technical study. If you feel otherwise, that might be another useful finding as to what we need for command and control in the future. Why have people been conditioned always to expect a technological solution? Is it because network-centric warfare* emerged from the Joint Staff J-6? I served there, as Director for Command, Control, Communications, and Computer Systems—consequently many said, "This must be a technical solution." We must talk about the human factors, not the things—certainly not *just* the things. The human factors interrelate with the things, and that interrelation needs to be explored as well.

In the business world and in some areas of the public sector, people have thought of new ideas, new ways of putting things together, and have achieved profound improvements. My favorite case study is the New York City Police Department. It had done the same thing for decades and considered itself good at what it did. But it realized that if it changed its command and control structure, plus other important factors, its performance could improve dramatically. And it did. If instead its leaders had said, "Wait a minute, we're the NYPD; we know how to do this, we're not interested in learning anything more about command and control," they would have gotten nowhere. In this area, which is both critical and complex, we must admit there is much we don't know.

Let's take a different perspective. Every process or system has an element or point of complexity—the point where the key things come together, where the underlying rule set is placed into effect. Almost everything we do in the military is very complex; a multiplicity of systems interact, forming what is frequently called a *system of systems*. The interesting area in these systems of systems is where those complexities intersect, how they come together, are linked, or interrelate. If you cannot find the complexity, it is very difficult to study a process or a system. Consider two concepts about where system complexity should be located.

One is a centralized approach, where the complexities are focused in a single area or point. This leads to the notion of *integration*, a very difficult and often expensive approach, but one that Americans probably do better than anyone else. In the integrated approach one tries to achieve an optimized result—the very best that one can do. Integrated systems become very finely tuned, and because they are finely tuned they can perform very well, do truly extraordinary things. But they are characterized by systems risk. Such a system also tends to give

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* For network-centric warfare, see Arthur K. Cebrowski [VAdm, USN] and John Garstka, "Network-Centric Warfare: Its Origin and Future," U.S. Naval Institute *Proceedings*, January 1998, pp. 28–35.

8 Naval War College Review

decreasing return on investment as one seeks to optimize it, putting in more resources for smaller improvements—the famous S-curve. Also, of course, it is largely command directed, from the top down.

The alternative approach can be described by the *locus* of complexity rather than the *focus* of complexity. That is a more decentralized approach. Rather than being integrated, the points of complexity are *netted*. There is normally little effort at optimization of the total system. Rather, the objective is to achieve dynamic fitness in a changing and adaptive environment. There are risks, but the risks tend to be localized. This kind of arrangement has the possibility—not the guarantee—of increasing returns on investment, and it tends to work from the bottom up.

I asked a very bright computer scientist, Captain (select) Melinda Moran, U.S. Navy, what the difference was between "netted" and "integrated," and I received this very interesting reply:

> I guess my answer would be that I don't think the question is centralized, decentralized, or integrated versus networked so much as it is the right mix of both properties in the same complex, adaptive system. If you look at most biological models, they're a hybrid of both types of organization. The brain in the human body is obviously the centralized intersection point of excitement of the human system, but the immune system is clearly a networked, decentralized system. What I think would be fascinating is to discover the right mix of parameters required to be effective in myriad situations. Time, or responsiveness, is obviously one of them. In an immediate and extreme danger situation, the human response is limbic, that is, not one of considered, integrated, centralized decision by the conscious brain. The longer-term projects, however, such as creating a new widget, is where you clearly want the integrative power of a system such as the brain, where the whole is greater than the sum of the parts. Consistency is another parameter. The more you distribute, the more inconsistency you risk. But with that diversity, the greater your survivability.

From this I conclude the issue is not necessarily an either-or phenomenon but one of how to choose the mix. To make the choice, we must discover the basis for choice. Much of network-centric warfare talks to the netted, self-synchronizing, bottom-up phenomenology, because of the conviction that the big payoffs are in speed of response. Many of the powerful information-age effects we see are based on this kind of speed.

Now, I don't mean speed of *decision*, which is just an element of total system response. For example, think for a moment about a patrol in Somalia. At one level, its rule set was decided upon in a centralized way, slowly and carefully; it considered all the factors of culture and the like. On the other hand, the patrol needs to respond instantly—or it's dead. Also, I think there are times when you want things to go slowly; some things go very slowly but achieve a profound

effect, and it is the effect that you want. For example, if you see a weapon coming and you know it's going to hit you, your response is going to be different, and probably worse, from what it would be if you hadn't had time to worry about it. So that weapon can be slow but still have a profound and high-speed effect. The outcome may be determined less by the speed of some input factors than by the speed and extent to which they break down unit cohesion, will to resist, trained responses, and so on—which we'd like to do at very high speed.

Speed is important. For instance, it allows one to coalesce the levels of war. In some situations, dealing with tactical problems at very high speed can achieve strategic effect, removing the critical time element, and allowing us to fight on more favorable terms.

Also, one wants to tighten up combat time lines to get kills. Some people have mistakenly concluded that "high-speed, automated assignment of resources to need" means that network-centric warfare will take people out of the loop. That could not be further from the truth. Actually, a great deal of automated resource-to-need is currently done today; it works. Do you want that all the time? Well, for heating and air conditioning, yes. Do you want that in combat? Maybe—it depends. After all, a human being creates the rule set that underlies the automated allocation of resources; a human being decides whether to allow the process to proceed, or to alter it. So we have certainly not advocated the removal of people from the combat environment; the reason we want to automate the resource-to-need process is that speed counts.

A corollary of speed of response is precision. Three elements of weapon precision are worth talking about here. One has to do with hitting with high reliability the target that we intend to hit. A second concerns not missing the right target by much if one misses it at all; most smart weapons today don't miss often, but when they do, they miss by a lot. The third form of precision speaks to causing predictable effects, or consequences, by hitting the target. Counterintuitively, information warfare may be one of the least precise forms of warfare. In IW we have no idea what the secondary and tertiary consequences are, no indicators of effectiveness, no way of measuring them—so we can't have a feedback loop. How can we have precision?

In an open, network-centric command structure*—which is different from platform-centric command structures and has a different underlying rule set—one of the enabling elements is a highly *webbed* information service. "Webbed," as opposed to just "netted," implies a network architecture with inherent robustness, or survivability. Another element is access to all appropriate information sources. Notice, I do not say that each node in the network has all

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* For netted structures, see John W. Bodnar and Rebecca Dengler, "The Emergence of a Command Network," *Naval War College Review*, Autumn 1996, pp. 93–107 (http://www.nwc.navy.mil/press/Review/1996/autumn/comm-a96.htm).

available information, which is different. You can have a networked environment with very small communications "pipes." That's already happening, in what are called "embedded computers"—powerful but small computers with quite narrow bandwidth, relatively small rule sets triggered by often minute amounts of information, and with feedback loops just as small, in some cases a single bit. Millions of embedded computers are running in America today. Consequently, we do not need enormous information "pipes" all over the battlefield, every soldier carrying a supercomputer on his back.

An important military case study is one of close air support. It represents a form of attack against moving targets, which I think is one of the most difficult things we have to confront on the battlefield. Although it is very important and we train hard at it, the results are mixed. In this system of systems, the complexity is centralized inside the pilot, who has to fly the airplane, select the weapons, avoid defenses, navigate, adopt an appropriate weapons profile, and do very-high-speed pattern matching—for which there is somewhere between six and nine seconds. If the pilot cannot do all these things, we get failure. In my opinion, we are currently doing close air support today the best way we can with the equipment we were provided yesterday. A relatively small change can make a big difference; people are already making such changes, and as they do, close air support improves tremendously. The key to all such improvements is shifting the systems complexity from the pilot to the netting of complexities.

Command and control might be pivotal, but nothing says it won't be done badly. It frequently is, and it can kill you. Probably the second-greatest problem after the mislocation of key activities or processes is that of C2 time delays.

In one recently proposed weapon system, information had to be disseminated in less than five minutes; in the proposal, it was going to take twelve. What this says is that we cannot buy certain weapons unless we change our command and control structure; if we do not, we can't get the kills. Even with no delay at all in getting data from sensors to shooters, there is physics to deal with: an aerodynamic or ballistic weapon has a certain speed and a certain time of flight, so against moving targets its performance is subject to decay. Still, studies show that performance decay is caused far more by command-and-control delay than by range. That means I can tolerate slower, and cheaper, weapons if I improve my command and control. People say they want more rounds on target, and I agree, but they are not going to do that by buying more bullets if they have large delays for command and control. The soldier or Marine is still going to die, and the weapons will still be in the magazine.

There is yet another way command and control can kill you. Efforts to achieve centralized coordination of fires can result in both firepower and force-level decrements sufficient to alter outcomes. While coordination of fires is laudable, it is difficult to do, especially from a centralized location, and the potential downside can far exceed any benefit. Until recently, the means to

achieve coordination of fires through a more decentralized and lower–risk approach was not generally available. Now it is.

What I have tried to provide you are alternative perspectives on command and control. I have identified some of the larger errors and pitfalls in C2 and pointed you toward ways of getting at solutions.

Now I've stated the problem. All you have to do is solve it.

ARTHUR K. CEBROWSKI
Vice Admiral, U.S. Navy
President, Naval War College

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"... From the Sea" and Back Again
Naval Power in the
Second American Century

Edward Rhodes

The necessity of a navy . . . springs . . . from the existence of peaceful shipping, and disappears with it, except in the case of a nation which has aggressive tendencies, and keeps up a navy merely as a branch of the military establishment.

Captain A. T. Mahan,
The Influence of Sea Power on History, 1660–1783, 1890

The primary purpose of forward-deployed naval forces is to project American power from the sea to influence events ashore in the littoral regions of the world across the operational spectrum of peace, crisis and war. This is what we do.

Admiral Jay L. Johnson,
"Forward . . . from the Sea: The Navy Operational Concept," March 1997

W HY DOES A LIBERAL DEMOCRATIC REPUBLIC of nearly continental size require a navy? How does naval power contribute to national security and the achievement of national objectives? What does this imply about the kinds of naval forces that a liberal democratic republic requires and about the peacetime and wartime naval strategies it must pursue?

In the 1990s, as at critical junctures in the past, long-standing answers to these questions about what necessitates the maintenance of naval power and what it is that a navy does that justifies the expenditure of national wealth on it have been

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14 Naval War College Review

called into question. This essay explores the efforts of the U.S. Navy to design a naval force posture and strategy consistent with the images of national purpose and international conflict that dominate fin de siècle American political discussion. Central to the Navy's efforts to link naval power to national security in the new century has been the rejection of Mahanian notions of naval power, with their emphasis on the control of the international commons, and the embrace of the assumption that to be relevant to American security objectives, naval power must be applied "from the sea" against sovereign transoceanic actors. Understanding the forces that led the Navy to this conclusion offers insight both into the difficulties the Navy is presently encountering in operationalizing its vision of naval power and into the range of alternatives available to the service as the nation moves into its second century of global politico-military preeminence.

Naval Power in National Strategy

Postwar military planning is notoriously difficult, and the synchronization of Navy strategy with national grand strategy has historically been problematic for the U.S. Navy. How to make naval power relevant to the concerns of national decision makers, given their particular conception of world politics, American national interest, and international violence has resurfaced as a critical issue with remarkable regularity: in the early 1890s, the early 1920s, the late 1940s, the late 1960s, and again today.

In the aftermath of World War I, for example, Navy and national leadership operated from sufficiently different assumptions that for roughly a decade the liberal isolationist Republicans who controlled the White House found it expedient essentially to exclude the Navy from the nation's naval planning. The "new order of sea power" that emerged from the Washington Treaties of 1922 was negotiated without significant input from the Navy; the resulting American fleet lacked capabilities that Navy leaders, operating within a very different intellectual framework for understanding national security, regarded as necessary for the effective protection of American national interests. After World War II, the disjuncture between Navy planning and national strategy reached such a magnitude that in 1949 the Navy's top leadership lined up to testify in Congress against the administration's policies, in the so-called "revolt of the admirals," and paid the predictable price. Two decades later, as the nation wrestled with the lessons of Vietnam, the Navy's force-posture and strategic accommodation to the national political currents was perhaps more successful, but the costs to the Navy as an institution, measured in morale and a protracted period of "hollow" forces, were enormously high.

By comparison, adaptation to post–Cold War structural and political realities appears to have proceeded remarkably smoothly: the Navy's difficulties in remaking its strategic concepts and force structure to adjust to post–Cold War

foreign and national security strategy appear to have been remarkably modest. Virtually overnight, the Navy redefined how it proposed to contribute to the national weal, shifting its justification for American naval power from a "Maritime Strategy" that emphasized the value of destroying the enemy's fleet and controlling the high seas to a littoral strategy that stressed employing Navy forces to project military power ashore. This shift was not simply rhetorical: it involved a substantial refocusing of naval capabilities and efforts, from forces designed and trained to seek out aggressively and give battle to an advanced and highly capable opponent, to forces designed and trained to exercise gunboat diplomacy across a spectrum of violence from peace to major war. Within the naval family, it also involved a redefinition of the always-sensitive relationship between the Navy and Marine Corps.

The apparent ease with which the Navy achieved internal consensus about the direction in which it needed to move and the dispatch with which it has proceeded should not obscure the magnitude of this achievement. Redefining the meaning of naval power and the Navy's central tasks was an enormous undertaking, both intellectually and bureaucratically. Intellectually, the new littoral strategy required writing off the substantial human investment that had gone into developing, elaborating, and institutionalizing the Maritime Strategy in the early and mid 1980s. The emotional, cognitive, and organizational costs associated with abandoning the monumental edifice of the Maritime Strategy and adopting a vision of naval warfare that had never, in the Navy's two-hundred-year history, dominated thinking or shaped actions should not be underestimated simply because they were paid. Nor were the bureaucratic obstacles small or painless: abandoning the high-seas focus of the post-Vietnam Navy and adopting a littoral one necessitated a significant shift in resources within the Navy itself, from the submariners (who had increasingly come to dominate the Navy in the 1980s) to aviators and surface sailors. This was a strategic shift with real human consequences, demanding that individuals make and endorse decisions that would put their own futures in the Navy, and the futures of their junior officers, in jeopardy.

For scholars who have speculated that absent intervention by political authorities, military services are extremely limited in their capacity to engage in nonevolutionary strategic adjustment, the Navy's development of its littoral strategy offers extraordinarily interesting disconfirming evidence.[1] Avoiding the errors of 1922 and 1949, the Navy recognized that new postwar conditions (domestic as well as international) would mean not only a change in the nation's grand strategy but a wider, more sweeping transformation of the national leadership's underlying assumptions about the nature of American foreign policy and international conflict—and that the Navy would have to adapt its vision of national security and war to match that of the political leadership if it was to remain relevant. Simultaneously avoiding the errors of 1968–1974, the Navy

recognized that a broad reeducation process within the service, designed to create an institutionalized consensus on the purpose of naval power, was necessary if strategic adjustment was to occur without destroying the Navy as a functioning institution. Tailoring Navy force posture and strategy to new grand strategic concepts was by itself insufficient: a broadly shared understanding of the new role and missions of the Navy would be necessary if the process was to be successful. (Indeed, the Navy has actively sought not only to build an intellectual consensus within itself but to educate the other services and create a joint consensus on the meaning and uses of naval power.) The Navy's approach to developing and institutionalizing its new strategic conception was thus a deliberately self-conscious one.[2]

The problem of strategic adjustment has not simply been one of overcoming intellectual and bureaucratic inertia, however. Uncertainty made—and continues to make—the process of developing a Navy strategy consistent with national grand strategy a difficult one. The environment of the early 1990s was ambiguous in two critical regards. First, the international strategic climate was unclear. The kind of threat the Navy would face—the kind of war it would next be called upon to fight, or the kinds of peacetime policies it would be called upon to support—was, and indeed still remains, uncertain at best. Second, the internal cognitive-political environment in which the Navy found itself was equally unclear. In the early 1990s the nation's vision of national security and of the nature of international conflict was in transition, its ultimate content undetermined. Thus both what the Navy would be called upon to do and the terms or intellectual framework within which the service would have to justify itself to the nation's political establishment were indeterminate.

To be sure, that the end of the Cold War logically demanded a change in Navy strategy was abundantly clear. DESERT STORM brought this lesson home to the Navy. As Admiral William Owens observes:

> Unlike our Army, Air Force, and Marine Corps comrades in arms, we left the first of the post–Cold War conflicts without the sense that our doctrine had been vindicated. Quite the contrary. We left knowing not only that the world had changed dramatically, but that our doctrine had failed to keep pace. Little in Desert Storm supported the Maritime Strategy's assumptions and implications. No opposing naval forces challenged us. No waves of enemy aircraft ever attacked the carriers. No submarines threatened the flow of men and materiel across the oceans. The fleet was never forced to fight the open-ocean battles the Navy had been preparing for during the preceding twenty years. Instead, the deadly skirmishing of littoral warfare dominated. . . . For the Navy, more than any other service, Desert Storm was the midwife of change.[3]

But what change would prove acceptable to the nation's political leadership and would harmonize with national strategy was less clear. The end of the Cold

War and the cultural tensions associated with movement to a postindustrial economy and an explicitly multicultural society meant that the elite's conception of both American national security policy and naval power was malleable at best and fluid at worst.

National Security in the National Imagination

For roughly forty-five years, Navy strategy could safely be predicated on the assumption that the dominant national vision of national security was a Realist-internationalist one. By 1946 or 1947 a consensus had developed within the American political elite that the world was an inherently conflictual place—that security could not be guaranteed by cooperative international institutions but required active military measures to guarantee some sort of favorable international balance of power—that the American state's political essence and America's national interests demanded military engagement in world affairs—and that ultimately American political life was not purely an internal matter but rather derived its meaning and purpose through its interaction with the outside world. The American republic could not, in this conception, survive indefinitely as an island of liberal democracy in a hostile world, and the hostility of that world could neither be eliminated nor held in check through international institutions. Together the Realist vision of a violent world and the internationalist vision of a globally engaged America implied a national security policy aimed at vigorous maintenance of an international balance of power or, better, at a preponderance of power that would roll back forces inherently and unalterably hostile to the continued survival of the American republic.

For the Navy, this Realist-internationalist national vision, and the national security policy consensus in favor of global containment that derived from it, justified a major national investment in forward-deployed naval power. The familiarity and "normality" of this naval posture and strategy to the two generations of Americans who matured during the Cold War should not obscure its striking oddity: a liberal, democratic republic, basically self-sufficient in economic resources, possessing a competitive industrial base, and lacking any imperial pretensions or objectives, built and trained naval forces to exercise nothing less than global naval hegemony—and paid for this capability a price roughly equal to 2 percent of gross national product. This naval strategy made sense only in the context of a vision of national security that assumed the external world was populated by forces implacably hostile to America and that even if it secured its own borders, the American republic could not survive in a world dominated by such forces.

By the late 1980s, however, both of the underlying elements of this Realist-internationalist vision were in question. On the one hand, a mellowing image

18   Naval War College Review

of communism (followed by the collapse of communism as a viable ideological alternative), in conjunction with a domestic social transformation that underscored the potential for tolerance and cooperation among disparate groups, challenged the conflictual foundation of the Realist perspective. Increasingly, liberal ideas, stressing the potential for such institutions as the market and law to provide satisfactory mechanisms for resolving conflicts—ideas redolent with the tradition of Woodrow Wilson and Franklin Roosevelt—reentered political discourse, suggesting the possibility that American security policy ought to be based on liberal institutions, not military power. Beginning with Nixonian détente, the notion that security might be achieved through institutions like arms control and trade began to burrow its way into American political consciousness, like a liberal worm in the comfortably solid reality of the Realist apple. Though the post-Afghanistan Cold War reprise froze such heretical ideas, pushing uncommitted thinkers such as Jimmy Carter back into Realist patterns of thought (and pushing such liberal heretics as Cyrus Vance out of government circles entirely), and though the Reagan administration's view of an inherently dangerous "evil empire" led it to doubt the efficacy of even such limited security institutions as Mutual Assured Destruction, Realism's hold on the American imagination was loosening for a variety of reasons, including long-postponed generational change in leadership circles. By the early 1990s even George Bush would speak openly of the potential for a new world order.

At the same time that Realist presumptions of an inevitably disordered and conflictual international system were being challenged, the internationalist vision of America—of an America whose essence was defined, or at least proved, by its active, positive role in the world—was also being called into question, though admittedly to a lesser degree. The integration of American society and economy into the larger world and the existence of improved means of mass communication (able to convey world events to American households with a heightened immediacy) worked strongly against a return of isolationism. Nonetheless, the social dislocations associated with movement to a postindustrial economy, coupled with the absence of any clearly identifiable external adversary to blame for internal distresses, resulted in increasing cognitive tensions in maintaining the old internationalist image and in a growing presumption that the principal focus of the American state's attentions ought to be internal, not external.[4]

The end of the Cold War thus coincided with and exacerbated an emerging cultural struggle over how to visualize national security. This struggle between four competing visions—Realist–internationalist, liberal–internationalist, Realist–isolationist, and liberal–isolationist—logically has an enormous impact on the type of naval power the United States requires.

In the twenty-first century no less than during the Cold War, a Realist–internationalist vision of American security policy implies the need for a large,

forward military capability backed up by substantial mobilization potential. Given the Realist-internationalist framework for conceptualizing American security requirements, the U.S. military must be able to act unilaterally to contain or defeat the hostile powers—China, Russia, an Islamic world—that inevitably will emerge to challenge the United States and the balance of power that protects its interests. Clearly, this sort of Realist-internationalist vision of security policy, which drove the American pursuit of naval power from 1890 to 1922 and from 1946 to the end of the Cold War, has deep roots in the political culture of industrial America. The continued attractiveness of this model of world politics is reflected both in the popular appeal of "clash of cultures" theses and in the strenuous intellectual efforts in the Pentagon and elsewhere to envision China as a looming and inevitable adversary, demanding vigorous balancing action.[5]

By comparison, an America with a liberal-internationalist vision of its world might require marginally smaller forces. These forces, however, would still have to be substantial and quite possibly would require increased flexibility. (Indeed, the substantial scale of military capabilities implied by this vision is suggested by an examination of the programs of Woodrow Wilson and Franklin Roosevelt.) While in the Realist-internationalist model forward engagement is necessary to maintain the balance of power and to contain aggressors bent on world domination—that is, to prevent dominos from falling—in the liberal-internationalist conception forward engagement is needed to reassure more timid members of the international community of the security provided by emerging liberal, democratic institutions; to support the nation and state building that will provide the institutional building blocks of international order; and to deter atavistic "rogue" states, like Iraq, Iran, and North Korea, from lashing out before they finally succumb to the dialectic social and economic forces of liberal democracy. Where in the Realist-internationalist view military forces can be tailored for fighting war, possibly even for fighting the general war that represents the ultimate danger, in the liberal-internationalist understanding military forces need to be capable of a wider variety of activities and need to be able to act in concert with allies or within a coalition framework, even when such cooperation is not militarily necessary.

By contrast, a Realist-isolationist vision of America and its world would dictate military forces capable of shielding fortress America from the dangers outside—missiles, terrorists, refugees, and drugs—and of punishing aggressors who attempt to interfere in American affairs. If Realist internationalism represented the worldview of Teddy Roosevelt, Harry Truman, and John Kennedy, and if liberal internationalism reflected the vision of Woodrow Wilson and Franklin Roosevelt, the American exemplars of a Realist-isolationist vision might be George Washington and John Adams. Essentially an updating and translation into modern, high-tech form of the kinds of military forces this nation possessed

in its first century, a navy for a Realist-isolationist America would resemble a super–Coast Guard, enhanced with ballistic and cruise-missile defenses and an effective area-denial capacity, married to a specialized force able to conduct purely punitive operations against aggressors. While, depending on the magnitude of foreign military threats, Realist-isolationists may see the need for substantial American military efforts, they are unlikely to support efforts that would involve America overseas or provide the United States with the means of transforming other societies. Apart from immediate threats to American shores, they are unlikely to be concerned either about the maintenance of some sort of global balance of power (since developments elsewhere in the world are not viewed as matters appropriate for American intervention) or about the impact that American defense efforts might have on the behavior of others (since the hostility of others is assumed).

A liberal-isolationist vision of America, like that embraced by the Republicans of the 1920s, underscores the need to avoid military forces that would trigger security dilemmas, that would interfere with the organic growth of liberal democratic societies abroad, or that would enhance the power of militarist and antidemocratic ideologies and interest groups at home. Where Realist isolationists see the world as a dangerous place and attempt to protect American security by establishing a barrier against it, liberal isolationists see it as a potentially friendly place but find no reason to become deeply involved, at least militarily, in its affairs. International order is quite possible and highly desirable, but it develops naturally out of the interaction between liberal democratic societies. The contrast with liberal internationalism is revealing: where Wilsonians assumed that liberal democratic institutions might at least sometimes grow out of the barrel of a gun and that the emergence of liberal national politics could be helped along through timely outside intervention, and where FDR's liberal internationalism emphasized the need for policemen even in well ordered societies, the liberal-isolationist vision stresses that a peaceful international system requires that each national society focus on its own perfection, and concludes that external military interference is more likely to be a hindrance than a help.[6] While American forces might be called upon to participate in overseas humanitarian ventures, for liberal isolationists the central problem in designing forces is a negative one: how to avoid stimulating undesirable reactions abroad or a militarist culture at home. The difference between the internationalist and isolationist versions of liberalism thus hinges principally on the assumption of where the principal danger to liberal democratic polities lies: externally, from aggressive neighbors, or internally, from illiberal or undemocratic social forces.

Part of the problem facing the U.S. Navy in the early 1990s was thus to anticipate the framework within which national leadership would visualize American national security. It is unclear whether awareness of the lesson of the 1920s was widespread within the Navy, but that lesson was certainly there to be

learned: in the 1920s when Navy leadership tried to justify naval power in the Realist-internationalist terms that had shaped national thinking from 1890 to 1912 to a political elite that had come to view the world in liberal-isolationist terms, the result was disastrous. Because they made no sense in the intellectual framework employed by national leaders, Navy efforts to explain the national need for naval power were dismissed as parochial special pleading. This was clearly a danger again in the 1990s.

War in the National Imagination

At the same time, however, Navy leadership also had to pay close attention to a second set of competing visions, more specifically about the nature of war and the role of naval power in war. Across the nation's history, American thinking has shifted between two fundamentally opposed views of warfare. One, with roots in the colonial experience and linked to a construction of national identity that is largely independent of the state, has seen war as a struggle between competing national societies or ways of life—English versus Indian, American versus English, American versus Mexican, Northern versus Southern, democratic versus fascist/militarist, free/democratic versus enslaved/communist—that ultimately pits an entire people against another. The other has its roots in the European state tradition and is linked, in American history, first to Hamiltonian efforts at state building and, a century later, to the Progressive movement's efforts to transform the American state into an institution capable of dealing with such national social problems as industrialization and Reconstruction. This second vision has interpreted war as a clash between rival states and their professional military establishments.

These competing countersocietal and countermilitary visions of war obviously have very different implications with respect to the appropriate uses and targets of violence. In its extreme form, the first seeks the extirpation or transformation of an opposing society, and in its moderate form is willing to impose pain directly on an opposing society in order to gain political concessions; the second views war as a chivalrous clash between warriors, a competition between champions, to adjudicate a dispute between rival states. In the first, war is Hiroshima, the *Lusitania*, Sherman through Georgia, and the destruction of Indian villages' winter grain stocks; in the other it is Jutland, Ypres, or the charge up San Juan Hill. In one, the deliberate reduction of the Soviet Union to radioactive rubble is acceptable; in the other, the accidental death of a few hundred civilians in a Baghdad shelter is unacceptable.

In the same way that it has shifted between countersocietal and countermilitary visions of war, American political culture has also shifted between oceanic and cis- or transoceanic visions. Oceanic visions assume that the political objectives of war can be accomplished by controlling the international commons and

thereby dominating participation in international society: while invasion may follow, control of the ocean is by itself determinative of outcome. The economic, military, political, and social value of using the commons or engaging in international interaction is regarded as sufficiently high to decide the fate of states and nations. Control of the oceans implies control not simply of the world economy but, through the capability to support coalitions and alliances, of the global balance of power.

Cis- and transoceanic visions, by contrast, assume that war requires the destruction or occupation of the adversary's territory to achieve its purpose. Protection of one's own homeland (the cisoceanic vision) assures political stalemate; successful assault on the adversary's sovereign domain (the transoceanic vision) is necessary for decisive political victory. In this view, actions on the international commons merely facilitate action in this decisive theater of terrestrial sovereignty.

In the period from 1949 to 1968, the Navy harmonized its strategy with national strategy by accepting the political leadership's view of war as essentially a transoceanic countersocietal exercise. That is, the dominant view in political circles, which (after the revolt of the admirals) the Navy under Admiral Forrest Sherman and his successors accepted, was that to achieve its political effect war would need to be brought to the sovereign territory of the adversary to seize control over that territory, and that the appropriate target of military action was the adversary's society, not simply his military forces. For the Navy this meant that the principal justification for naval power was its ability to bring strategic war to the adversary's homeland and to facilitate a war of occupation that would bring the adversary's society under American military control. The Navy's 1946–1949 efforts to justify its program in alternative, more traditional terms—in terms of the Navy's ability to defeat an opposing fleet and control the oceans—had met with increasing incomprehension and, in 1949, with the public rejection of the Navy program in favor of the Air Force's plans for strategic bombardment. In the post-1949 period, therefore, the Navy pursued a "balanced fleet" whose mission in general war was to seize and support forward bases for strategic bombing and, ultimately, for the invasion of the Soviet Union. In more limited conflicts, this "balanced fleet" would support force projection into the Third World. Consistent with this vision of warfare, as the Cold War progressed the Navy vigorously sought a capability to conduct carrier-based and later ballistic missile attacks on the Soviet Union, to control sea lanes of communication to critical theaters, and to project strike air and significant Marine power into the Third World.

For a variety of reasons, the American elite and attentive public abandoned this vision of war in the late 1960s, and by the early 1970s a new vision, an oceanic countermilitary one, was firmly fixed.[7] Americans would fight war by controlling the commons and by using this systemic dominance to shift the military

balance of power in favor of allies and proxies. The Navy, or at least its top echelons, moved lockstep with national leadership in this transition. Between 1968 and 1974 the Navy dramatically reconfigured itself, slashing forces for amphibious warfare and for maintaining the defensive sea control needed to protect the convoys required for transoceanic operations. Initially, this transformation required no justification, since it meshed with national thinking (most clearly expressed in the Nixon Doctrine, regarding the potential for winning wars at a distance by using control of the commons to empower proxies) and with popular disillusionment with any image of war that suggested the necessity of actually occupying or transforming a hostile society. The post-1968 Navy was thus reoptimized for aggressive operations against enemy fleets aimed at seizing control of the oceanic commons. As a practical matter, this meant redesigning the fleet to take the war into Soviet home waters and destroying Soviet naval power, root and branch.

During the Carter administration, Navy policy moved too far in the direction of an oceanic countermilitary strategy for the comfort of some political leaders. Figures in the Carter administration, most notably Robert Komer, who clung to a transoceanic countersocietal image of war, were openly critical of the Navy, arguing that the key pillar of American security was protecting Western society along the central front in Europe and that the essential Navy contribution to national security was the protection of sea lanes of communication to this terrestrial front.[8] In response, the Navy began to develop and articulate its oceanic countermilitary vision and to explicate the ways in which the reoptimized Navy could be used to generate the desired political outcomes. In the 1980s, these efforts came to fruition in the Maritime Strategy.[9]

As with alternative visions of national security, alternative visions of war imply the need for different types of naval power as well as suggest different frameworks for justifying the acquisition of the tools of naval power. As noted, transoceanic countersocietal images of war imply a navy designed to launch strategic blows and to support the Marine Corps, Army, and Air Force as they bring war to the homes and workplaces of an enemy society. The enemy's military establishment represents a target only to the extent that it possesses a capacity to interpose itself between American military power and the target society; the enemy's navy needs to be neutralized if it threatens to interfere with forward operations, but its destruction has no value in itself; while sea lanes of communication must be protected, a task requiring broadly dispersed forces and sustained effort, enemy bastions need not be invaded. Unless the war can be won quickly with strategic bombardment, victory will require the occupation of the adversary's homeland and the subjugation of his society, and this implies the need for a substantial mobilization base for a protracted war. While the Navy plays a generally supporting, rather than independently decisive, role in this conception of war, the requirements for naval power may still be enormous, as Forrest

24   Naval War College Review

Sherman and his successors as Chief of Naval Operations (CNO) in the 1950s and 1960s were able to argue. In addition to ballistic missile submarines and nuclear-armed carrier aviation, the Navy could make the case for substantial amphibious lift, extensive antisubmarine warfare capability to protect the flow of forces to the transoceanic theater and raw materials to the homeland, and sufficient battle fleet superiority to deter a concentrated sortie by enemy units.

Though on first blush a transoceanic countermilitary image of war would seem to have many of the same implications for the Navy as a transoceanic countersocietal one, this proves not to be correct. Most obviously, strategic bombardment recedes in importance. More broadly, since victory is seen as requiring the destruction of the adversary's military capacity rather than control over his society, a transoceanic countermilitary image of war keeps open the door for an independently decisive navy: by projecting precise, focused power into the littoral, destroying the military establishment of an adversary with air strikes or Marine operations, an optimally designed navy can defeat small adversaries or create conditions for victory by regional allies. In larger conflicts, the Navy would play a key role in joint efforts, taking timely actions to shape the battlespace, protect allies from politically or militarily devastating initial blows, and hold or open beachheads and lanes of communication for intervention by U.S. Army and Air Force units. More than any other vision of war, this one implies the importance of a navy designed and trained for routine forward presence and precision strike. The four obvious force elements suggested by this vision are carriers able both to strike and provide air superiority; cruise missile–armed warships; advanced air and ballistic missile defenses able, at a minimum, to protect fleet units and preferably to protect critical political and military targets ashore; and highly capable, highly mobile Marine units, able to carry out high-value precision attacks.

By contrast, oceanic countermilitary images of war like those popularized by Mahan in the 1890s and which gained currency in the post-Vietnam period imply a navy optimized to destroy an adversary's fleet. This activity is, in itself, expected to convey decisive political advantage by isolating the adversary, cutting his contact with clients and allies, and eliminating his ability to use the oceans for military purposes, such as deploying ballistic missiles. In this vision of war, a rational adversary will seek political terms when the destruction of his fleet deprives him of the ability to control or use the oceanic commons. The Navy for this kind of war would have to be prepared to go deep into harm's way to impose a Trafalgar or Copenhagen on an unwilling adversary. While such a force would need to be extraordinarily capable, it would not have to deploy forward routinely in peacetime, nor would it have to be capable of broadly dispersed, protracted sea-control activities. Nuclear-powered attack submarines, armed with strike as well as antiship and antisubmarine weapons, would play a key role in this vision of war, disrupting enemy defenses and opening an

opportunity for the battle fleet to advance; the main naval force, presumably organized around carriers, would require extremely capable air-defense and missile-defense escorts.

While sharing the view of the ocean as the decisive theater, oceanic counter-societal visions of war assume that the critical target of both one's own and the enemy's action is commerce, not military forces, and that decisive pressure can be applied without destroying the adversary's naval forces. Such a vision implies the kind of naval capabilities endorsed by the French *jeune école* or embodied in the German U-boat fleets. While American political culture never fully embraced this "raider" vision of war, the countersocietal elements of this thinking were clearly present in the naval strategy of the early republic. Prior to 1890, commerce raiding by privateers and cruisers occupied an important place in American strategy: while their activities were not expected to be decisive, they were expected to make the stalemate created by the effective militia-based defense of American society ultimately unacceptable to an imperial aggressor. The implications of this image for a twenty-first-century fleet are intriguing. For offensive action, improved intelligence and reconnaissance, presumably space based, would be a high priority, as would be the ability to protect such systems. Long-range aviation and missiles might provide the means of destroying commerce once detected, reducing the need for more traditional surface and subsurface raiders. Alternatively, the Navy could seek to close down oceanic commerce at its end points, through aggressive mining of harbors or forward submarine patrols, or through the destruction of critical port facilities. To defend one's own maritime commerce, a substantial investment in convoy escorts would likely be required; aggressive action to negate the opponent's intelligence and detection systems would also be highly attractive. In any case, an American fleet prepared to engage in war thus conceived would be highly specialized.

". . . From the Sea"

Obviously, given this range of possible visions and naval forces, the question facing the Navy in the early 1990s was how to think about national security and war. What was an appropriate vision on which to base Navy post–Cold War planning? What was it that the Navy would do in the post–Cold War world?

The DESERT STORM experience provided some indication about how the nation and its leaders viewed these questions. That George Bush ultimately found it useful to justify action in terms of international norms and principles—for example, the violation of Kuwaiti sovereignty, human rights abuses, and world order—rather than in terms of national interest—the price of oil—spoke tellingly about the emerging liberal consensus in America. Similarly, that the American people concluded that their nation's obligations extended to

26   Naval War College Review

Kuwait spoke to the continuing power of an internationalist vision of America. That, after debate, Congress and the administration failed to buy the argument in favor of a long-run, oceanic approach to dealing with the situation—to wait for sanctions and Iraq's isolation to bite—and instead concluded that satisfactory resolution of the crisis would require action on the ground provided evidence that transoceanic images of war, culturally problematic since Vietnam, were again not only conceivable but conceived. And that the American public recoiled so violently from civilian casualties suggested the strength of a counter-military image of war: even if Americans were willing to conceive of war as an invasion of a foreign country, they were still unwilling to view that invasion as being aimed against a foreign people.

Clearly, however, the collapse of the Soviet Union, the experience of the Gulf War, and perhaps most importantly the obvious budgetary implications of a peace dividend suggested the need for more careful examination of the future. Between October 1991 and April 1992 the Navy and Marine Corps undertook what they titled the "Naval Forces Capabilities Planning Effort" (NFCPE).[10] The NFCPE was explicitly aimed at developing a new strategic concept for the Navy and Marine Corps, assessing the naval capabilities the nation required and the appropriate roles and missions for U.S. naval forces. The NFCPE concluded that the collapse of the Soviet Union meant that deterrence of regional crisis and conflict would move to the forefront of the political-military agenda and that U.S. security would increasingly be based on informal coalitions, which would require greater peacetime presence and partnership building, rather than on formal alliances. Further, expanding economic interdependence underscored, on the one hand, the need for a continuous global peacetime presence to ensure stability and, on the other hand, the potentially growing role of naval actions to enforce trade sanctions. Finally, the NFCPE worried about the accelerating pace of technological change and the impact of real-time mass media coverage of military actions. Though this analysis of the changing realities of world politics logically suggested strategic movement in potentially conflicting directions (the emphasis on trade sanctions, for example, logically suggested an oceanic vision of war), the NFCPE analysis emphasized the role of the Navy in creating stability, supporting international "law enforcement," and preventing and controlling crises. To accomplish these aims, the NFCPE concluded, it was necessary to exploit the freedom provided by American control over the international commons to project power and influence ashore—to threaten or undertake actions against the sovereign territory of adversaries to shape their behavior. More broadly, the Navy appears to have emerged from the NFCPE process convinced that it needed to think about naval strategy within the framework of a liberal-internationalist vision of national security and within the framework of a transoceanic countermilitary image of war.

The Navy's new strategic vision was spelled out in ". . . From the Sea," a white paper signed jointly by the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps in September 1992. ". . . From the Sea" envisioned naval power being used to help create a stable global environment, deterring dissatisfied regional powers from challenging the emerging international order. "While the prospect of global war has receded," the authors observed, "we are entering a period of enormous uncertainty in regions critical to our national interests. Our forces can help to shape the future in ways favorable to our interests by underpinning our alliances, precluding threats, and helping to preserve the strategic position we won with the end of the Cold War."[11]

Backing away from the centrality of warfighting as the justification for naval power, ". . . From the Sea" established the line that naval power was uniquely valuable in the nation's political-military tool kit for what it could contribute to peacetime stability, deterrence, and crisis control. Naval power could be used flexibly and precisely across a range of missions, "from port visits and humanitarian relief to major operations." Implicitly endorsing fully the liberal-internationalist view of world politics and the notion that American military power, forward deployed, could play an important role in the construction and maintenance of institutions of cooperation, the authors of ". . . From the Sea" argued that

> the Navy and Marine Corps operate forward to project a positive American image, build foundations for viable coalitions, enhance diplomatic contacts, reassure friends, and demonstrate U.S. power and resolve. Naval Forces will be prepared to fight promptly and effectively, but they will serve in an equally valuable way by engaging day-to-day as peacekeepers in the defense of American interests. Naval Forces are unique in offering this form of international cooperation.[12]

The shift in emphasis here is important to note. "Presence" had long been identified as a Navy mission. Admiral Elmo Zumwalt's widely cited fourfold classification of Navy duties—sea control, power projection, deterrence, and presence—for example, explicitly noted the value of presence. But in the post–World War II American navy, "presence" was always the last and least justification of naval power, the residual category. ". . . From the Sea" reversed that prioritization: "presence" was the Navy's unique contribution. This shift was not of simply rhetorical significance. It meant that while the other services, in making their cases for the minimum force size required, would base their claims on what would be required to fight and win a war, the Navy would base its claim on what was required to shape the peacetime environment and control crises—and, given the Navy's widely dispersed areas of operation and the multiplier required to keep

rotational forces forward, this was significantly more than would be required to win any of the anticipated conflicts.

In addition to centering the Navy's responsibilities on presence, ". . . From the Sea" unequivocally endorsed a littoral approach:

> Our ability to command the seas in areas where we anticipate future operations allows us to resize our Naval Forces and to concentrate more on capabilities required in the complex operating environment of the "littoral" or coastlines of the earth. . . . This strategic direction, derived from the National Security Strategy, represents a fundamental shift away from open-ocean warfighting *on* the sea— toward joint operations conducted *from* the sea. The Navy and Marine Corps will now respond to crises and can provide the initial, "enabling" capability for joint operations in conflict—as well as continued participation in any sustained effort.[13]

The strategic conception of ". . . From the Sea" centered on four principles. First, naval forces would operate in an expeditionary role. "Expeditionary" was taken to mean that naval forces would be able to respond swiftly and on short notice, undertake a wide range of actions across the full spectrum of conflict while forward deployed, operate forward for protracted periods and unconstrained by foreign governments, and thus be able to act to shape the environment "in ambiguous situations before a crisis erupts."

Second, the Navy would be designed for joint operations with the Marine Corps: "The Navy and Marine Corps are full partners in joint operations." In one sense this is simply a logical corollary of the basic conception of a littoral strategy: if the point of naval power is to project force ashore, Marines are a critical element. It is, however, remarkable in two regards. In the first place, this marriage gave unprecedented prestige and power to the Marine Corps; the Navy was acknowledging the Corps as at least an equal partner, and possibly as the critical partner, in naval operations. The Marines represented the point of the Navy's spear. In the second place, this conception of "joint" operations ignored the Army and Air Force. The Navy was thus essentially making the claim that the Navy–Marine Corps team, without any involvement of the other services, was capable of undertaking the joint operations, or at least the joint operations in the world's littoral, that would be demanded by national decision makers. Thus while the Navy conceded a remarkable degree of its autonomy, it conceded it only to the Corps.

Third, ". . . From the Sea" reiterated the Navy's position that the Navy must operate *forward*. Forward operation was seen as necessary to demonstrate American commitment, to deter regional conflict, and to manage crises. Stressing the diplomatic side of naval power rather than its military character, ". . . From the Sea" underscored the importance of naval power in peacetime and crisis.[14] Ironically, however, the argument that the United States needed to operate its

navy forward in peacetime represented a strong argument for increased invest-
ment in high-technology naval warfare systems. Essentially, by linking its future
to the littoral the Navy was laying the groundwork for an "all-high mix" of
naval combatants. While with the demise of the Soviet Navy the United States
faced only limited challenges to its operations on the high seas, the coastal
environment was highly threatening: "Mastery of the littoral should not be
presumed."

Finally, abandoning a one-size-fits-all approach to operations, ". . . From the
Sea" concluded that naval forces would have to be precisely tailored to meet na-
tional tasking. Enhanced responsiveness of the Navy to the political-military
needs of national leadership during crisis was seen as critical: "Responding to
crises in the future will require great flexibility and new ways to employ our
forces. . . . The answer to every situation may not be a carrier battle group."

". . . From the Sea" also highlighted several qualities of naval power that it
regarded as particularly valuable, given its understanding of the nation's grand
strategy. First, the maneuverability of naval power meant that naval forces
would be able to "mass forces rapidly and generate high-intensity, precise offen-
sive power at the time and location of their choosing under any weather condi-
tions, day or night." In other words, naval power would permit American
leaders to gain the political and military advantage of seizing the strategic or tac-
tical initiative. Second, naval power would permit national leaders to take
forceful action without obtaining consent from friends or allies and without
putting American servicemen at risk: "Our carrier and cruise missile firepower
can also operate independently to provide quick, retaliatory strike capability
short of putting forces ashore." Third, naval power would permit the United
States to sustain its pressure and influence indefinitely: "The military options
available can be extended indefinitely because sea-based forces can remain on
station as long as required."[15]

"Forward . . . from the Sea"

". . . From the Sea" thus clearly outlined the Navy's new conception of itself
and of its contribution to national security. The principal impact of a follow-up
white paper issued in 1994, "Forward . . . from the Sea," was not to revise this
conception in any significant way but to underscore and clarify certain elements
of it and to edge away tactfully from one position that was controversial in joint
arenas and from one that was controversial within the Navy.

Even more plainly than ". . . From the Sea," "Forward . . . from the Sea" em-
phasized the liberal-internationalist, transoceanic-countermilitary vision en-
dorsed by the Navy. Far from stressing the inevitability of conflict, "Forward . . .
from the Sea" argued that the essential contribution of naval power to national
security was the support it provided to global regional stability, reassuring

30   Naval War College Review

liberal-democratic friends, assisting the emergence of democratic societies, and supporting international institutions.

> Most fundamentally, our naval forces are designed to fight and win wars. Our most recent experiences, however, underscore the premise that the most important role of naval forces in situations short of war is to be engaged in forward areas, with the objectives of preventing conflicts and controlling crises.[16]

Underscoring the globality of American interests, and by implication attacking any notion of isolationism, "Forward . . . from the Sea" reiterated the position that the Navy was the handmaiden of American diplomacy:

> Naval forces are an indispensable and exceptional instrument of American foreign policy. From conducting routine port visits to nations and regions that are of special interest, to sustaining larger demonstrations of support to long-standing regional security interests, such as with UNITAS exercises in South America, U.S. naval forces underscore U.S. diplomatic initiatives overseas.[17]

Though reaffirming the partnership between the Navy and the Marine Corps, "Forward . . . from the Sea" edged back from the narrow definition of "jointness" suggested by the earlier document. While still maintaining that "the enhanced combat power produced by the integration of all supporting arms, which we seek to attain through joint operations, is inherent in naval expeditionary forces," the white paper conceded that "no single military service embodies all of the capabilities needed to respond to every situation and threat" and that "just as the complementary capabilities of Navy and Marine Corps forces add to our overall strength, combining the capabilities and resources of other services and those of our allies will yield decisive military power."[18] The new formulation, making the case that naval power was necessary though not sufficient to win transoceanic engagements, was that

> focusing on the littoral area, Navy and Marine Corps forces can seize and defend advanced bases—ports and airfields—to enable the flow of land-based air and ground forces, while providing the necessary command and control for joint and allied forces. The power-projection capabilities of specifically tailored naval expeditionary forces can contribute to blunting an initial attack and, ultimately, assuring victory. The keys to our enabling mission are effective means in place to dominate and exploit littoral battlespace during the earliest phases of hostilities.[19]

Similarly, while still arguing that naval forces could be deployed in flexible, tailored packages, "Forward . . . from the Sea" moved away from a position that might be interpreted as suggesting that something less than aircraft carriers and fully-capable Marine Expeditionary Units might be satisfactory for peacetime presence:

Our basic presence "building blocks" remain Aircraft Carrier Battle Groups—with versatile, multipurpose, naval tactical aviation wings—and Amphibious Ready Groups—with special operations–capable Marine Expeditionary Units. These highly flexible naval formations are valued by theater commanders precisely because they provide the necessary capabilities forward. They are ready and positioned to respond to the wide range of contingencies and are available to participate in allied exercises, which are the bedrock of interoperability.[20]

Although the Navy remains committed to the littoral strategy articulated in ". . . From the Sea" and "Forward . . . from the Sea," pressure to redefine or refine this conception of naval power has come from the joint arena as well as from within the Navy. Budgetary realities, of course, have served as the immediate stimulus for debate. But it would be wrong to dismiss the resulting discussion as mere bureaucratic politics or budgetary gamesmanship. Rather, what has emerged has been a profoundly interesting analysis of what a liberal-internationalist transoceanic–countermilitary navy looks like, whether this makes any sense in today's world, and whether the nation is likely to support this kind of force for very long.

Forward . . . into the Future?

By any measure, ". . . From the Sea," "Forward . . . from the Sea," and the littoral strategy they articulated represent a highly successful effort to adapt to the end of the Cold War and to chart a Navy course through the dangerous currents of strategic adjustment in the early 1990s. In remarkable contrast to earlier postwar experiences, the Navy successfully developed, explicated, and institutionalized a strategy that accommodated to the national leadership's liberal-internationalist vision of security and transoceanic–countermilitary image of war, linking naval power to national grand strategy and offering a convincing justification for Navy budgets and programs.

This success, however, should not obscure the problems looming for the Navy as it attempts to move into the coming century. As the 1990s draw to a close, the Navy needs to carefully consider whether a strategy of employing naval power "from the sea" represents an appropriate basis and vision for long-run policy or whether another abrupt change of course is demanded. Events of the last several years have already made clear that at least three dangers lie ahead if the Navy continues to steer by its littoral strategy.

The first and most immediate danger is from competitors to the littoral strategy: there are, as Army and Air Force voices have noted, a variety of ways besides projecting power "from the sea" to support a liberal-internationalist foreign policy and to fight a transoceanic–countermilitary war. While budgetary realities have stimulated this strategic competition between the services and are likely to continue to serve as the spur, it would be wrong to dismiss this

challenge to the littoral strategy as mere interservice rivalry or budgetary games-manship. Rather, what has developed is a serious, if admittedly parochially grounded, intellectual debate over alternative national military strategies—over alternative ways to use America's military potential in support of "engagement and enlargement." While a littoral naval strategy is consistent with a liberal-internationalist vision of national security and a transoceanic-countermilitary image of war, it is not the only military strategy of which that can be said, and the Army and Air Force have successfully articulated alternative military strate-gies that call into question the need for significant naval effort in the littorals.

The second danger, linked to the first, is that the Navy may be unable to de-velop a workable operational concept for putting the littoral strategy into effect. Indeed, the Navy has found it remarkably difficult to script a convincing story about precisely how a littoral strategy works—that is, the Navy has had a hard time identifying what it is about naval operations in the littorals that yields political-military leverage and what forces and activities are therefore required. The failure of "Forward . . . from the Sea" to address the issue of alternative force packages is illustrative in this regard: continued insistence that carrier bat-tle groups and amphibious ready groups are needed at all times in all theaters reflects the conceptual and bureaucratic difficulty of determining the actual re-quirements of a littoral strategy. Any decision to change deployment patterns, mixes, or timetables would at least implicitly require a prioritization of peace-time, crisis, and wartime duties; it would also represent a reallocation of re-sources within the service. But without a clear understanding of the process by which littoral operations generate the peacetime, crisis, and wartime outcomes sought, the Navy will find it impossible to make the difficult tradeoffs de-manded by budgetary pressures. Indeed, as budgetary pressures, the need to moderate personnel and operational tempos, and the need to modernize be-come greater, the imperative for a clearer understanding of the relative value of (for example) forward peacetime presence, forward peacetime presence by car-riers and amphibious forces, rapid crisis response, and massive wartime strike ca-pacity will increase. Ultimately the danger is that a littoral strategy will become unworkable through an inability of the Navy to make the required tradeoffs, in which case it will find itself with forces that are too small, too overstretched, too poorly maintained, too poorly trained or manned, too obsolescent, or simply improperly configured to meet what prove to be the essential demands of a lit-toral strategy.

The third danger, more basic and more beyond the control of the Navy than the first two, is that the vision of warfare underlying the littoral strategy will be abandoned by the nation. The DESERT STORM image of war as a transoceanic countermilitary encounter is increasingly vulnerable, and as the elite and public begin to imagine war in other, more traditional terms, the attractiveness and im-portance of projecting power "from the sea" will become less apparent. To stay

in harmony with national leadership and national strategy, the Navy will be called upon to offer a revised account of the utility of naval power.

As the Navy tries to plan for the next century, it needs to take all three of these dangers into account. At the same time, it also needs to explore the underlying question of what it is that naval power can actually accomplish given the political, economic, and military realities of the twenty-first century. Across the spectrum of violence, from peace through crisis to war, how vulnerable or sensitive are opponents and friends to the various actions that navies can undertake?

Army, Navy, Marine Corps, and Air Force Views

By the mid-1990s the other military services, like the Navy, had come to view the nation's national security problem in primarily liberal-internationalist terms and to envision war in basically transoceanic countermilitary ones. Even operating within this generally shared intellectual framework, however, the four services reached strikingly different conclusions about the necessary direction of U.S. military policies and about how to employ military force to reach American aims. Not surprisingly, each service's conclusion underscored the value of its own contribution. But this predictable parochialism does not in any way negate the fact that each service's strategic conception was highly developed, sophisticated, intellectually nuanced, clearly articulated, and in at least three of the four cases, remarkably consistent internally.

While each service produced a variety of vision statements during the 1990s, perhaps the clearest opportunity for comparison of the services' alternative conceptions of American strategy came as part of the Joint Strategy Review process in 1996 and 1997. While the final output of the Joint Strategy Review was a consensus document, each service provided its own individual input, outlining the threat and the appropriate American response as it saw it. Comparison of these inputs offers a useful insight into the range of strategy and force posture alternatives conceivable, even given a broadly shared view of the world and war.

Fully endorsing the liberal-internationalist vision of American responsibilities ("As a responsible member of the international community and a prominent member of the world's most important intergovernmental institutions, the United States will continue to be bound to support international initiatives that establish or maintain stability in key areas of the world, to minimize human suffering, and to foster conditions that favor the growth of representative government and open economies"), the Army viewed the role of American military power in the construction of order as a broad one.[21] Like the Navy, the Army saw a critical peacetime and crisis role for American forces, stabilizing international politics and supporting peaceful solutions to or resolutions of international disagreements.

34   Naval War College Review

> The U.S. Armed Forces will be required to engage across the range of military operations, and increasingly in military operations other than war. . . . Increasingly . . . conflict prevention, conflict resolution, and peacetime engagement will assume greater importance as the United States seeks to shape the future security environment. . . . There is a growing emphasis on the role that military force plays in facilitating diplomatic and political solutions to conflicts. The interconnectedness of the emerging security system will lend greater weight to solving conflicts rather than simply defeating enemies.[22]

Similarly, the Army fully embraced and vigorously advanced the transoceanic conception of conflict. The Army's position was that overseas presence represented the sine qua non of U.S. defense policy, necessary for deterrence of aggression and reassurance of allies and to implement the National Security Strategy of democratic "engagement and enlargement."

The Army's understanding of the transoceanic character of war, however, led it to reach two further conclusions about this overseas presence—one that placed it at odds with the Air Force and the other with the Navy and Marine Corps. First, the Army argued against the notion of a "virtual" overseas presence, claiming that

> historical example indicates that authoritarian regimes are less frequently deterred or compelled by the threat of punishment from afar; thus a physical presence will be required for the most effective deterrent. . . . Given anticipated trends, a physical and highly visible presence (vice some form of virtual, transient, or distant presence) will be required to deter or defeat aggression.[23]

Second, the Army reasoned that to be effective, overseas presence needed to be ashore rather than offshore: "Because deterrence is based on perception and because most potential U.S. adversaries are primarily land powers, a U.S. land power presence may be the most effective deterrent."[24]

While, consistent with the liberal transoceanic character of its vision, the Army emphasized the importance of coalitions—"coalition partners provide political legitimacy, which is sometimes critical to facilitating access and support for U.S. operations (and denying those to our adversaries)"—it cautioned against overreliance on partners.[25] This caution derived from several concerns. First, U.S. interest in maintaining the system as a whole might transcend the particular interests of local partners, and the United States might therefore see the need to act even when partners did not. Second, partners would be unwilling to act if the United States provided only "high technology or unique capabilities"—that is, if the United States slipped toward an oceanic vision of conflict or relied too heavily on sea or air power. Finally, dependence on coalition partners would have political costs:

If the United States continues to reduce its armed forces and instead relies on coa-
lition forces to provide a sizable portion of fighting forces, the United States may
be compelled to make substantial concessions to gain the cooperation of future
partners. . . . This may . . . require the United States to alter its objectives to con-
form to the desires of its partners, and which may led [sic] to unappealing compro-
mises.[26]

In other words, if the United States desired to retain control over the agenda
for creating a liberal international order, it would have to pay the price of sup-
porting an army. Liberal leadership could not be had at a bargain price, in either
blood or treasure. It would require not only a transoceanic capability but that
this capability be provided on the land, not from the sea, and that it not be de-
pendent on allied contributions.

In an attack directed principally at the Air Force, the Army also rejected the
notion that technology would offer some sort of panacea for the problems of pro-
tecting American interests, particularly if those interests continued to be defined
in liberal–internationalist terms. On this, the Army was blunt in its appraisal:

While the risk of a high technology peer competitor cannot be discounted, trends
indicate an increasing frequency of U.S. involvement in lesser regional conflicts and
operations other than war (e.g., peace support operations, security assistance, hu-
manitarian relief, combating terrorism). Retention of engagement and enlargement
(or an evolutionary successor) as a national security strategy will increase the fre-
quency of such operations. While technology can assist in the conduct of such op-
erations, rarely can precise, highly lethal weapons delivered from a distance redress
the strategic conditions that created the challenges to U.S. interests. Nor may those
high technology solutions apply to the increasing likelihood of irregular and non-
conventional warfare or operations conducted in urban areas.[27]

In other words, the Army wanted to be on record that it doubted that more
effective means of killing people and destroying things would solve the problem
of creating liberal democratic societies.

The Navy agreed with the Army on many of these issues. The Navy posi-
tion, drafted by the Strategy and Concepts Branch of the Navy Staff (N513, in
Pentagon parlance—the successor to the old OP-603, the shop that had prided
itself on having provided the critical intellectual impetus in developing the
Maritime Strategy), followed the lines suggested by ". . . From the Sea" and
"Forward . . . from the Sea."

Though couching its concerns in more Realist, less liberal phraseology than
the Army, the Navy too saw the United States as having a fundamental national
interest in protecting and expanding international order, and it concluded that
this would mean the United States would need to be involved, even militarily,
in events on the farther shores of the world's oceans.

The United States will have vital interests overseas arising from its alliance com-mitments and historic ties with several nations, its broad strategic interest in pre-venting the rise of regional hegemons, its responsibility to protect U. S. citizens abroad, and its international economic interests, including trade, investment and access to resources. U.S. security strategy will continue to be transoceanic in or-der to protect and promote those interests.[28]

Again like the Army, the Navy argued that overseas presence was the key to stabilizing the international order, deterring aggression, and preventing conflict. "Posturing with forces in the continental United States, such as by increasing their readiness for deployment, can be used to strengthen the message conveyed by forward deployed forces, but cannot be a substitute for on-scene combat credible forces."[29]

Where the Navy departed from the Army was on the issue of whether over-seas presence ashore would be possible or necessarily desirable.

Nationalism and ethnic politics will cause declining access to overseas bases, in-creasing operational restrictions on the use of remaining bases, and growing re-luctance to enter in status of forces agreements that grant U.S. personnel special status in their countries. Lack of clear and present danger will lead to less willing-ness on the part of other nations to allow either permanent or temporary basing of U.S. forces in their countries. It will also lead to less willingness to grant over-flight rights through their airspace to U.S. military aircraft not directly supporting their immediate defensive needs.[30]

This skepticism that shared interests in liberal order would be sufficient to support continued U.S. military presence within the sovereign boundaries of other states was heightened by concern that "future adversaries will attempt to use intimidation and coercion to prevent U.S.-led coalitions from forming and to prevent potential coalition partners from granting base access to U.S. forces."[31] In the Navy's view, bases and land power were unlikely to be available for unconstrained use at the right time and in the right place. Worse yet, be-cause of their fixed, sovereignty-challenging nature, such bases and forces would serve as vulnerable lightning rods.

Overseas bases in unstable, trouble-prone regions will be vulnerable to a variety of threats, including terrorism, special operations forces, and WMD [weapons of mass destruction] delivered by ballistic missiles, tactical aircraft or unconventional means. Thus, in some countries routine peacetime overseas shore basing may not be desir-able even when it is available.[32]

The implications of this were clear: overseas presence would have to be pro-vided by naval forces.

By providing a highly visible expression of U.S. resolve and capabilities, naval forces will shape the strategic environment, enhance the U.S. leadership role abroad, reassure friends and allies, enhance regional stability, and deter potential aggressors. Operating with strategic mobility on the high seas, free of the political constraints that can deny U.S. forces direct routes through foreign airspace or access to forward bases ashore, naval forces will remain the force of choice for preventing troublesome situations at the low end of the conflict spectrum from escalating to war. . . . Their multifaceted ability to take decisive, early action ashore is essential to containing crises and deterring conflicts. . . . The flexibility and mobility of naval forces make them particularly valuable for deterring the potential aggressor who might exploit U.S. involvement in a major conflict elsewhere as an opportunity for strategic advantage. Finally, the deterrent value of naval forces is greatly enhanced by their ability to extend full-dimensional protection over allies and critical infrastructure ashore.[33]

The Marine Corps shared the Army's and Navy's belief in the importance of overseas presence and the Navy's skepticism that land-basing would be possible: "In the future, overseas sovereignty issues will limit our access to forward land bases and geo-prepositioning."[34] The solution, in the Corps' view, was to maintain forward-deployed, at-sea forces able not only "to conduct operations other than war (OOTW) and other expeditionary operations" but most importantly, to engage in forcible entry—the Corps' core competency.[35]

Like the Army, however, the Corps was explicitly skeptical about technology as a solution to the nation's strategic problems. The Corps' skepticism, however, was more pragmatic than the Army's: the problem with technology was not that finding more effective ways of killing the enemy would fail to provide effective political leverage but that technology was unlikely to work.

While we must capitalize on technology as a force multiplier, history repeatedly teaches that technology promises more than it ultimately delivers. U.S. military strategy must retain the flexibility to accommodate a failure of technology. Such failures, whether enemy induced, mechanical malfunctions, or deficiencies in design, must not prevent accomplishment of the mission.[36]

The Corps' major contribution to the intellectual debate was its introduction of the concept of "chaos" and its skepticism that liberal democracy would take successful root in the Third World. The Corps' embrace of liberal internationalism was thus weaker than the Navy's and far weaker than the Army's. Thinking in the more traditional Realist-internationalist terms of the Cold War, the Corps tended to assume the inevitability of conflict and the improbability that international institutions would restrain humanity's violent tendencies. Foreseeing failed economies, failed states, internal upheaval, shortages of and competition for natural resources, surging populations, undereducation and overurbanization, mass migration, awareness of income disparities, proliferating military technology

including weapons of mass destruction, and fertile conditions for terrorism, the Corps painted a bleak picture.

> The epicenter of instability will be in the world's littorals where 70 percent of [the] world's population now lives. By 2010, that percentage will increase. Countering these threats will not be easy. As overseas bases close, America will rely more and more upon the most flexible and adaptable crisis response force. These forces must be capable of loitering in close proximity, near enough to influence events, but far enough away to avoid agitating potentially explosive situations.[37]

The Air Force, by contrast, offered a strikingly different, if not entirely internally consistent, solution. While providing a threat assessment not dissimilar from the Marine Corps' and acknowledging the continued importance of military OOTW, the Air Force concluded that engagement and environment shaping could be handled from a distance—from bases in the continental United States or in space. This move away from forward operations would be dictated by the fact that "forward deployed forces (i.e., staging areas, patrol areas, airbases, maritime task forces, etc.) will face increased risk."[38] The Air Force vision called for coupling improved information technology with longer-range strike capability to enhance American capacity to target and destroy objects and people precisely and with impunity. How exactly these improvements in military technology would translate into political influence or the capacity to shape political outcomes in a chaotic world was never specified. The Air Force did, however, assert that "nuclear weapons will continue to be relevant to U.S. national security for the foreseeable future," though it warned that "U.S. nuclear strategy must be updated. Nuclear proliferation and a decrease in U.S. conventional strength requires a coherent plan about the long-term role and utility of nuclear weapons in achieving U.S. strategic objectives."[39] In sum, the Air Force suggested, technology and not forward engagement would represent the key to stabilizing a turbulent world.

"2020 Vision" and the NOC

Outside the Navy, then, very different visions of how to accomplish the goals of U.S. national security policy were circulating, challenging the Navy's preferred strategy. Even inside the Navy, however, important questions remained.

". . . From the Sea" and "Forward . . . From the Sea" offered some explicit prescriptions for shifting resources within the Navy, away from forces for open-ocean and sea-control missions and toward forces for littoral force projection. Beyond this, however, these white papers did not offer much specific advice. Given the enormous budgetary pressures on the Navy in the late 1990s, some clearer appreciation of exactly how a littoral strategy would work was highly desirable. For example, could lesser force packages be substituted for

carriers and amphibious ready groups? Could forward operating tempos be lightened? Could forces be shifted between deployment hubs to get a more optimal distribution of resources? Could modernization in some technical areas be slowed? Answers to these questions, of course, hinged on a clear and shared understanding of what it is about forward operation in the littorals that is valuable—that is, about how to "operationalize" the littoral strategy.

In the 1995–1997 time frame, two distinct answers were developed within the Navy. At one level, the struggle was a classic bureaucratic one between two competing offices—the CNO's Executive Panel (the CEP, or in Pentagon nomenclature, N00K) and the Strategy and Concepts Branch of the Navy Staff in the Pentagon (N513). At another level, however, what emerged was a real intellectual debate, in which two clearly articulated visions of naval power were presented and carefully considered.

Because of its close ties to Admiral Jeremy Boorda, the principal action was initially in N00K's hands. Throughout 1996 N00K briefed and gamed repeated revisions of "2020 Vision," a draft white paper intended for the CNO's signature. Under the principal authorship of Captain Edward A. Smith, Jr., "2020 Vision" attempted to uncover the implicit logic of ". . . From the Sea" and "Forward . . . from the Sea."

The essential argument of "2020 Vision" was that precision engagement, or massed precision engagement, would permit naval forces to have a decisive impact, obviating the need for a lengthy war of attrition. Drawing on superior information about the location of targets and about how the adversary's political and military authority and command was structured—what the key nodes, or "targets that mattered," were—naval forces would be able to direct precise fires of sufficient magnitude to stun an adversary, destroying his capacity to wage war effectively and potentially compelling a political settlement. Operating forward and maneuvering freely, naval forces would be able to deliver this knockout blow immediately and at will.

The heart of "2020 Vision" was its notion of three tiers, or "axes," of targeting: national political, military infrastructure, and battlefield forces. While "2020 Vision" maintained that any of these tiers might be attractive, the implicit message was that either of the first two tiers offered a critical vulnerability that the Navy would be able to exploit, avoiding the necessity of going against the adversary's probable strength, the sheer mass of his battlefield force.

There were several interesting implications in "2020 Vision." In the first place, it moved warfighting capability back to center stage. N00K reasoned that the peacetime and crisis influence of U.S. naval forces depended entirely on the meaningful wartime options at their disposal. "Presence" might be valuable, but it had an impact only to the degree that those forces could affect wartime outcomes. Peacetime and crisis-environment shaping ought therefore to be regarded as a positive externality, not a central focus for Navy planning.

40 Naval War College Review

Deterrence—the major peacetime mission, in the view of "2020 Vision"—would hinge on a visible capacity to identify and strike swiftly, massively, and repeatedly critical targets without running significant risk of enemy counterattack. Forward operation might be necessary to remind an adversary of this capability and to ensure that such blows could be executed in a timely fashion, but it was the capability for massed precision attack that lay at the core of deterrence.

Second, "2020 Vision" put air power—both manned aircraft and cruise missiles—at the core of its account. Where ". . . From the Sea" and "Forward . . . from the Sea" had made the Navy–Marine Corps marriage the linchpin of a littoral strategy, "2020 Vision" was principally a vision of unilateral Navy impact. To be sure, it suggested that massed precision strike would also enable ground operations ashore, both by disrupting the adversary's capacity for organized resistance and by providing supporting fires. But even in this regard, "2020 Vision" moved away from the close partnership with the Marine Corps and toward a broader conception of jointness that embraced the Army, Air Force, and coalition partners.

Third, "2020 Vision" emphasized the interaction of mass and precision in firepower. Precision alone would fail to have the desired effect. If the purpose of the blow was to induce shock and paralysis, a handful of missiles or air strikes would not be enough. Further, gradual attrition of key targets was unlikely to have the necessary impact: what was needed was the ability to take down an entire political system or an entire military infrastructure in a short period of time—with the clear capacity to do it again if the opponent attempted to reconstruct its control. "2020 Vision" assumed that with proper intelligence and careful modeling of the opponent's systems, the mass necessary to achieve these blows could be kept to achievable levels; "2020 Vision" also assumed that the cost of precision weapons would fall.

The upshot of "2020 Vision" was clear: effective presence requires concentrating on real warfighting plans. These would center on forward naval air and missile power. "2020 Vision" thus made a strong implicit case for the proposed arsenal ship—essentially a large, inexpensive floating missile magazine, with a small crew, deployed for very extended periods of time in critical theaters. The arsenal ship would be able to "pickle off" large numbers of cruise missiles in a relatively short period of time, delivering the kind of initial massed precision attack envisioned.

A secondary theme in both "2020 Vision" and in the arsenal ship design, but one that grew in importance as war games explored the concepts, was theater ballistic missile defense (TBMD). The potential importance of TBMD in both the political equation (preventing potential coalition partners or targets of coercion from being pressured into concessions early on) and in the military equation (keeping critical ports and airfields open, particularly given the danger of

chemical and biological attacks) became clear. Forward naval forces and a TBMD-armed arsenal ship might be critical in this role.

Perhaps not surprisingly, "2020 Vision" faced considerable opposition. The Marine Corps was openly hostile, of course. Within the Navy, many officers viewed it as a bureaucratic misstep, for two reasons. First, by stressing air and missile strikes as the Navy's critical contribution to national security, "2020 Vision" left the Navy vulnerable to (correct or incorrect) claims from the Air Force that it could perform the Navy's functions more cheaply. Second, by tying the presence mission so closely to warfighting requirements at a time when the Navy was larger than the warfighting requirements established by the Office of the Secretary of Defense, it left the Navy vulnerable to pressures for downsizing. Sub rosa, the linkage to the arsenal ship probably also generated hostility: the arsenal ship was seen by aviators as a threat to the carrier in a capital ship role, and it was seen by surface sailors as a threat to more capable high-technology missile shooters. Finally, war gaming failed to resolve doubts among skeptics about the decisiveness of the actions envisioned by "2020 Vision."

At a deeper level, however, the problem with "2020 Vision" was its fundamentally Realist flavor. Apart from recognizing that coalition partners might be more likely to cooperate if the Navy could provide TBMD, "2020 Vision" was a strategy for dealing with conflict, for engaging in coercion, not a strategy for creating cooperation. Its concerns were with how to threaten credibly to take down an opponent's infrastructure and how to overcome his area-denial efforts.

Opposition to "2020 Vision" was most actively centered in N513, N00K's natural rival in strategic planning. To be fair, N513's opposition was less bureaucratic than intellectual. N513 and its head during this period, Commander Joseph Bouchard, felt that "2020 Vision" failed to give sufficient attention to the real strengths of naval power—the enormous maneuverability of naval forces, their freedom from foreign political constraints, their sustainability, and their contribution to shaping the peacetime diplomatic environment and to responding to a range of humanitarian, political, and military crises—and that it overstated the likely impact of massed precision attacks. Initially, N513's alternative vision was expressed in the form of critiques of "2020 Vision." Ultimately, though, as support for "2020 Vision" waned, N513 was commissioned to produce its own document. Its mandate, however, was not to produce a "vision" statement (which might give the impression that the Navy was moving away from "Forward . . . from the Sea") but to generate an "operational concept."

The "Navy Operational Concept" (NOC) produced by N513 in early 1997 stressed that   .

> operations in peacetime and crisis to maintain regional economic and political stability are traditional roles of the Navy–Marine Corps team. . . . Our hallmark is

forward-deployed forces with the highest possible readiness and capability to transition instantly from peace to crisis to conflict. This flexibility positions us to fight and win early, or to contain conflict. More importantly, our presence may prevent conflict altogether. By any standard or measure, peace is cheaper than war.[40]

The NOC returned to the concept of "expeditionary operations" first suggested in ". . . From the Sea" as the intellectual centerpiece for understanding how the Navy would execute its littoral strategy.

Expeditionary operations . . . are a potent and cost-effective alternative to power projection from the continental United States and are suited ideally for the many contingencies that can be deterred or quickly handled by forward-deployed forces. Expeditionary operations complement, enable and dramatically enhance the effectiveness of continental power-projection forces when a larger response is needed.[41]

Where "2020 Vision" had focused on what naval power might accomplish in wartime, the NOC focused on the stabilizing value of "being there" in peacetime. Bouchard was explicit about the liberal-internationalist ideology inherent in his account of the role played by sustained forward naval presence.

The Navy's role in peacetime engagement is to project American influence and power abroad in support of U.S. efforts to shape the security environment in ways that promote regional economic and political stability. Stability fosters a sense of security in which national economies, free trade practices, and democracies can flourish. Democratic states, especially those with growing economies and strong trade ties, are less likely to threaten our interests and more likely to cooperate with the United States. This stability and cooperation, which our peacetime engagement promotes, assists in meeting security threats and promoting free trade and sustainable development.[42]

Where "2020 Vision" focused on tiers of targets, the NOC offered a vision of enhanced cooperation and strengthened international regimes.

Our global presence ensures freedom of navigation on international trade routes and supports U.S. efforts to bring excessive maritime claims into compliance with the international law of the sea. When disaster strikes, we provide humanitarian assistance, showing American compassion in action. Our forward deployments always include a wide range of diplomatic activities, such as: sending Sailors and Marines ashore as representatives of the American people; bringing foreign visitors onto sovereign U.S. naval vessels; and carrying out a wide range of community relations activities. These efforts promote American democratic ideals abroad, enhance mutual respect and understanding with the peoples of other countries, and demonstrate U.S. support for friendly governments. Our forces

support U.S. diplomatic efforts aimed at shaping the security environment, such as improving relations with former adversaries or reducing tensions with potential adversaries.[43]

Obviously, the NOC could not ignore the more violent side of the Navy's duties. But, the NOC argued, the deterrent impact of naval forward presence derived not so much from the particular capabilities resident in the forward force but from the implicit threat of the full might of America. "We deter by putting potent combat power where it cannot be ignored, and by serving as a highly visible symbol of the overwhelming force the United States can deploy to defeat aggression." The unique contribution of naval power to national strategy was its political and military flexibility, not its firepower. Politically,

operating in international waters, our forces are sovereign extensions of our nation, free of the political constraints that can hamper land-based forces. We put the right capability in the right place at the right time. We possess the unique capability of responding to ambiguous warning that either would not justify costly deployments from the continental United States, or might be insufficient to persuade nations in the region to host U.S. forces on their soil. When a visible presence might be provocative or foreclose U.S. military options, we can position submarines covertly to provide on-scene surveillance capabilities and firepower. Rotational deployments allow us to maintain our forward posture indefinitely.[44]

Militarily, the range of options provided by forward naval forces was their strength during crises—the same forces could send Marines ashore, evacuate noncombatants, enforce no-fly or no-sail zones, escort shipping, or launch air or missile strikes. In combination with the maneuverability of naval forces, this flexibility provided the capacity to frustrate a potential aggressor:

We make it exceedingly difficult for an adversary to target us and deny him the option of pre-emption by keeping our forces dispersed and moving, by operating unpredictably or covertly, and by employing deception. The wide range of options we provide for immediate response to aggression leaves a potential aggressor uncertain of the intended course of action. This uncertainty keeps him off balance, disrupting his ability to formulate a coherent campaign plan and eroding confidence in his ability to effectively execute operation plans.[45]

In wartime, forward presence meant that naval forces could disrupt an aggressor's plans and frustrate his efforts to achieve a fait accompli. In addition, naval forces would be "critical for enabling the joint campaign. We ensure access to the theater for forces surging from the United States by supporting coalition forces to keep them in the fight, by seizing or defending shore bases for land-based forces, and by extending our defensive systems over early-arriving U.S. joint forces ashore."[46]

In deliberate contrast to "2020 Vision," the NOC was also careful to stress that "in some tactical situations, such as operations on urban terrain, a SEAL or Marine with a sniper rifle may be the optimum precision weapon," and that the Navy

> will be a full partner in developing new amphibious warfare concepts and capabilities for implementing the Marine Corps concept Operational Maneuver From the Sea (OMFTS). . . . We will provide enhanced naval fires, force protection, command and control, surveillance and reconnaissance, and logistics support for Marines ashore—enabling the high-tempo operations envisioned by OMFTS.[47]

Interestingly, while the NOC was briefed to and approved by the Navy's top leadership, and unlike "2020 Vision" was signed ont by the CNO, its release was handled without any fanfare: distribution was on the Internet, and no "glossy" was prepared. Far from reflecting doubts about the content of the NOC, however, this low-key approach was meant to underscore the consistency of Navy policy and to dispel any concerns that the NOC represented a change in direction or new intellectual departure.

"Forward . . . from the Sea: Anytime, Anywhere"

In the wake of the Quadrennial Defense Review, the Navy again reaffirmed its commitment to its littoral strategy and to the liberal-internationalist vision of foreign policy and to the transoceanic-countermilitary image of war on which that strategy rested. Underscoring and publicly confirming the continuity in Navy thinking, the Department of the Navy's 1998 Posture Statement—issued jointly by Secretary of the Navy John Dalton, the CNO (Admiral Jay Johnson), and the Commandant of the Marine Corps (General Charles Krulak)—was titled "Forward . . . from the Sea: Anytime, Anywhere."

Like the NOC and earlier white papers, "Forward . . . from the Sea: Anytime, Anywhere" was premised on the assumption that the role of the U.S. military would be to support the spread of liberal institutions, such as democracy and the free market, around the globe. At the same time, however, it accepted the Marine Corps' concept of "chaos" and at least some of the Corps' pessimism about building a peaceful world order:

> We live in a complex and ever-changing world. The growth during this decade of democracies and free market economies is most encouraging. Yet nationalism, economic inequities, and ethnic tensions remain a fact of life and challenge us with disorder—and sometimes chaos. As both positive and negative changes take shape, the United States has become what some call the "indispensible nation"— the only nation with the technological capability and acknowledged benevolent objectives to ensure regional stability.[48]

This chaos and disorder, and the threat posed to the spread of democracy and liberal values, represented the principal challenge to American security, not some peer competitor. The Posture Statement went on to reiterate both the American national interest in supporting a liberal international order and the role of American naval power in this mission: "Naval forces project U.S. influence and power abroad in ways that promote regional economic and political stability, which in turn serves as a foundation for prosperity."[49] Now explicitly linking the littoral strategy to the new National Military Strategy of "Shape, Respond, Prepare," the 1998 Posture Statement reprised five familiar themes about the role of naval power in supporting a liberal-internationalist foreign policy.

First, "Forward . . . from the Sea: Anytime, Anywhere" reasserted the centrality of forward presence across the spectrum of conflict—in shaping the peacetime environment, responding to crises, and preparing to counter aggression. Second, it equated forward presence with *naval* forward presence, suggesting that constraints on the deployment or use of American forces on the sovereign territory of allies would mean that forward deployments would, in general, necessarily be sea based. It reasoned that

> shaping and responding require presence—maintaining forward-deployed combat-ready naval forces. Being "on scene" matters! It is and will remain a distinctly naval contribution to peacetime engagement. As sovereign extensions of our nation, naval forces can move freely across the international seas and be brought to bear quickly when needed. . . . Operating in international waters and unfettered by the constraints of sovereignty, naval forces are typically on scene or the first to arrive in response to a crisis. The inherent flexibility of naval forces allows a minor crisis or conflict to be resolved quickly by on-scene forces. During more complex scenarios, naval forces provide the joint force commander with the full range of options tailored for the specific situation. From these strategic locations, naval forces shape the battlespace for future operations.[50]

Third, while noting the role of naval power in warfighting, the Posture Statement emphasized that the unique Navy contribution to U.S. security efforts was the ability of naval forces to shape the peacetime environment and respond to crises short of, or prior to, war. The document detailed the wide range of peacetime and crisis "shape" and "respond" missions conducted by naval forces.

> Our forces . . . participate in a complete range of shaping activities—from deterrence to coalition building—establishing new friendships and strengthening existing ones during port visits around the world. These visits promote stability, build confidence, and establish important military-to-military relationships. In addition, port visits provide an opportunity to demonstrate good will toward local communities, further promoting democratic ideals. . . . Each exercise, large or

small, directly contributes to successful coalition building. Credible coalitions play a key role in deterring aggression and controlling crises. . . . Routine naval deployments signal both friend and foe of our commitment to peace and stability in the region. This demonstrated ability to respond rapidly to crises—and to fight and win should deterrence fail—offers a clear warning that aggression cannot succeed. Moreover, the ability of the forward-deployed forces to protect local allies and secure access ashore provide [*sic*] a guarantee that the full might of our joint forces can be brought to bear.[51]

Fourth, even while stressing the Navy's unique capability to shape the peace and respond to challenges short of war, the Posture Statement was careful to underscore Navy's endorsement of jointness in warfighting. Without backing away from the position that Navy–Marine Corps activities were inherently joint, the Posture Statement emphasized that "the Navy and Marine Corps also can integrate forces into any joint task force or allied coalition quickly."[52] Jointness would not relegate the Navy to subordinate roles, however. In the first place, even while recognizing that "in those cases where aggression is not contained immediately . . . by swiftly responding naval forces" the Army and Air Force would be involved, the Posture Statement sought to dispel any impression that the Navy's role in a land battle would be limited to providing logistics.[53] The document emphasized the Navy's participation in actual combat and its ability to provide key command and control for joint operations.

Naval operations are critical elements of the joint campaign. We deliver precision naval fire support—strike, force interdiction, close air support, and shore bombardment. We seize the advantage of being able to operate on and from the sea. Using high-tech information-processing equipment, we achieve superior speed of command by rapidly collecting information, assessing the situation, developing a course of action, and executing the most advantageous option to overwhelm an adversary.[54]

In the second place, in addition to playing a critical role while missiles, bombs, and bullets were flying, the Navy would (presumably unlike the Army or Air Force) be in harm's way both in the critical days and hours before the shooting started and in the weeks, months, and years after it stopped: "When the joint campaign is over, naval forces can remain on scene for long periods to enforce sanctions and guarantee the continuation of regional stability."[55]

Finally, the Posture Statement also repeatedly underscored the remarkable flexibility of naval forces, likening them to a rheostat permitting the National Command Authorities to send carefully calibrated messages and respond in a carefully calibrated fashion—and to leave force levels at a particular setting for indefinite periods of time. The extraordinary range of political and military options inherent in forward-deployed naval forces was also highlighted.

Even while extolling flexibility, however, the Posture Statement reaffirmed the Navy's commitment to traditional force packages—carrier battle groups and amphibious ready groups—and its unwillingness to address the possibility that less capable forces or other force packages might be sufficient to carry out the Navy's forward tasks in peacetime or crisis, let alone wartime.

> The balanced, concentrated striking power of aircraft carrier battle groups and amphibious ready groups lies at the heart of our nation's ability to execute its strategy of peacetime engagement. Their power reassures allies and deters would-be aggressors, even as it demonstrates a unique ability to respond to a full range of crises. . . . The combined capabilities of a carrier battle group and an amphibious ready group offer air, sea, and land power that can be applied across the full spectrum of conflict. . . . This balance and flexibility provides the National Command Authorities (NCA) a range of military options that is truly unique.[56]

Indeed, in the same paragraph it cited a commitment to "innovative thinking [in] preparing us . . . for an uncertain future," the Posture Statement was explicit and emphatic about what would not change—that "we will maintain carrier battle groups and amphibious ready groups forward, shaping the international environment and creating conditions favorable to U.S. interests and global security."[57]

Back to the Sea? Unresolved Difficulties

Despite the Navy's confidence that it is on track and that "the Navy's course for the 21st century set by Forward . . . From the Sea has proven to be the right one for executing our critical roles in all three components of the National Military Strategy [peacetime engagement, deterrence and conflict prevention, and fight and win] and for conducting the future joint operations envisioned in Joint Vision 2010," there are reasons for concern about the Navy's littoral strategy.[58] Two are obvious.

Barring dramatic developments in the external environment or unanticipated and profound shifts in domestic political culture, the liberal-internationalist construction of national security seems likely to dominate American thinking well into the new century.[59] The notion that a stable, peaceful international order is achievable is an attractive one, and at the moment Americans seem unlikely to conclude either that their own well-being can be separated from that of the rest of the world or that they are powerless to effect change.

The transoceanic-countermilitary image of war, however, appears far less robust. Experiences in places like Somalia and Bosnia have two impacts. In the first place, they underscore the ugliness and wearisome unpleasantness of actually trying to control another nation's sovereign territory. In the second place,

they make the idea of countermilitary warfare appear ridiculous: when the "enemy" is a mobilized society, not distinctively uniformed and highly disciplined soldiers, it is increasingly difficult to maintain an image of warfare as a clean, surgical interaction between opposing states and their professional soldiers, sailors, and airmen.

Indeed, the tension between liberal internationalism and a transoceanic-countermilitary image of war should be obvious. If American political leaders hold to a liberal-internationalist vision of national security, it is logically necessary for them also to believe that war is an acceptable, albeit unpreferred, tool: the liberal-internationalist vision implies a willingness to intervene, with force if necessary, to protect liberal democratic states and liberal international norms. Given recent experiences, however, if war is conceptualized in transoceanic-countermilitary terms (that is, if it is seen as requiring an intervention in the sovereign affairs of an adversary, and the defeat of his military forces, to achieve political victory), it will probably cease to be regarded as a usable option. The American public's stomach for Somalias and Bosnias appears quite limited. Ultimately, a liberal-internationalist image of national security is thus likely to compel Americans leaders to find some new, more attractive image of war. When they do—when, as in the past, they start assuming that war can be won simply by controlling the high seas or that war is a struggle between entire nations in which direct attacks on society are permitted—the littoral strategy will become a liability for the Navy.

The second and more important reason for beginning to explore alternatives to the littoral strategy, however, is skepticism about its ability to yield the peacetime, crisis, and wartime leverage claimed. The old Scottish verdict "not proven" seems amply earned in this case. It is useful to consider each of these environments—peacetime, crisis, and wartime—and what littoral naval power can reasonably be expected to produce.

In peacetime, the littoral strategy reasons, forward naval presence will encourage societies to take the risk of investing in liberal democratic institutions both at home and internationally. This ability of a forward-operating American navy to project power ashore is assumed to support regional politics by supporting general deterrence—that is, by deterring dissatisfied states from even thinking about changing the status quo through violent means. And it is expected to reassure existing liberal democracies, convincing them that neither accommodation with antidemocratic forces nor unilateral security measures that might trigger a spiral of hostility are necessary. This is an appealing image.

Belief in the peacetime impact of power projected "from the sea," however, is based on faith rather than evidence or analysis. There is no actual evidence that either routine peacetime presence by naval forces or expeditionary naval operations affect the evolution of societies, their support for international law,

their general propensity to resort to force to resolve disputes, or their fears that others will.

The lack of evidence in support of a proposition is, of course, not evidence against that proposition; it is simply an absence of evidence. A priori, however, there is substantial reason to doubt the efficacy of littoral projection of naval power in shaping the peacetime environment. What is known, principally from studies of crises (about which more will be said below), regarding decisions to engage in aggression and states' ability to understand or focus on power projected "from the sea" suggests a real danger that states will ignore or underestimate the capabilities inherent in American naval power. Moreover, even if it were shown to be the case that applying naval power "from the sea" has a significant positive impact on the peacetime environment, it would still remain to be demonstrated that it is a cost-effective means of creating that impact—that naval power is less expensive than alternative military means, such as subsidizing regional proxies, or than nonmilitary means, such as fostering trade and development or developing a specialized capacity for humanitarian relief.

In crisis, the forward-deployed capacity to project power "from the sea" is touted as having an immediate deterrent effect—that is, dissuading an adversary who is tentatively considering going to war from following through on that idea. Here we do have some evidence; at very best, however, it must be regarded as offering mixed support for the Navy's advocacy of a littoral approach. A variety of studies of conventional deterrence have been undertaken.[60] While the research questions, underlying theoretical assumptions, and research methods have varied, several general findings emerge.

The principal one is that immediate extended deterrence with conventional means—that is, using threats of conventional response to deter an adversary who is considering aggression against a third party—regularly fails, even in cases where commitments are "clearly defined, repeatedly publicized and defensible, and the committed [gives] every indication of its intentions to defend them by force if necessary."[61] Unlike nuclear deterrence, conventional deterrence does not appear to result in a robust, stable stalemate but in a fluid and competitive strategic interaction that, at best, buys time during which underlying disputes or antagonisms can be resolved. The possession of decisive conventional military superiority and the visible demonstration of a resolve will not necessarily permit the United States to deter attacks on friends and interests.

There are three reasons why immediate extended conventional deterrence is so problematic. First, potential aggressors are sometimes so strongly motivated to challenge the status quo that they are willing to run a high risk, or even the certainty, of paying the less-than-total costs of losing a war. Second, potential aggressors frequently conclude, correctly or incorrectly, that they have developed a military option that has politically or militarily "designed around" the deterrent threat. Third, there is considerable evidence that, particularly when

they are under severe domestic stress, potential aggressors are unable to understand or respond rationally to deterrent threats. "Wishful thinking" by leaders who find themselves caught in a difficult situation appears to be an all-too-common pathology.

Further, and more germane to the issue of naval forward presence as a crisis deterrent tool, there is some evidence that because of the general insensitivity of potential aggressors to information, efforts to "signal" resolve through measures such as reinforcing or redeploying forces have limited effectiveness. If force movements are large enough to foreclose particular military options, they may forestall aggression. But as a means of indicating resolve and convincing an aggressor of the credibility of deterrent commitments, they do not generally appear to have an impact.

All of this would seem to provide a reasonable argument against bothering to invest too heavily in forward military forces—or at least against believing that they offer much assurance of guaranteeing regional crisis stability. Ultimately, the key to preventing conflicts seems to be resolution of the underlying issues. At best, conventional deterrent efforts buy time.

On the other hand, there is also some evidence that in some circumstances it is in fact possible to buy time. In particular, having forces in place that can deny potential aggressors a quick victory seems to tend to reinforce deterrence. The historical record suggests that the prospect of quick victory may be an important element in at least some aggressors' calculations: the potential aggressor's belief that he can either score a quick knockout or achieve a limited fait accompli appears to make aggression significantly more attractive.

This offers some grounds for supporting forward naval presence. On the other hand, it also suggests the possibility that the Army is right and that if forward presence is to matter it needs to be on the ground, that an offshore presence of a potent but limited force, with only the implicit threat of surged ground forces, is less likely to have an impact, at least if the potential aggressor has limited goals. It also suggests the possibility that the symbolism of naval forward presence, serving as a reminder of the full weight and power the United States could ultimately bring to bear, may not be that important.

In war, the argument that forward naval forces operating with a littoral strategy can have an important impact in the initial phases of the conflict, thereby preparing the ground for later U.S. successes, is doubtless true. While true, however, it may well be relevant in only a limited range of cases. Most potential conflicts or contingencies involve adversaries who are too small for this effect to matter much. Short of a major regional conflict (MRC), the superiority of U.S. military forces is sufficiently overwhelming that initial setbacks are not likely to be critically important. At the other extreme, in the case of a regional near-peer competitor—a Russia or a China—it is hard to imagine a littoral strategy having much of an impact: the amount of (nonnuclear) power that can be projected

from the sea is trivial compared to the size of the adversary's society or military establishment. What is left is a handful of admittedly very important cases: MRCs against such rogue states as Iran, Iraq, and North Korea. What is interesting about these cases, however, is that there are not very many of them; their identity is known; and plans can be made in advance to move large amounts of land power and land-based air power to the theater at relatively short notice. The unique flexibility of naval power is, in these cases, relatively less valuable.

Critics of the littoral strategy are, then, likely to argue that it is difficult to find cases in which a major investment in the capacity to project power from the sea makes sense. A small investment would be sufficient for most Third World contingencies, particularly if the United States does not demand real-time response. Even a large investment would be insufficient to deal with the great powers. And in the case of the medium-sized conflicts, the MRCs, paying for the extra flexibility of naval power may not be cost-effective.

If there is reason for some cautious skepticism about the wisdom of building a navy for its capacity to project power from the sea, then perhaps it is worth thinking about some of the other things that the U.S. Navy does. In particular, it may be worthwhile to rethink the old Mahanian notion of sea power—not because Mahan was some sort of prophet and his ideas have eternal validity but because in the particular circumstances of the early twenty-first century his observations about the importance of the international commons per se may be relevant.

The globalization of energy and food markets, as well as cross-industry trade in industrial goods, makes the sea remarkably important for national well-being, not simply for the well-being of the American nation but for that of most nations. By the middle of the next century, even China will be critically dependent on its access to the ocean. Global naval hegemony—that is, the capacity to exercise control over the world's high seas—thus offers a powerful reason to invest in naval power. At best, control of the world's oceanic highways may convey the power to shape the general evolution of international society. At minimum, it is likely to provide a veto power over many changes in international norms and regimes that the United States dislikes.

Obviously, global naval hegemony does not convey an ability to dictate national policies or to control the social and political development or activities of other states. It is unlikely to offer much useful leverage if the Chinese choose to repeat Tienanmen Square, if there is a coup in Russia, or if Hutus and Tutsis resume killing each other. But then again, no approach to naval power is likely to offer much useful leverage in these cases.

The point is that there are realistic limits to what naval power is likely to provide to a twenty-first-century America, and these may be well short of the goals encompassed within a liberal-internationalist vision of national security. These limits do not mean the United States should cease investing in naval power.

They do, however, suggest that U. S. leaders and the U.S. Navy should not mislead themselves into believing that investing in the capacity for littoral warfare will necessarily yield an ability to control social and political developments around the world. Liberal internationalism can generate a dangerous hubris. A naval strategy that panders to the hubris is unlikely in the long run to serve the interests of either the nation or the Navy.

Back to the Future:
Sea Power and the American Navy

The Navy's success in navigating the dangerous waters of post–Cold War strategic adjustment should not blind it to the challenges that lie in the immediate future. As the military services struggle to design strategies to support the national one of "engagement and enlargement," as the Navy continues to wrestle with the problem of operationalizing a littoral strategy, and as both the vision of war on which the littoral strategy is based and that strategy's capacity to deliver what it promises are called into question, it may be wise to begin to think about moving Navy strategy back to the sea. A more realistic understanding of what naval power can actually accomplish—what navies do and what necessitates their construction—may well lead the United States to scale back its efforts and to set itself the historically daunting, but under present circumstances modest, goal of oceanic hegemony. Controlling the world common and the global commerce that moves across it may not in itself prevent challenges to peace and liberal democracy, but it offers the potential for considerable influence and leverage, and this, at the present juncture, may be all that can reasonably be expected of naval power.

Moving naval strategy back to the sea implies a way of employing naval power to further the liberal international goals the nation has set itself that is very different from the one envisioned in " . . . From the Sea." With America's entry into the second American century, however, the time seems ripe for another Mahan to explore what this alternative strategic conception would mean for the U. S. Navy.

Notes

1. For a review of this debate and a sophisticated theoretical account of factors that enhance the capacity of military institutions to undertake strategic adjustment see Emily O. Goldman, "Organizations, Ambiguity, and Strategic Adjustment," in Peter Trubowitz, Emily O. Goldman, and Edward Rhodes, eds., *The Politics of Strategic Adjustment: Ideas, Institutions, and Interests* (New York: Columbia Univ. Press, 1998).

2. See Edward A. Smith, Jr., "'. . . From the Sea': The Process of Defining a New Role for Naval Forces in the Post–Cold War World," in Trubowitz, Goldman, and Rhodes, eds.

3. William A. Owens, *High Seas: The Naval Passage to an Uncharted World* (Annapolis, Md.: Naval Institute Press, 1995), p. 4.

4. On the competition between various visions and the cultural forces and dynamic underlying it, see Edward Rhodes, "Constructing Peace and War: An Analysis of the Power of Ideas to Shape American Military Power," *Millennium*, Spring 1995.

5. On the "clash of cultures," Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs,* Summer 1993, and Huntington, "If Not Civilizations, What?" *Foreign Affairs,* November–December 1993.

6. This vision was perhaps given its most elegant expression by the great liberal-isolationist statesman Charles Evans Hughes. See Hughes, *The Pathway of Peace: Representative Addresses Delivered during His Term as Secretary of State (1921–1925)* (New York: Harper and Brothers, 1925), esp. pp. 3–31 ("The Pathway of Peace," 1923, and "Limitation of Naval Armament," 1921), or David J. Danelski and Joseph S. Tulchin, eds., *The Autobiographical Notes of Charles Evans Hughes* (Cambridge, Mass.: Harvard Univ. Press, 1973), pp. 209–52.

7. For a discussion of the forces leading to an abandonment of the transoceanic-countersocietal image and resulting in the attractiveness of the oceanic-countermilitary one, see Rhodes, *Millennium.*

8. See Robert W. Komer, *Maritime Strategy or Coalition Defense?* (Cambridge, Mass.: Abt Books, 1984).

9. The Maritime Strategy grew out of a diverse set of intellectual efforts in various locations around the Navy. Probably the most important center of activity was OP-603, the strategic concepts branch of the Navy Staff, which developed several influential papers and briefings in the early 1980s spelling out the basic logic of the Maritime Strategy. For the definitive history of the Maritime Strategy, see Peter Swartz, manuscript in preparation. The Maritime Strategy was publicly released as a supplement to the January 1986 issue of the U.S. Naval Institute *Proceedings,* under the signature of the Chief of Naval Operations, James D. Watkins. The most widely cited explication of the strategy is Linton Brooks, "Naval Power and National Security: The Case for the Maritime Strategy," *International Security,* Fall 1986.

10. On the history of the NFCPE, see Smith.

11. Sean O'Keefe, Frank B. Kelso II, and C. E. Mundy, Jr., ". . . From the Sea: Preparing the Naval Service for the 21st Century," Department of the Navy, September 1992. Reprinted in U.S. Naval Institute *Proceedings,* November 1992, pp. 93–6; this quotation from p. 93.

12. Ibid., p. 94.

13. Ibid., p. 93.

14. "The seeds of conflict will continue to sprout in places where American interests are perceived as vulnerable. The art of managing crises in these areas is delicate and requires the ability to orchestrate the appropriate response and to send precisely tailored diplomatic, economic, and military signals to influence the actions of the adversaries. Naval Forces provide a wide range of crisis response options, most of which have the distinct advantage of being easily reversible. If diplomatic activities resolve the crisis, Naval Forces can withdraw *without* action or build-up ashore." Ibid., p. 94.

15. Ibid., pp. 95–6.

16. John H. Dalton, J. M. Boorda, and Carl E. Mundy, Jr., "Forward . . . from the Sea," Department of the Navy, 1994, p. 1.

17. Ibid., p. 3.

18. Ibid., pp. 7, 8.

19. Ibid., p. 7.

20. Ibid., p. 4.

21. Maj. Gen. Joseph G. Garrett III, USA, "Memorandum for Deputy Director, Strategy and Policy, J-5, Subject: Service Input for the Joint Strategy Review (JSR)," U.S. Army, 3 September 1996, p. 2.

22. Ibid., p. 11.

23. Ibid., p. 4.

24. Ibid., p. 3.

25. Ibid., p. 5.

26. Ibid.

27. Ibid., p. 3.

28. Deputy Chief of Naval Operations (Plans, Policy and Operations), "United States Navy Strategy Review: Report to the Deputy Director for Strategy and Policy (J-5)," U.S. Navy, 29 August 1996, p. 5.

29. Ibid., p. 10.

30. Ibid., pp. 1, 2.

31. Ibid., p. 7.

32. Ibid., pp. 11, 12.

33. Ibid., p. 11.

34. "Beyond 2010: A Marine Perspective," U.S. Marine Corps, n.d., p. 2.

35. Ibid., p. 5.

36. Ibid., p. 7.

37. Ibid., p. 4.

38. Cnl. Richard M. Meeboer, USAF, "Memorandum for Strategy Division, (J-5), Joint Staff, Attn: Col. Nelson, Subject: Joint Strategy Review (JSR), Air Force Input," U.S. Air Force, 4 September 1996, p. 7.

39. Ibid., p. 9.

40. Jay L. Johnson [Adm., USN], "Forward . . . from the Sea: The Navy Operational Concept," U.S. Navy, March 1997.

41. Ibid.

42. Ibid.

43. Ibid.

44. Ibid.

45. Ibid.

46. Ibid.

47. Ibid.

48. John H. Dalton, J. L. Johnson, and C. C. Krulak, "Department of the Navy 1998 Posture Statement—Forward . . . from the Sea: Anytime, Anywhere," n.d., p. 2.

49. Ibid., p. 5.

50. Ibid., pp. 2–3.

51. Ibid., pp. 6, 7.

52. Ibid., p. 3.

53. Ibid., p. 9.

54. Ibid.

55. Ibid.

56. Ibid., pp. 3, 7.

57. Ibid., p. 12.

58. Ibid. More recent versions of the National Military Strategy have revised this tripartite formulation: shape (the environment), respond (to the threats), and prepare (for the future).

59. See Edward Rhodes, "Wilson, Roosevelt, and Defense Policy in the 1990s," *Defense Analysis*, November 1992.

60. See, for example: John Arquilla and Paul K. Davis, *Extended Deterrence, Compellence, and the "Old World Order"* (Santa Monica, Calif.: RAND, 1992); Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia Univ. Press, 1974); Paul K. Huth and Bruce Russett, "What Makes Deterrence Work? Cases from 1900 to 1980," *World Politics*, July 1984; Paul K. Huth, *Extended Deterrence and the Prevention of War* (New Haven, Conn.: Yale Univ. Press, 1988); Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Baltimore: Johns Hopkins Univ. Press, 1985); Peter Karsten, Peter D. Howell, and Artis Frances Allen, *Military Threats: A Systematic Historical Analysis of the Determinants of Success* (Westport, Conn.: Greenwood, 1984); Richard Ned Lebow, *Between Peace and War: The Nature of International Crisis* (Baltimore: Johns Hopkins Univ. Press, 1981); Richard Ned Lebow and Janice Gross Stein, *When Does Deterrence Succeed and How Do We Know?* (Ottawa: Canadian Institute for International Peace and Security, 1990); John J. Mearsheimer, *Conventional Deterrence* (Ithaca, N.Y.: Cornell Univ. Press, 1983); Jonathan Shimshoni, *Israel and Conventional Deterrence* (Ithaca, N.Y.: Cornell Univ. Press, 1988); and Barry Wolf, *When the Weak Attack the Strong: Failures of Deterrence* (Santa Monica, Calif.: RAND, 1991). For a summary of this literature see Edward Rhodes, "Review of Empirical Studies of Conventional Deterrence," unpublished, presented at the "Future Navy RMA Roundtable," CNO Executive Panel, Alexandria, Virginia, June 1997.

61. Lebow, p. 211.

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Failed States
Warlordism and "Tribal" Warfare

Susan L. Woodward

THE PROBLEM OF FAILED OR FAILING STATES in our current international system is like the uninvited guest at a party: the overwhelming impulse is to ignore it, to treat it as insignificant, and to hope it will go away. The horrifying image on global television in October 1993 of the corpses of American soldiers being dragged through the streets of Mogadishu led directly to the withdrawal of American forces from Somalia.[1] It also strengthened convictions within the American military that it should stay out of Bosnia and that it had been right to resist from the beginning intervention into a sure "quagmire."[2] For all the later lamentation about not sending bombers over Vukovar or Dubrovnik in Croatia in 1991 and not intervening in Bosnia in 1992, or the consequences of not intervening in Rwanda in 1994, those who made the decisions still believe they were correct. Similarly, planning for the defense budget pays little attention to funding and preparation for such operations, still labeled dismissively as "humanitarian intervention," "military operations other than war," and "political-military operations."

While many civilian defense officials and military leaders prefer to focus their efforts on force-versus-force combat, few would challenge the thesis that the phenomenon of failed states has become a serious source of global instability and conflict, or even that it accounts for an increasing proportion of the threats to international order. Nonetheless, few—even among the wider group of policy makers and analysts—will extend that thesis very far. It has become a kind of

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conventional wisdom, without much consensus on why the problem exists or what to do about it. The very fact that we have such a concept—"the failed state"—and use it with ease shows how different the new international era is from that before the fall of the Berlin Wall; the lack of agreement on policy, within both civilian and military leaderships, shows how far we have yet to go to accommodate those differences. There has been no better illustration than the dichotomy between the views of the Commandant of the Marine Corps, General Charles C. Krulak, shared by the Assistant Commandant, General Richard I. Neal, who give these threats star billing, and those of other senior military officers who warn us "not to connect the dots of Rwanda, Somalia, Bosnia, and Haiti into the twenty-first century."[3]

The reason for these contradictions is that the phenomenon of failed states challenges a key operating assumption of the current international order. That order is organized around what is called the Westphalian state system, in which the basic elements are autonomous states, actors whose behavior is governed by the norm of *sovereignty*—nonintervention in each other's internal affairs. Failed states represent a collapse of sovereign capacity. Today's international order is also characterized, however, by increasing globalization, which is said to erode sovereignty, making states less important. Yet the consequences of their failure reveal clearly how crucial states remain. Globalization requires states that function—governments capable of giving *sovereign* guarantees, exercising *sovereign* power and responsibility, and controlling their *sovereign* borders.[4]

In addition, the end of the Cold War was said to make the contest over the domestic order of individual countries—we used to ask, is it a "pro-Soviet" or "pro-Western" regime?—less relevant to the exercise of global power, whether by the United States as the sole remaining superpower or by other major powers of the global economy. Instead, national interest and geostrategic criteria of international significance have reasserted themselves. A large number of states whose internal orders and very existences were shaped by Cold War rivalry and superpower competition have lost strategic significance and superpower patronage since 1989–1991. But the withdrawal of interest and resources from countries as different as Somalia, Liberia, Yugoslavia, and Afghanistan was the primary cause—at the least the triggering catalyst—of their collapses. There is a powerful association between internal disintegration, fragmentation, massive civil violence, and the rise of warlordism, on the one hand, and states' lack of strategic significance for major powers and the uncontrolled proliferation of conventional arms since the end of the Cold War, on the other.

At the same time, a new ideology—reminiscent of a colonialist discourse—has emerged that talks of a resurgence of tribalism and unresolved historical (even prehistorical) conflicts and hatreds, as if to remove any sense of external obligation in these conflicts. Failed states are said to be the result of ethnic conflict as opposed to the "old" ideological conflict and thus *clearly* of internal

genesis—having nothing to do with international change and everything to do with cultural particularities about which outsiders can do little.[5]

These paradoxes arise from the way we currently organize the international system and the foreign policy and defense establishments that operate in it. Although reorientation to challenges of the future is a global task, the challenge is greatest for the United States, as the sole superpower in an international system still organized around the power of a hegemon to manage a world organized around *national* interests.

No future challenge demonstrates this problem more clearly than that of failed states and the polarized debate over whether to intervene militarily in such situations. A threat to global order in general, and in particular (through global communications) to the thin moral fabric that underlies order at any level, failed and failing states pose a general danger but not (with the partial exception of an associated outflow of refugees) the kind of specific threat to other nations that appears to be necessary before they will act. The issue poses the classic problem of collective action: how does it occur?

Thus, calls for American intervention, in the role of global guardian, are more frequent than should be necessary, because calls for "someone" to "do something" generally fall on deaf ears. American refusals undermine its global authority far more than the specific instances would seem to warrant, for they reveal that the most powerful nation is indifferent. The system seems to lack the leader it requires. And, while knowledge is available that would support a change, it is ignored; explanations for failed states are by now quite developed, but policy makers appear to consider them largely irrelevant. The threat to international stability and the likelihood that this problem will continue or worsen in the future, if current explanations are correct, ought to create a booming concern for prevention. In fact, however, the substantial early warning and local knowledge now available do not lead to early action. Understanding this disconnect, between our current thinking and where we need to be to address the problem posed by state failure, is the essential first step to policy change.

Identifying the Problem Correctly

The problem of failed states is not the failed states themselves but our lack of preparation for them. To borrow a saying from the old comic strip *Pogo*, "The enemy is us." This lack of preparation can be seen in three "disproportions." The first is between the threat posed by failed states and our perceived interest in the problem. As a result, secondly, there is a disproportion between the resources we commit and are willing to spend on these threats and the response that is needed. Third, there is a sharp disparity between the characteristics of the

threat, the conflict, the context, and the combatants, on the one hand, and what we are prepared—and are preparing—to deal with, on the other.

Disproportion 1: *threat versus perceived interests.* Many dispute the claim that the problem of failed states is increasing. They contend that levels of civil violence and internal conflict have been steady for decades. Others question only the idea that failed states represent an increasing proportion of conflicts seeming to require international response; they point out that the conflicts in Northern Ireland, Cyprus, or between Israel and the Palestinians present no greater external threat than they ever have. But this confuses civil conflict with state failure (although a collapse of governance is likely to provoke civil conflict). Moreover, the focus on the conflict, or failed state, itself prevents us from understanding *why* failed states are a problem. The problem lies in the change in the international environment: the ability of states to govern is much more important to the operation of a globalized order, but we imagine it matters less. Consequently, the danger to international stability is rising even as our interest is declining.

The end of the nuclear stalemate and superpower competition has lifted the restraining mechanisms that kept general equilibrium during the Cold War, but it has left nothing to take their place. At the same time, increasing globalization, interdependence, and transnationalism make international order and stability, and even our national well-being and way of life, increasingly dependent on the capacity of governments to function and of rulers to exercise sovereignty effectively and responsibly. The needs of nonstate actors, such as businesses and banks, as well as the affairs of state and the interests of citizens, depend upon the ability of states to give sovereign guarantees, provide conditions for trade and foreign investment, control borders, prevent proliferation, keep populations sufficiently satisfied to remain at home, and provide such protection of human rights and welfare that humanitarian crises or human rights violations do not provoke citizens in powerful states to demand intervention.

The end of bipolar competition has also reduced dramatically the motivation to use aid and trade as political instruments to obtain allies and keep them in power. One consequence has been that superpower or major-power patrons have withdrawn the foreign financial and military support on which some governments had come to rely for their power and capacity to govern. Dependent more on foreign resources than on a domestic tax base, and more on skills in obtaining foreign resources than on those of winning allegiance at home, controlling factional fights, and generating and collecting tax revenues, such regimes collapse rapidly when external resources disappear. Verbal support has replaced the funds, arms, and bases of legitimacy that had been used to neutralize or co-opt other contenders for power, buy domestic support, and distribute the minimal welfare necessary to social equity and to the peaceful resolution of conflicts

provoked by inequalities. One need mention only the former Yugoslavia, Afghanistan, Somalia, Liberia, and Zaire/Congo.[6]

There has been a radical shift in international resource allocation, from buying friends in an ideological and strategic contest to conditioning domestic reform in return for credits in a globalizing economy. But this reform process is guided by an economic neoliberalism that is intentionally reducing the authority and resources of states through policies of liberalization, privatization, budgetary cuts and devolution, and overall fiscal conservatism. The consequences, however, have included increasing regional inequalities and grievances, social polarization and abandonment, and a power vacuum that opens the door to movements for regional autonomy or secession, to alternative elites who aspire to total power through ethnic and nationalist appeals, and to vicious cycles of public protests, police repression by weak governments, communal violence, and local insurgencies. In some cases, the predatory character of rulers who were once protected by Cold War patrons comes home to roost; in others, the delicate balance of social comity and welfare is disturbed, and the speed and thoroughness demanded of reform allows no time to work out new political accommodations. To the countries cited above, one might add Rwanda, Algeria, those of western Africa, and possibly many countries in Asia in the wake of their recent financial crises.

Thus, while some of the causes of state failure may be only transient—withdrawal symptoms of a change in patterns of international resource allocation—others are related to the new order of things and thus foreshadow more occasions for concern. Because the global decline in aid and the changed terms for external resources have been accompanied by an inclination to view foreign state failure as solely a domestic problem, in which outsiders cannot help, and by a disinclination to act early with the aim of prevention, the neglect is reinforced, and one can predict that its frequency will rise.

Disproportion 2: resource commitments versus need. What seems to matter about failed states are the consequences: mass violence and atrocities transmitted instantaneously and worldwide on television screens; reports by nongovernmental organizations of famine, starvation, and gross violations of human rights; refugees flooding onto the shores of rich countries or threatening to destabilize surrounding poor ones. It is these external consequences that attract our attention, not the domestic turmoil in failing states alone. They begin to affect us directly only as violations of our moral conscience, refutations of international law and conventions, rejections of the social order needed for trade and investment, or risks to the stability of countries that fall within our strategic purview.

Thus we begin to contemplate action only when a state has already failed and internal violence cannot be managed. That is, we consider intervention in a context wherein (1) there plainly is no sovereign authority, or a contest is raging

over who is sovereign, and (2) the state's legitimate monopoly over the use of force and its ability to enforce its authority and laws are gone, challenged by or abandoned to rival armies, paramilitaries, criminal networks, bandits, or armed street gangs. Social chaos reigns, and dramatic suffering ensues.

Hence we respond in humanitarian rather than political terms, treating the matter as an emergency to be ended quickly, not a political collapse to be reversed, let alone prevented—as a problem to be contained, not solved. Our lack of perceived strategic interest reinforces the inclination to think in terms of disaster relief and of the rules governing such relief—yielding to public pressure to provide charity and save lives protected by international norms, such as humanitarian law, that legitimate intervention.

The disinclination to intervene early thus extends into the intervention itself (when there is one), as a reluctance to violate norms of sovereignty or to exercise political authority. This caution often means further delay, because the obligatory request to intervene, addressed to nominal rulers who do not want to undermine their own authority further by acknowledging their need for assistance, is often rejected, perhaps several times. If intervention finally occurs, it is structured as much as possible in terms of *consent*, so as to reduce the risk of casualties, ensure ease of access, and identify legal responsibility for costs and damages. Even when the Security Council invokes Chapter VII of the United Nations Charter,* thereby affirming that the interests of global security must override sovereignty, intervening powers seek minimal intrusion, doing their best to work with persons they recognize as sovereign authorities and to operate under rules developed for peacekeeping operations.

In contrast to peacekeeping operations or disaster relief, however, the immediate cause of the crisis requiring intervention is a contest among rival factions in which none is likely to prevail. Rules of intervention aimed at protecting sovereignty have the opposite effect, making the interveners participants in that political contest but without the resources, mandate, or intention to influence the outcome. Its peacekeeping rules inappropriate, the intervention tends to resort to improvisation and experimentation. Because such interventions come late in the process of a state's disintegration, they occur only after local factors that might have allowed outsiders to leave after a brief intervention no longer exist. Even when the mission is disaster relief—the short-term provision of food and shelter—or when the mission can be performed by nongovernmental organizations, soldiers are needed, because the failed state can no longer provide security, control the proliferation of weapons, or limit people ready to use them for their own ends.

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* From Chapter VII, Article 42: the "Security Council . . . may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security."

The problems of a nonfunctioning state, for both citizens and interveners, are first and foremost the absence of physical security and the collapse of law and order. In the absence of a standing United Nations force or of rapid-reaction forces available to regional organizations, the need for soldiers and their logistics and communications sends the crisis directly to the doors of the very states—the major powers, and above all the United States—who had earlier declined to act on the grounds that troops should be sent only for a vital national interest.

Disproportion 3: *characteristics of failed states versus current preparation.* There is a great disparity between the characteristics of failed states and what potential interveners are organized and prepared (or even preparing) to do. As noted, states, diplomats, international organizations, and militaries need counterparts to deal with—people who are organized as they are, as sovereign powers, with authority and capacity to implement agreements made, operating within a law-bound state apparatus. We look for them by habit, by bureaucratic and statutory rules, and by the wish to preserve consent and minimize the need for coercion. Without such accountable counterparts, intervention risks becoming occupation, assistance gives way to domination, and relief becomes nation building.

The disparity between threat and interest thus translates into a serious operational problem. The counterparts we seek are scarce or nonexistent, while the reluctance to be interventionists remains. The implementation of the Dayton Accords in Bosnia in 1996 and 1997 is an excellent example. The struggle in the first two years focused on getting the parties to "cooperate" on the basis of the agreements they had signed; U.S. officials accused them of "lack of political will" when they did otherwise. Many local politicians had no intention of implementing those parts of the accords with which they did not agree (Bosnian Serb leaders had not even been permitted to sign the accords and thus felt freer to ignore provisions they contested). The longer local politicians delayed in meeting deadlines, the more willing the outsiders managing the implementation became to take on the authority they had originally refused—to dictate, even to impose as legislation, emergency measures to get the process moving. In some cases this was necessary because the state structures and staff needed simply did not exist.

Whether in Bosnia, Somalia, or elsewhere, instead of a hierarchy and some degree of organized command and control, participants find armed men acting for local interests, or for personal vengeance or gain, only partially under the control of people claiming to be leaders, and often shifting alliances for tactical reasons. Those who claim authority may not be able to exercise it, and they may not want to make that inability obvious by attempting to implement commitments they have made. Most problematic for the interveners is that "warlords"— persons whose power derives from the gun—may be seeking to

work with outsiders only in order to legitimate their fragile power—to gain external recognition as the source of domestic authority and as leverage with supporters and against rivals.

This condition is not "tribalism," which as a system of power, according to Max Weber's classic analysis of authority types, is actually based on military organization and success in battle. Truly "tribal" warlords would be easier to deal with than the wide variety of informal, fragile, competitive, and personal relations that in fact abound. Tribal warlords earn leadership, within an elaborate normative code of honor and social obligation, through the test of battle or by inheritance; they do not seek it as a conduit to international resources, or earn loyalty in a nationalistic reaction to international condemnation. The contrast with the conditions of state collapse can even be viewed in those elements that remain of a disintegrating army that still retains its professional identity and codes of behavior, and that can be reconstituted into a professional army if intervention comes quickly.

Too often, in contrast, instead of the hierarchy and earned personal loyalty characteristic of tribal authority, the vacuum of legal authority is filled by claimants to some patch of territory or cache of arms. These figures seek popular allegiance on the basis of the fear and insecurity generated by the absence of reliable authorities, or by appealing to informal bonds of obligation and solidarity in society that are more analogous to kinship groupings. In Somalia, a northern insurgency led to breakdown along regional lines and revival of the reciprocal obligations of segmentary lineages. In the Balkans, after the original breakaway from Yugoslavia of Slovenia and Croatia, competition for territorially based power forced people to choose loyalties and dependence according to individual ethno-national identities. In the Great Lakes region of eastern Africa, conflict on the Zairian-Rwanda border allowed a leader to take advantage of ethnic differences and a regional insurgency to challenge and eventually collapse the Zairian autocracy. In Afghanistan, the vacuum of state power was filled by territorial clans identified by linguistic or religious associations.

Such loose bonds between leader and follower, however, are based fundamentally on reciprocity. They require those who claim power to provide services directly, controlling and channeling such resources as they can obtain from outsiders, or to give permission to loot—a mutual understanding that promotes not the clean lines of command demanded by outsiders but criminal gangs, protection rackets, and local defiance. This reciprocity tends to make power even more personalized and nonaccountable and to deepen anarchy, because for any actor to honor formal regulation over resources would give less scrupulous rivals all the more access to them.

A resort to groupings and older forms of solidarity—in what outsiders call ethnic conflict—also reflects a prior breakdown, or increasing marginalization, of legal norms and of industrial or service-oriented class structures. These

societies are not premodern, as analysts who cite historical hatreds would have it, but the result of rapid urbanization, growing urban unemployment, and a collapse of the middle class under austerity policies aimed at reducing high foreign debt, trade deficits, and inflation—policies that force people to cope through informal and household sectors outside the formal economy. Family-based and local networks of support and loyalty, evoked often through emotive cultural symbols, religious identities, and proselytizing by churches that provide charity, become substitutes for formal welfare and employment. But these identities can become sources of exclusion and conflict when the distribution of resources is at stake; if violence results, the distinctions between soldiers and civilians, and between the battlefield and home front, on which international conventions and norms are based, no longer exist. Intervening forces find themselves immersed in warfare against the population, using attrition tactics, not the soldier-on-soldier battles they know how to assess.

Moreover, it is easy to see such ethnic, religious, linguistic, or clan differences as causes of a conflict when in fact they are only results (and for quite some time a reversible result) of the collapse of formal structures of governance and economic activity. When groups seek outside assistance, as some eventually do, on the basis of those shared loyalties—ethno-national identity, religion, cultural values, memberships in the same "civilization"—tensions and competition can be made much worse. Outsiders, convinced that the violence is being caused by ethnic hatred, begin to treat such differences and presumed hatreds as essences rather than as contingencies produced by alterable conditions. This is especially the case if interveners organize in terms of "enemies" and "victims" and thus take sides; by doing so they harden lines of conflict rather than reinforce instances of cooperation and the capacity for it.

The loss of a state's monopoly on authority to legislate, tax, enforce, and restrict the right to bear arms creates a situation of relative balance in resources, especially arms, and in access to finances for war. Examples are regional control over trade routes and customs posts, as can be seen in Bosnia, and over mineral resources, as in Angola today. (The Angolan case shows that where there are such resources, lucrative financial offers are likely to appear from international businesses who have no scruples about dealing with warlords and who do not condition their payments on certain behavior and reforms, as do the United States and international organizations.) Contrary to the stabilizing effects of balance-of-power interstate relations, the most likely result of this anarchic balance of resources (particularly military ones) domestically is unending war of attrition.[7] The equilibrium result—a negative equilibrium, in economists' terms—is "stable anarchy," in which "all resources would be spent in fighting rather than production." There may be temporary cessations of fighting, but only as battlefield stalemates; internal actors cannot on their own end the fight.

This relative balance also creates layer upon layer of security dilemmas. A spiraling dynamic of mutual fear continues to feed such wars once they begin." To understand the disintegration of Yugoslavia or the Bosnian war, for example, one must recognize that once the federal state lost its authority, each group pressed for its own national rights and claimed to be at risk of exploitation and even extirpation by other groups in the same dissolving state; it became critical that each group was a numerical minority and perceived itself as acting only in defensive ways. Interventions that attempt to remain impartial, delivering food and shelter to all civilians but not intervening politically to stop the spiraling dynamic, thus are likely to perpetuate these perceptions and the stalemate; those that do intervene politically, taking one side but not going to war in support of that side (and thereby resolving the battlefield situation) also perpetuate the conflict, by demonstrating to the other sides that they are indeed endangered and that they cannot safely disarm, psychologically or physically.

Finally, the search for sovereign actors in interventions prevents interveners from taking the fact of "regional security complexes" into account." Three sets of cases illustrate this: Rwanda, Burundi, and Zaire/Congo; Afghanistan, Pakistan, and Central Asia; and the former Yugoslavia, where events in Slovenia led directly to Croatia, then to Bosnia, and with new developments now likely in Yugoslavia, Kosovo, Macedonia, and Albania. The domestic conflicts can be exacerbated by neighboring states with transborder minorities they feel compelled to support (as in the military and political involvement of Croatia and Serbia in Bosnia-Herzegovina), or that obstruct the restoration of central governmental capacity because they perceive it as a potential threat to their own sovereignty (as has Pakistan with respect to Afghanistan). The warfare, refugees, and cross-border flows of arms and armies that result from state failure can destabilize an entire region (recall the effect of Rwanda on Burundi, Zaire/Congo, and much of central Africa). Conversely, efforts to restore peace and stability in one state can be hindered by neighboring instability. Intervention in internal conflicts cannot ignore the fact that failing states are likely to be surrounded by insecure or even other failing states, and that power shifts in one state reverberate rapidly in the others. Thus the construction of one stable political order requires a regional strategy.

There are obvious mismatches between all these characteristics and the current training, equipment, and doctrine of the armed forces. Military interventions in such circumstances are not traditional warfare, but they are far more than police actions. The enemies are chaos (meaning a lack of the kind of order we know) and violence—guerrilla warfare, urban violence, small arms, snipers, and terrorism, sometimes involving technologically sophisticated, deadly arsenals, even biological and chemical warfare agents, aircraft, shoulder-launched weapons, and antiaircraft artillery.

External interventions usually seek to protect civilians and aid workers, negotiate cease-fires, and support civilian relief efforts, not to do battle or run a country. Often the best endowed and organized of the agencies in such an effort, the military must nonetheless play a supporting role and accept the inefficiencies, delays, and lack of coordination of the civilian side.

The mandate of soldiers in such conflicts is to be impartial with locals, use minimal force, and give priority to their own protection and at the same time to political relations that will maintain or improve support for their mission at home. They may enter with robust rules of engagement and powerful weapons, but they quickly learn that it is *psychological* robustness that matters, because traditional weapons are not suited to the situation and the home nation demands zero casualties. These rules of intervention, however, risk frustration and accusations of inaction (Madeleine Albright, then the U.S. ambassador to the United Nations, once asked General Colin Powell, "What's the point of having this superb military that you're always talking about if we can't use it?") or worse, of immorality in being "impartial."[10] In their effort to end hostilities or to prevent them from resuming, intervening forces talk to any and all factional leaders, risking charges of strengthening villains. Their mission is to do only what a military can do; in fact, however, the primary tasks on the ground are political. Even the criteria for a force's success are highly political, and they are defined by others. The most likely outcome is a stalemate, in which ceasefires last but the political capacity and singular authority necessary to achieve independently sustainable peace are not restored. This means having to stay far longer than intended, which is fraught with dangers of misunderstandings, fatal incidents, charges of (or actual) partiality, the breakdown of resolve, and the appearance of colonialism.

When military forces are sent to help implement a negotiated agreement to end the violence, their mandate is likely to be a vague political compromise. Abhorrence of wars of attrition encourages foreign intervention to stop the killing long before local leaders are ready to concede and reach a genuine agreement. That political reunification of warring factions and local leaders will be possible is not a given, and to move in that direction the military often must do the local work of rebuilding mutual confidence, trust, and command structures. While tactical agreements may make the separation of forces, cantonment of heavy weapons, and initial demobilization relatively simple matters, and while the imbalance of conventional power may strongly favor the intervening military forces, the long-term problem of restoring government is one of internal security. One of the first agencies to collapse in failed states is the police.

Much of the after-action literature on such operations so far emphasizes the crucial role of intelligence and of political savvy. Yet by their very nature such interventions are crisis responses in a locale otherwise considered unimportant. Adequate prior intelligence preparation is unlikely, not because these conflicts

cannot be predicted—they can be—but because of the low priority attached to such states. The skills needed are available only by luck, or only in the reserves, or not at all. Some even argue that the fascination with "revolutions in military affairs" and technologically driven change produces bias against the skills and equipment needed to succeed in these culturally and politically complex conditions.

In contrast to the autonomy, at least at the operational level, of conventional military engagements, these operations require close and clear political direction. Yet these immensely public and politicized operations most often receive political direction that is indecisive, erratic, and contradictory. Political leaders, sending military forces for humanitarian or containment motives, are unprepared for the local political issues in play or the expenditure of resources that is necessary.

To complicate matters even more, the lessons learned from recent operations tie success directly to the flexibility that only delegated leadership on the ground can achieve. A contest between field and capital appears to be an inevitable ingredient, alongside the coordination between military and civilian organizations that still serves as a substitute for combined political and military strategy. The absence of clear political direction at the level of objectives and mission is reinforced by the obligation, for reasons of legitimacy in the post–Cold War environment, to intervene multilaterally. Multinational operations create their own issues of unity of command, interoperability, political direction, and authority—a result in part of the anarchy that also characterizes international relations.

The Challenge to the United States

The effect of these disproportions is particularly acute for the United States. Reluctance to get involved in a preventive mode, including the use of force if necessary, is often a contributing factor to these disasters. The longer one waits as a state fails, the more likely conditions are to deteriorate to the point where military force is required. The United States government emphasizes the need to enhance its capacity for "forward presence" and rapid deployment, but the political considerations necessary to connect that posture and capability to "military operations other than war" are not being addressed. Further, the security problem in a state that has failed tends to entail a long presence. In these scenarios the United States is also emphasizing a greater role for regional powers and organizations, rather than the United Nations, but the United States is the only global power that is a member of most regional organizations. It wants to retreat from global policing, yet most such operations require logistical, communications, and intelligence capabilities that only the United States has.

There is no doubt that the problem of failing and failed states will be a major threat to international security and American leadership in the coming decades.

There also seems no doubt at the moment that the response will be ad hoc and late in the game, plagued by political indecisiveness, confusion, or contention at home and by conflict with allies over the interests at stake. The public, outraged at what is apparent on the television screen, will demand a military response, but without much information or debate about the military's proper role or the place of military assets in this problem.

For the armed forces, this prospect appears to leave only two choices: for the military to adapt doctrine, train for these contingencies directly, and be prepared to move early; or for the nation to push harder for prevention. We must understand that the problems presented by failed states can only be stopped by reversing the failure: to seat a sovereign and rebuild state capacity. Once a state has "failed," the United States military may find itself assisting, at public demand but against congressional resistance, in state building as well as providing military governors and occupiers. It will certainly do well to think harder about strategy for such operations, including the integration of military and civilian capacities—an integration that thus far the United States military has resisted. As Barnett Rubin concludes from the case of Afghanistan, "The main lesson is that resolution of conflicts in states that have been failed by the international community requires a sustained cooperative effort by that community."[11] Given the demands for warfighting readiness, nearly worldwide operational presence, and force modernization, the United States military should have great interest in whatever economic, social, and political measures can prevent state failures.

Notes

1. A clear analysis can be found in Terrence Lyons and Ahmed I. Samatar, *Somalia: State Collapse, Multilateral Intervention, and Strategies for Political Reconstruction* (Washington, D.C.: Brookings Institution Press, 1995), pp. 57–60 and passim.

2. Although only a rephrasing of the Weinberger (some would say Nixon) Doctrine, this resistance of the military leadership in 1991–1992 became associated with the Chairman of the Joint Chiefs of Staff, General Colin Powell, and was relabeled the Powell Doctrine.

3. Admiral Harold Gehman, address at conference on "The Role of Naval Forces in 21st Century Operations," cosponsored by the International Security Studies Program of The Fletcher School of Law and Diplomacy, the Institute for Foreign Policy Analysis of Tufts University, the Office of the Commandant of the U.S. Marine Corps, and the Office of the Chief of Naval Operations, Cambridge, Mass., 19–20 November 1997. The views of General Charles C. Krulak were expressed at this same conference. The Assistant Commandant, General Neal, voiced similar views at a January 1997 conference in San Diego; these were adapted as Richard I. Neal [Gen., USMC], "Planning for Tomorrow's Conflicts: A Recipe for Success," *Naval War College Review*, Autumn 1997, pp. 9–16.

4. See Francis M. Deng, Sadikiel Kimaro, Terrence Lyons, Donald Rothchild, and I. William Zartman, *Sovereignty as Responsibility: Conflict Management in Africa* (Washington, D.C.: Brookings Institution Press, 1996), on this argument that the grant of sovereignty must include responsibility, including to international standards and conventions.

5. The best known are Robert D. Kaplan, "The Coming Anarchy," *Atlantic Monthly*, February 1994, pp. 44–76, and his *Balkan Ghosts: A Journey through History* (New York: St. Martin's Press, 1993), and Samuel Huntington, *The Clash of Civilizations and the Remaking of World Order* (New York: Simon and Schuster, 1996). But see Chaim Kaufman, "Possible and Impossible Solutions to Ethnic Civil Wars," *International Security*, Spring 1996, pp. 136–75, for an even more influential example of this new fad, in which he divides internal conflicts into two categories: Cold War conflicts are ideological, and post–Cold War conflicts are ethnic.

68 Naval War College Review

6. The argument for Yugoslavia can be found in Susan L. Woodward, *Balkan Tragedy: Chaos and Dissolution after the Cold War* (Washington, D.C.: Brookings Institution Press, 1995). On Afghanistan, see Barnett R. Rubin, *The Fragmentation of Afghanistan: State Formation and Collapse in the International System* (New Haven, Conn.: Yale Univ. Press, 1995), and *The Search for Peace in Afghanistan: From Buffer State to Failed State* (New Haven, Conn.: Yale Univ. Press, 1995). For Somalia, see Lyons and Samatar, and Mohamed Sahnoun, *Somalia: The Missed Opportunities* (Washington, D.C.: U.S. Institute of Peace, 1994). The work of Adekeye Adebajo emphasizes this factor for Liberia.

7. David Laitin applies this model from biology and industrial organization to the case of Somalia, in "Somalia: Civil War and International Intervention," forthcoming from the Columbia University Press in a volume edited by Jack Snyder and Robert Jervis on the security dilemma and ending civil wars.

8. See one example in Barry Posen, "The Security Dilemma and Ethnic Conflict," *Survival*, Spring 1993, pp. 27–47.

9. For the concept of a "regional security complex," see Barry Buzan, "Third World Security in Structural and Historical Perspective," in *The Insecurity Dilemma: National Security of Third World States*, ed. Brian L. Job (Boulder, Colo., and London: Lynne Rienner, 1992), pp. 167–90.

10. Cited by Colin Powell in his autobiography, written with Joseph E. Persico, *My American Journey* (New York: Random House, 1995), p. 576. He adds, "I thought I would have an aneurysm. American GIs were not toy soldiers to be moved around on some sort of global game board."

11. Rubin, p. 145.

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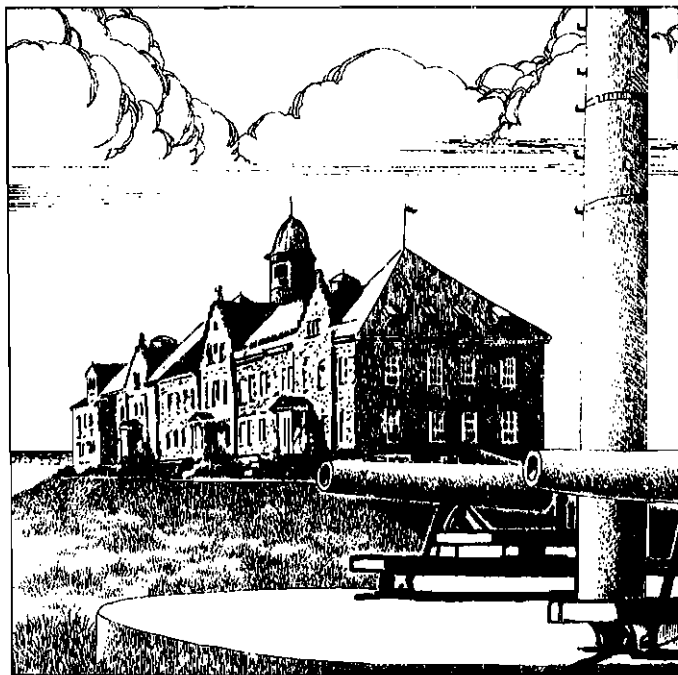
Qualified Engagement
U.S. China Policy and Security Concerns

A. James Gregor

T HERE IS LITTLE DOUBT THAT the People's Republic of China (PRC) has become, and will remain for many years, a major preoccupation for policy planners in Washington, D.C., and pundits everywhere. To date the discussion has turned mostly on the generic China policy alternatives—"containment" or "engagement."[1] Publications advancing the rationale for one or the other are legion.[2]

While the bulk of professional judgment is that "engagement" recommends itself, it is not clear precisely how "deep" or "constructive" such engagement should be, how it might be implemented, or how it might be qualified.[3] Some have suggested that not only has the modernization of Beijing's armed forces "heightened regional anxiety" but that "Chinese actions" (as distinct from Beijing's declaratory posturing) have done nothing to allay that anxiety.[4] It has been said that the People's Republic of China has been pursuing an "assertive maritime regional policy" in Southeast Asia, and there are those who fear as a consequence not only a potential "threat to Western interest in the free movement of shipping" in the region that could generate the "strong possibility" of "limited war," but real conflict with the United States as well.[5]

The issues involved are far too important to be accorded cavalier treatment.[6] They require at least a review of Beijing's strategic and military doctrines, of the

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current and projected inventory of its armed forces, and of the disposition of the Chinese to pursue their interests with organized violence, as well as an assessment of the environment in which the PRC will operate for the foreseeable future.[7]

This article concludes that however "constructively" and "deeply" engaged the United States may be with the PRC, prudence recommends that engagement be qualified by a clear recognition that Beijing may soon be in a position to destabilize the security of East Asia and threaten the interests of the industrialized democracies in general, and those of the United States in particular.[8] Since that conclusion plainly bounds how far "engagement" should be pursued, let us examine the evidence that necessitates such a cautionary assessment.

Strategic and Regional Doctrine

As early as 1985, Chinese strategic and defense thinking significantly changed. The conviction arose, for a variety of reasons that need not detain us, that armed conflict between the major military powers, involving early, large-scale engagements and a nuclear exchange, was very unlikely.[9] Rather, the political and military leaders of the PRC anticipated that armed conflict for the foreseeable future would involve conventional weapons, would be of short duration, and would probably be a response to immediate territorial or maritime disputes.

Chinese military theorists argued that technological developments afforded major enhancements of conventional military capabilities. Modern research had significantly increased the range, target-acquisition capacity, precision, lethality, and stealth properties of weapon systems, allowing military engagements to be, more likely than not, brief and decisive.[10]

As a consequence, Chinese strategists argued, the armed forces of the PRC would have to develop capabilities suited to rapid-response, joint-force, small-scale conflicts. Such conflicts might grow out of Beijing's disputed territorial and maritime claims—particularly those in the South China Sea, where today significant seabed, subsoil, natural gas, and oil resources are contested and fish harvests are of considerable importance.[11]

Since its unsuccessful "punitive" war with Vietnam in 1979, in which the armed forces of the PRC suffered heavy casualties and losses in inventory to very little purpose, Beijing has both transformed its military doctrines and sought to enhance its force capabilities. The Enlarged Meeting of the Party Central Military Commission of 1985, in which Deng Xiaoping announced his new military doctrine of limited warfare on China's periphery, anticipated major changes in the inventory, character, and missions of the Chinese armed forces. Not only was the military to be modernized and made more mobile, but the

naval forces of the People's Liberation Army (PLA) were relieved of planning for conflict with the Soviet Union.

China's new strategic doctrine changed the responsibilities of the PLA Navy (PLAN) from the support of land operations to the conduct of war at sea.[12] Those responsible for naval planning could anticipate a different set of potential missions, some involving relatively brief conflicts in local environments, for which the major military powers would not have the warning required to mount credible responses.[13] Such missions were constituents of a general strategy (originally termed "People's War under Modern Conditions") designed to offer China "comprehensive national security" in a post–Cold War world conceived by Beijing as "a dangerous neo-Darwinian jungle."[14]

The PLAN, under the new dispensation, prepared a war-fighting doctrine calculated to complement Beijing's notions of comprehensive strategic national security. The PLAN was charged with providing mainland China the strategic depth necessary to survive in the event, however improbable, that a major military power in fact attempted to defeat the PRC.[15] More important for present purposes was the fact that to meet its new responsibilities the leadership of the PLAN now put together a policy of "offshore active defense."

Admiral Liu Huaqing, vice chairman of the Central Military Commission and former commander of Chinese naval operations in the Spratly Islands, was identified as the architect of the PLAN's blue-water ambitions and its new interpretation of "defensive" offshore operations. Liu's conception of an "offshore active defense" is part of a larger strategic concept that involves an in-depth maritime defense of the Chinese mainland should there be a conflict involving a major military power. Such a defense would require effective military control over the chain of islands (which Liu identifies as the "first island chain") commencing in the Yellow and East China seas in the north, through the South China Sea, to territorial waters as far south as the Greater Sunda Islands. Control over those maritime territories would deny an enemy secure access to base facilities, launch sites, and staging areas in proximity to the mainland. It would render enemy operations within the boundaries of the "first island chain" extremely hazardous.[16]

As an intrinsic part of the comprehensive security strategy, the notion of an "active defense" offshore has threatening implications. The preconditions for effective control over the waters bordered by Liu's "first island chain" include resolution of a number of irredentist issues. For Beijing to control the waters of the East and South China seas in any contingency means a deliberate and prior effort to press territorial and maritime claims. That entails dealing with the conflicting claims of the Republic of Korea, Japan, the Republic of China on Taiwan, Indonesia, the Socialist Republic of Vietnam, Malaysia, Thailand, Brunei, Singapore, and the Republic of the Philippines.

In this context China's promulgation of its February 1992 domestic "Law on the Territorial Waters and Contiguous Areas of the People's Republic of China" takes on particular significance. Article 2 of that legislation identifies Taiwan, the Pescadores, the Diaoyu Islands (Senkaku Shoto), the Pratas, the Paracels, the Macclesfield Bank, and the Spratly archipelago as components of the sovereign and inalienable territory of the PRC.

Such affirmations not only lay the foundation for Chinese claims to economic exclusion zones in the region but suggest that Beijing might restrict passage along the sea routes under unspecified conditions, or use military force to prevent other claimants from occupying contested maritime territories.[17] It is not implausible to construe Chinese domestic law as establishing the legal basis for the naval doctrine of "offshore active defense."

In 1993 the PRC government published a book entitled *Can China Win the Next War?* In it analysts, probably naval officers, discussed in considerable technical detail strategies to seize and maintain control over the waters within the "first island chain."[18] That boundary's physical acquisition and defense would be the responsibility of the naval forces of the PLA.

Recently, Zhang Liangzhong, commander of the PLAN, affirmed that "to defend China truly and effectively from raids and attacks from the sea, we must strengthen the defense in depth at sea and possess naval forces that have the capability to intercept and wipe out the enemy."[19] If it were assigned those responsibilities, the PLAN would have to possess substantial power–projection capabilities. It would have to become able to contest control over island territories and waters in extended maritime space. That would entail surface combatants capable of operating a substantial distance from shore. Given its present deficiencies, the PLAN would have to acquire combatants with antiaircraft and antiship systems that would allow them to defend themselves with only intermittent air cover. Surface vessels of the PLAN would need command, control, communications, signals intelligence, target acquisition, and fire-control capabilities now largely absent. The PLAN would have to supplement its present fleet of small coastal defense craft, obsolescent attack submarines, and surface combatants with modern vessels capable of surviving combat in the open sea. It would require vessels for replenishment afloat and general logistics, vessels that are only now under construction.[20]

Faced with these procurement requirements, the Chinese navy has sought an increasing share of China's defense budget—which itself has escalated at double-digit rates since the late 1980s. Estimates of the PRC's annual defense-related outlay range widely, from as little as an official $7.48 billion to $140 billion—with perhaps the most responsible estimate $48.5 billion.[21]

The inability to estimate the military budget of the PRC turns not only on the difficulties inherent in trying to fix with any precision the purchasing-power parity of a nonconvertible currency but also on the fact that so much of China's

military spending is made obscure. It is reasonably clear that the PRC is spending proportionately more in expanding the capabilities of its naval forces than almost any other modern nation;[22] however, analysts will probably never be able to provide a precise figure for Beijing's spending on national security.[23]

Rather, we may find it more instructive to catalog some of the PLA's most recent weapon systems procurements. That allows some judgment as to how closely those acquisitions satisfy the immediate requirements of Beijing's post-Mao naval doctrine of "offshore active defense."[24] In fact, we find a gratifying transparency in the acquisition of large weapons platforms. The growing inventory of the PLA can be construed as a reflection of Beijing's intentions.

Weapon Systems Procurement

Since Deng Xiaoping's announcement of a policy of "Four Modernizations," the upgrading of the armed forces of the PRC has proceeded apace. Since the mid-1980s Beijing has sought and purchased advanced military systems from a number of industrialized nations. During the past few years, post-Soviet Russia has supplied China with its most significant new capabilities. In that time Beijing and Moscow have entered into about a hundred bilateral agreements;[25] some of them have matured into the purchase and transfer of state-of-the-art weapons platforms, such as the Sukhoi Su-27 Flanker single-seat, all-weather counterair and ground-attack aircraft.[26]

Acquisition of the multirole, air-superiority Su-27 constitutes a quantum leap for the large but obsolescent PLA Air Force (PLAAF). In its perhaps fifty Flankers, now being integrated into PLAAF regiments (at Suixi air base in southeastern China), Beijing has aircraft with a combat radius sufficient to provide cover for its surface combatants almost anywhere in the South China Sea.[27] The estimates are that the PRC plans to deploy about two hundred such aircraft by the first decade of the twenty-first century.[28]

Together with these aircraft, the PRC has negotiated the purchase of *Sovremenny*-class guided missile destroyers (DDGs) from Russia. Beijing will apparently soon acquire four of the *Sovremenny* DDGs, and unconfirmed reports suggest it will obtain a total of eight by the turn of the century.[29] The integration of the *Sovremenny* destroyers into the PLAN will provide Beijing a balanced armament of antiship and antiaircraft missiles, long-range weapons, and antisubmarine capabilities in a single hull. Moreover, if onboard technology is not degraded by its vendors, the *Sovremennys* could provide the PLAN some of the world's most advanced military systems.

In 1995, Beijing negotiated the purchase of four conventionally powered Kilo submarines from Russia, at least two of which were delivered the same year.[30] Some specialists judge Kilo submarines to be about as quiet as some of the most modern U.S. boats—a major factor in underwater combat. It is argued

that the technology delivered to the PLAN with the Kilo submarines also can be used to upgrade the present capabilities of the thirty-three or so older diesel-powered submarines that remain in service.[31]

Further, some Western commentators maintain that the PLAN will acquire the Russian fifty-six-mile slant-range SA-10 surface-to-air missile and that it is negotiating an acquisition of the 150-mile-range Raduga KH-65SE air-launched cruise missile, which might be modified and adapted for ship-to-surface launch, from submarines as well as surface vessels.[32]

Upgrades in target acquisition and fire control, probably provided by Israeli weapons specialists, have enhanced the capabilities of the older guided missile destroyers and frigates in the PLAN inventory.[33] Also, reported air-refueling capabilities and the construction of vessels to replenish warships at sea contribute to a program of PLAN enhancement designed to discharge the responsibilities of China's "offshore active defense" up to and including its "first island chain."

Authorities in Beijing have continued to show interest in the acquisition of an aircraft carrier. Most recently, Spain's Empresa Nacional Bazan has offered the PRC two designs for a low-cost, medium-sized conventional carrier that would measurably increase the power-projection reach of the PLAN.[34] There seems little doubt that China will acquire such a capability early in the next century.[35]

Regional Behavior and "Offshore Active Defense"

Ever since the founding of the People's Republic, Beijing has insisted that the islands, cays, banks, sandbars, and lagoons in the East and South China seas are sovereign national territories.[36] In that time, however, the Chinese have never been prepared to define authoritatively and with any geographic precision the full extent of their claims. Moreover, it has not been at all clear what Beijing's actual policies with respect to these claims might be.

Notwithstanding the domestic law stipulating the extent of Beijing's claims over the territories and maritime reaches of the South China Sea, China's declaratory policy in the ASEAN Regional Forum has been that it "does not recognize that the South China Sea is her sea" and is prepared to respect the rights of free navigation through the waters it *has* claimed. Nonetheless, the assertion in domestic law that the PRC has the legal right both to claim resources and to control transit throughout the South China Sea is potentially destabilizing. When pressured, Beijing has stated unofficially that it will not press its claims but rather intends, for the time being, to set aside the question of sovereignty in favor of bilateral negotiations concerning joint exploration and development. In these circumstances, as in many others, the Chinese have pursued what certain State Department officials have identified as a policy of "calculated ambiguity to mask its ambitions."[37] For the time being, what China has succeeded

in doing is to convince its regional littoral, insular, and archipelagic neighbors that no exploration or exploitation of resources is to be undertaken in the East or South China seas without the active participation of Beijing.[38]

The PLAN has engaged in armed conflict with Vietnam over Hanoi's attempt to extract oil from contested regions in the Gulf of Tonkin and the South China Sea. In 1988 the Chinese armed forces seized islets in the Spratlys; three Vietnamese vessels were sunk and about eighty Vietnamese nationals killed. That incident was followed in 1992 by further seizures of territory in the Spratlys.

Also in 1992, however, Beijing consented to a nonbinding code of conduct concerning contested claims in the South China Sea. Based on the ASEAN Manila Declaration, the agreement repudiated unilateral action or the use of force in resolving maritime territorial disputes. When in 1994 the Philippines contracted with a U.S. company, Alcorn, for a seismic survey in waters west of Palawan Island, well within Manila's own two-hundred-mile exclusive economic zone (as recognized by the 1982 United Nations Convention on the Law of the Sea) Beijing responded, early in 1995, by marking islands in the region as Chinese sovereign territory and erecting structures on Mischief Reef, 130 miles west of Philippine territory.[39]

The United States became involved in the events when Philippine spokesmen made reference to clauses in the U.S.-Philippine Mutual Defense Treaty calling for bilateral consultation in the event of attack upon the Filipino armed forces. The U.S. secretary of state, Warren Christopher, reminded the Chinese foreign minister that the United States had treaty obligations with the Philippines and urged "in the strongest possible terms that . . . [the territorial disputes in the South China Sea] should not be settled by force."[40] Military confrontation seems to have been avoided on that occasion by the intervention of the United States and the objections of the ASEAN community; nonetheless, Beijing has proceeded, with proprietary deliberation, to dredge the access to Mischief Reef so as to accommodate larger Chinese vessels.[41]

At almost the same time, Jakarta discovered that the PRC has a claim on a section of the continental shelf off the Indonesian coast, within Indonesia's two-hundred-mile exclusive economic zone, where natural gas reserves estimated at over fifty-five trillion cubic feet have been found. Jakarta's attempts to resolve the disagreement bilaterally with Beijing have not been successful.[42] Conflict has been avoided, but Beijing has insisted that exploitation of resources in the region can continue only if pursued jointly.[43]

In March 1996 the armed forces of the PRC conducted joint air and naval exercises north and south of the Republic of China on Taiwan, launching missiles whose impact areas were in close proximity to Taiwan's two largest ports. Washington considered it "prudent" and "precautionary" to deploy two carrier

battle groups to the waters off Taiwan, bringing overwhelming firepower into the zone of tension created by Beijing's live-fire exercises.

Thus Beijing has not avoided provocative behavior. It has behaved as though the waters off its coast as far out as the "first island chain" constitute part of its defense perimeter.

More than that, Chinese behavior gives expression to Beijing's conviction that the entire region is within China's "vital living space" (*shengcun kong-jian*)—necessary if the Chinese people are to survive and prosper in the twenty-first century.[44] That the PRC is already a net importer of food grains and oil prompts its concern for the protection of fish harvests and offshore oil reserves in the East and South China seas. Feeding its growing population—constituting 22 percent of the world's people, confined to about 7 percent of the world's land surface (of which only 10 percent is arable)—has always been a critical preoccupation of the government in Beijing.[45]

In addition, and given China's current rate of real industrial growth, the availability of energy reserves will become increasingly important after the turn of the century. If Beijing is to achieve a real measure of "self-sufficiency," it is evident that China must jealously guard any actual or possible offshore resource reserves. If Beijing cannot deal effectively with its growing shortages, domestic political pressures may precipitate military action in contested waters of East and Southeast Asia to secure resources.

Such concerns have given rise to, and sustain, a conviction throughout East Asia that "naval power is essential for self-reliance."[46] China has given every evidence of being prepared to defend aggressively its claims in the East and South China seas, and its neighbors have correspondingly devoted more attention to maritime defenses. For the People's Republic of China, "offshore active defense" is a major element of its comprehensive national security strategy. In the eyes of the leadership of Communist China, naval operations at some distance from the mainland are dictated not only by immediate self-interest and prevailing military doctrine but by long-term economic security as well.

Such considerations go some way to explain Chinese behavior in the East and South China seas region. Only such concerns could explain the series of provocations that have troubled all the nations along the "first island chain." In behaviors adjunct to its major moves in the region, China has been involved in the interdiction of innocent passage through the waters of the East and South China seas.[47] In the first half of this decade there were numerous incidents of armed Chinese vessels intercepting and boarding merchant ships along the sea lines of communication. According to the International Maritime Board in Kuala Lumpur, there has been a disturbing increase in incidents since 1991.

Maritime authorities in Tokyo reported that between 1991 and 1993 there were seventy-eight incidents in the international waters of the East China Sea in which Japanese and foreign vessels were boarded or fired upon by Chinese

vessels. In July 1993 the Russian merchant trawler *Soyuz 4* was stopped by Chinese navy vessels in international waters and escorted to the naval base at Ningbo, where its crew was detained. When Moscow protested, Chinese authorities dismissed the entire incident as a "misunderstanding."

In 1993 alone there were thirty-three incidents of Chinese vessels interfering with the innocent passage of merchant vessels in the waters of the South China Sea, apparently part of an effort to establish de facto PRC control over waters it identifies as sovereign maritime territory. The interdiction of the Panamanian-flagged *Alicia Star* in January 1994 was typical of incidents, which continued into 1996, wherein Chinese naval vessels fired on merchant ships or stopped and inspected fishing vessels in the South China Sea.[48]

In October 1994, a Chinese Han-class nuclear submarine and two fighter aircraft shadowed the U.S. aircraft carrier *Kitty Hawk* while it was conducting routine operations in the waters of the Yellow Sea. The carrier responded with defensive countermeasures. Whatever had precipitated the incident, Beijing informed the U.S. attaché in Beijing that Washington could expect Chinese armed forces in the future to "take appropriate defensive reactions" if the United States insisted on violating "their airspace and territorial waters."[49]

All of this implies the possibility of armed conflict in the waters of the Yellow, East, and South China seas. One can hardly take comfort in the suggestion that the "unilaterally assertive actions" of the PLAN in the region are the result of the "fragmented foreign policy decision-making process" in Beijing that allows the armed forces of the PRC to act without central control.[50]

The fact is that whatever Beijing's declarative policies, and however frequently its spokesmen participate in regional conferences, there remains the possibility, for whatever reason, of armed confrontation in Southeast Asia.[51] Whether as a consequence of accident or the recklessness of its armed forces, China's commitment to an "offshore active defense" has implications that remain both obscure and threatening.[52]

Regional and International Implications

There is no doubt that the United States considers free passage along the sea lines of communication (SLOCs) in Southeast Asia "essential" to its short and long-term security and economic interests.[53] In 1993, over half the world's merchant shipping capacity sailed through the straits of Malacca, Sunda, and Lombok—or along the route adjacent to the Spratly Islands.[54] Of the half-billion tons of the shipborne liquid and dry-bulk cargoes, crude oil constitutes the largest single element in volumetric terms. Over 1,100 supertankers annually pass eastbound through the Malacca Straits, then through the South China Sea, to supply the Republic of China on Taiwan, Japan, and the Republic of

Korea the oil necessary to sustain economic activity.[55] None of those nations, allied to the United States, has domestic petroleum resources.

Obstruction of sea lanes would immediately affect the economic well-being of two of the security partners of the United States, and on the survival potential of a third with whom we share security concerns.[56] Any interruption of the free flow of traffic in the region would have almost immediate impact on those nations as well as on the entire global economic community. Experience with the closure of the Suez Canal suggests than any such disruption could increase mercantile freight rates by as much as 500 percent.[57] An actual or threatened armed conflict in the South China Sea would probably induce maritime insurers to increase rates vastly or deny coverage to vessels traversing the region. That in itself could easily result in a dramatic escalation in freight rates worldwide. Beyond that, the probable rerouting of ship traffic to longer and less cost-efficient but safer routes would force vessels to remain at sea longer, producing a correlative increase in demand for vessel capacity. Also, holding costs—deterioration of cargo, container rental where applicable, and the storage of cargoes at sea—all increase with shipping time. Depending on the assumptions, the consequences of closure, or virtual closure, of the SLOCs in Southeast Asia range from bad to worse to catastrophic. A localized disruption of shipping in the South China Sea might well translate into a global economic dislocation, impacting primarily on the strategic and major trading partners of the United States in East Asia.[58]

There are a variety of possible threats to the free passage of vessels through the Southeast Asian sea lanes. Local armed conflict is clearly one of them, but there are a number of others. One that cannot be excluded is a decision by Beijing to enforce selective controls over the free passage of vessels. An assertive China might use the pretext of policing maritime smuggling, enhancing safety, managing risk, or relieving traffic congestion at the choke points to implement a control regime over the waterways. In the recent past, for example, Indonesia, arguing similar concerns, has attempted to increase its control over the traffic through the Malacca and Lombok straits.

The nations of the region have resisted such efforts, supporting instead the authority of the International Maritime Organization, an agency of the United Nations, to regulate traffic and tax carriers.[59] It is not certain, however, that an insistent Beijing, invoking its domestic law on "territorial waters," could be so easily dissuaded from such a purpose. PLAN vessels have in the past stopped, boarded, and in some notable instances searched Japanese, Russian, and Taiwanese vessels in the East and South China seas for "contraband," or because they constituted a "threat to navigation." Chinese naval vessels have been known to stop very large liquid-cargo carriers bound for Japan for such "inspections"; most analysts in ASEAN see these incidents as affirmations of Beijing's conviction that all the waters between the mainland Chinese coast and the "first

island chain" are "sovereign territorial waters" of the People's Republic of China.

If Beijing undertook to establish longer-term control over the SLOCs, the shape such an attempt would take can be foreseen in China's past behaviors. The PRC would not actually close the SLOCs but control the flow of traffic along them. That would make the economic futures of Japan, the Republic of Korea, and Taiwan subject in some measure to the political decisions of Beijing.

A determined effort to establish territorial and maritime claims in the South China Sea, together with a program of sea lane traffic control, would have implications not only for the economies and the security of nations in the region but for the international community as well. Certainly, the Chinese authorities would have to anticipate the resistance of nations in the region and the threat of retaliation by the major international trading nations. Such considerations would be major disincentives;[60] it is difficult, however, to have absolute confidence in their deterrent value.

Before the Tienanmen massacre in 1989 most analysts were convinced that the Beijing authorities would not use violence against the unarmed civilian population to suppress political dissidence—it would threaten China's economic program. The leaders of the Chinese Communist Party were well aware, it was argued, that the predictable international response would threaten continued modernization, reduce access to foreign markets, and outrage investors, whose capital China desperately needed. None of that dissuaded the leadership from its purpose—and it is not certain that such considerations could now stop Beijing if it determined to exercise "benign" and "legitimate" control over the 15 percent of the world's ship traffic that passes through the East and South China seas.

Beijing would argue that without suitable regulation the volume of traffic, expanding at an estimated rate of 10 to 15 percent per annum, would increasingly risk life and property in, as well as increasingly pollute, China's "territorial waters."[61] Similarly, Beijing might seek to impose an "environmental" control regime over activity in the East and South China seas to "defend" threatened fish and material resources.

To establish and maintain such a control regime would probably require the occupation of major islands in the Spratly chain currently garrisoned by Taiwan, the Philippines, or Vietnam. China would need not only forces to accomplish such missions but sufficient assets afloat to monitor the regime after it was established. It would have to be able to sustain the military presence and surge larger forces in response to challenges.

Beyond that, there is always the possibility of a Chinese assault on Taiwan. Beijing has never surrendered what it considers its "sovereign right" to employ force in "bringing Taiwan back to the bosom of the Motherland." It seems reasonably certain that Washington feared just such an eventuality when the

PLA massed forces for joint operations and live-fire exercises in the Taiwan Strait in the late winter of 1996.[62] What Beijing chooses to do in the waters between the Chinese littoral and the "first island chain" will depend on its military capabilities. The capabilities required would depend on who China thought its opponent would be.

The Chinese Communist regime would consider anything it did along these lines as fundamentally defensive in character and fully compatible with its declarative doctrine of nonaggression. Nonetheless, any success would not only impede traffic on some of the most important sea lanes in the world but conceivably impair the credibility of the United States as a stabilizing force in East Asia. It might be perceived as evidence of an inability of the United States military to discharge at least two of the three functions traditionally identified with armed forces—to deter, reassure, or compel. U.S. forces might no longer be seen as deterring misadventure in the region, and they might no longer reassure allies that Washington can provide security and stability.[63]

The United States has expressed its determination to ensure freedom of navigation in the South China Sea.[64] The question is whether Beijing might decide that political or security imperatives override the risks of aggressive action in the region. The test could then be military, and if so it would be measured in capabilities. It is not necessary to put together a plausible scenario for confrontation; crises may result from the totally unanticipated intersection of entirely unforeseen circumstances.

It is clear that the People's Republic of China will remain an assertive and increasingly well armed actor in East Asia, particularly in the South China Sea. That, together with the general conviction that the PRC is "a growing regional military power—and a major non–status quo power—with extensive irredentist claims," suggests that there is a real possibility of armed confrontation in the Western Pacific.[65]

Beijing's Intentions

It is a commonplace among military writers and senior commanders that a "threat" requires a combination of capabilities and intentions.[66] The opacity of Beijing's intentions has left commentators unable to decide whether the armed forces of the PRC really constitute a threat to the interests of the United States and its allies in East Asia. In fact, however, China's present conception of comprehensive national security, which has transformed the strategic orientation of the PLAN from the support of land operations to the conduct of war at sea, should be a matter of concern. The present posture of the PLAN is one of forward defense and readiness for rapid combined-force operations and local conflicts.

Only within the regime's own constructs can such choices be considered "reasonable." That worldview measures the rationality of actions against a "patriotism" that requires for the survival of China a strong state, an equally strong military, and an emphatic nationalism.[67] The Chinese Communist Party's "Program for Education in Patriotism," to serve as the "spiritual foundation for a strong and prosperous country and a rising nation," has features of the aggressive nationalism with which the twentieth century is all too familiar.

The Chinese people are taught that the industrial democracies are not only "decadent," the source of "spiritual pollution," but the active agents of an arrogant "imperialism" against which only "patriotism" offers a defense.[68] The humiliations that China suffered for a century and a half at the hands of "imperialism" are regularly rehearsed. Party stalwarts insist that China needs a "great leader" and a "strong government" to inspire the people with the "patriotism" that will serve as a bulwark against mounting threats.[69]

China's new nationalism is a serious matter. In a recent poll, about 90 percent of Chinese youth identified the United States as an "imperialist" power attempting to "dominate" China. The mainland Chinese authors of the bestselling *China Can Say No: Political and Emotional Choices in the Post–Cold War Era* did not conceal their appreciation of Vladimir Zhirinovsky, the radical Russian nationalist who has called upon his countrymen to embark on an adventure in irredentism that would bring them to the shores of Alaska.[70] More recently, there appeared a collection of enormously popular essays entitled *The Demonization of China*, in which the United States is charged with a determined policy of vilification—the ultimate purpose of which is the total subjugation of China. The United States is typified as inherently racist, anti-Chinese, inhumane, aggressively militaristic, and a threat to the survival of China.[71]

How much China's new nationalism influences its present behavior is difficult to determine with any confidence. Even less can one predict its influence in the immediate future. The experience of the twentieth century, however, cannot leave us sanguine. Nationalism has inspired political communities to embark on harrowing aggressive misadventures. The Iraqi invasion of Kuwait and the Argentine invasion of the Falklands are notable recent cases.

The rise of dissidence at home, the accumulation of unmanageable social problems, economic dislocations, and political factionalism might recommend nationalist adventures to China's leaders. Even when China declared itself to be animated by "proletarian internationalism," it came perilously close to war with the former Soviet Union over territorial disputes. Under Deng Xiaoping, China was similarly prepared to embark on a seemingly unequal "punitive war" with Vietnam.

There is some evidence to suggest that the authorities in Beijing have been in the past, and might remain, disposed to choose military violence from among all the conflict-coping and crisis-managing techniques available. That clearly

would increase the probability of hostilities.[72] The transparent inadequacies of its armed forces notwithstanding, the leadership of Communist China might gamble on targets of opportunity in the South China Sea in the hope that "facts on the ground" would ultimately make the PRC dominant in the region.[73] With steady improvements in Chinese military capabilities the threat environment in East Asia could become increasingly ominous.

In a region that is characterized by antipiracy, drug interdiction, antismuggling, and search and rescue operations as well as military exercises, the chances of unintended violence and escalating threat cannot be easily dismissed. For the foreseeable future, China's new naval strategy, its improving naval inventory, and its increasingly demanding nationalism will contribute in no small part to the danger.

Qualified Engagement

The authorities in Beijing face any number of problems. For all the talk of "Marxism-Leninism Mao-Zedong Thought" as one of the "pillars" of the regime, it is clear that Communist Party rule is now legitimated by sustained economic growth and a steady improvement in the general standard of living, together with a frank appeal to nationalism—the nationalism born of resentments and an irremediable sense of wounded pride and humiliation.[74] But perhaps this foundation is composed of incompatible materials. Increased export earnings, easy access to external markets, the acquisition of foreign technology, and the inflow of direct foreign investments all flourish in an international environment of stability and security. Touchy nationalism, on the other hand, feeds on demonstrations of strength—calculated to provoke tension and generate obstructions to free trade, the transfer of technology, and the inflow of capital.

To sustain the remarkable real economic growth of the past years, China must foster confidence; it must create for itself, and abide by, regularities of business and civic law; it must enter into, and act responsibly in, international organizations. China has in fact done much of that. It has joined Asian-Pacific multilateral organizations, participated in regional fora, engaged in confidence-building measures, and issued pronouncements that are entirely unobjectionable.

It has been less unobjectionable when issues touch directly on nationalist sensitivities. It has, and will have, difficulty in opening its markets to foreign commodities at the expense of its own infant industries. It has, and will have, difficulty in reducing government subsidies to state-owned enterprises thought necessary for national "self-sufficiency."[75] It has, and will have, difficulty in meeting international standards of human rights as long as it understands dissidence as "anti-patriotic" and a threat to the nation's survival.

More than that, we can expect China's behavior with respect to its immedi-
ate neighbors, particularly those with whom it has present or potential territorial
disagreements, to be tense, sometimes threatening, and on occasion provoca-
tive. Where Beijing feels that China's honor, territorial integrity, future re-
sources, and "comprehensive national security" are in jeopardy, it will fight.[76]

These concerns seem to influence U.S. policy toward China. The United
States has made clear its interest in a stable and prosperous China. No one
wishes a repeat of the dissolution of the Soviet Union. A collapse of the People's
Republic of China would destabilize all of East Asia.[77] The entire region would
be in turmoil for years, to the detriment of the nations of East and Southeast Asia
and the international trading community as well.

However much the United States is committed to China's continued stabil-
ity and prosperity, China's future is uncertain. The People's Republic of China
has massive internal problems that not only make its present rate of economic
growth problematic but may threaten its very survival.[78] At best, a democratic
government would replace the Communist regime. At worst, domestic diffi-
culties, thwarted expectations, and a sense of collective insecurity could fuel na-
tionalist military adventure, leading to war and calamity.

A U.S. policy of engagement with China is predicated on the conviction that
economic growth, improvement in life circumstances, and increased options
for individuals contribute to the growth of a civil society, from which political
pluralism results, finding ultimate expression in the liberalization of a political
regime and a lessening disposition to solve domestic or international problems
through violence. All of that recommends itself. It is the rationale behind Wash-
ington's policy of engagement with the People's Republic of China. But in this
case that engagement is being undertaken with a nation that has demonstrated
through its behavior, its military doctrines, and its weapon acquisitions that it is
a potential danger to its neighbors and to the international community.

In the late winter of 1996 Beijing was prepared to launch between twenty
and thirty DF-15/M-9 short-range missiles against points at sea near the densely
populated cities of Kaohsiung and Keelung, the two largest ports on the island
of Taiwan. Beijing has invested heavily in its short and intermediate-range mis-
siles. The Chinese military is presently enhancing the accuracy of its missiles
with satellite global-positioning technology and radar-based terminal guidance
systems.[79] That creates a sense of threat among the nations of the region. The
U.S. response was evidence of how serious it conceived the situation to be.[80]
The kind of provocation that drove the United States to deploy two aircraft car-
rier battle groups near the Taiwan Strait can be expected to continue along the
entire arc of what Beijing variously calls its "sovereign territory" and its defen-
sive "first island chain." It would be imprudent for U.S. policy planners not to
acknowledge that prospect.

84   Naval War College Review

Equally evident is the consideration that prudence recommends a continued United States presence all along the arc of the "first island chain." That presence would deter any miscalculation on the part of Beijing. To keep that presence credible, it must be armed with weapon systems that can survive the kinds of air-to-air, air-to-surface, and surface-to-surface missile capabilities that are now being assimilated into the PLA navy and air force. Combined operations, communications and command and control systems, and missile defenses fostering the interoperability of the navies of other East and Southeast Asia nations would be prudent investments. Notwithstanding the plain requirement for such American presence, the lack of political will in Washington and of the necessary defense dollars make full accomplishment of that problematic at best. As a consequence, the East and South China seas will probably continue to remain "dangerous ground" into the next century.

The United States—in order to reassure its treaty partners, avoid the possibility of an arms race, protect its own economic interests, and dissuade Beijing from adventure—must maintain a flexible, modern, and eminently survivable military presence in East Asia. The only conceivable opponent of those forward deployed military forces is the People's Republic of China. In that sense, the U.S. engagement with China will be neither adversarial nor trusting. However much American academics and the political leadership speak of "constructive" and "deep" engagement, the deployment of U.S. carrier battle groups to the Taiwan Strait in March 1996 unquestionably signals that Washington's engagement with the Chinese Communist government is in fact *qualified*. So it must remain until Beijing no longer threatens—by word or deed—peaceful international relations.

Notes

1. See David Shambaugh, "Containment or Engagement of China? Calculating Beijing's Responses," *International Security*, Fall 1996, pp. 180–209.

2. See the discussion in David Shambaugh, "Patterns of Interaction in Sino-American Relations," in *Chinese Foreign Policy: Theory and Practice*, ed. Thomas Robinson and David Shambaugh (New York: Oxford Univ., 1994), pp. 197–223, and in Shambaugh, "Containment or Engagement of China?" pp. 182–5, nn. 5–11.

3. David Shambaugh's "The United States and China: Cooperation or Confrontation?" *Current History*, September 1997, pp. 241–5, is a good, if very general, account of what "engagement" with the PRC might look like. See, on the other hand the argument for "conditional engagement" in James Shinn, ed., *Weaving the Net: Conditional Engagement with China* (New York: Committee on Foreign Relations, 1996). For misgivings concerning the rise of the PRC in Asia, see George Melloan, "China's Balance of Power Politics in Asia," *Wall Street Journal*, 20 January 1997, and A. James Gregor, "China, the United States and Security Policy in East Asia," *Parameters*, Summer 1996, pp. 92–101.

4. Robert Karniol, "Chinese Actions Heighten Regional Anxiety," *Jane's Defense 1996: The World in Conflict* (Surrey, U.K.: Jane's Information Group, 1996), p. 55. See "Philippines: China Is Too Close, Uncle Sam Too Far Away," *U.S. News and World Report*, 14 July 1997, p. 41.

5. Michael Pugh, "Is Mahan Still Alive? State Naval Power in the International System," *Journal of Conflict Studies*, Fall 1996, p. 119. See also "Beijing Arming for Wars with West," *Washington Times*, 6 July 1997, p. 1, and Richard Bernstein and Ross H. Munro, *The Coming Conflict with China* (New York: Knopf, 1997).

6. Even the most diplomatic assessments of China's future role in Southeast Asia use terms like "challenging" and mention that the ASEAN nations wish to "know what the purpose and objectives of

China's defence build-up are" and that China "still has to do something to earn the trust from the region." Jusuf Wanandi, *Southeast Asia–China Relations* (Taipei: Chinese Council of Advanced Policy Studies, December 1996), pp. 5, 13, 15.

7. Samuel Kim has complained that few analysts have undertaken a review of "China's own concept of security." Samuel S. Kim, *China's Quest for Security in the Post–Cold War World* (Carlisle Barracks, Penna.: U.S. Army War College, 29 July 1996), p. 4.

8. Joseph S. Nye, Jr., "The Case for Deep Engagement," *Foreign Affairs*, July–August 1995, pp. 90–114. The least prudent counsel would seem to be that captured in John Zeng's title: "China: A Status Quo Power with an Obsolete Air Force," *Asia-Pacific Defence Reporter*, January–February 1996, p. 5.

9. See Nan Li, "The PLA's Evolving Warfighting Doctrine, Strategy and Tactics, 1985–95: A Chinese Perspective," *China Quarterly*, June 1996, pp. 443–63; Paul H. B. Godwin, "People's War Revised: Military Doctrine, Strategy, and Operations," in *China's Military Reforms: International and Domestic Implications*, ed. Charles D. Lovejoy and Bruce W. Watson (Boulder, Colo.: Westview, 1986), pp. 2–4; Wang Chengbing, *Deng Xiaoping Xiandai Junshi Lilun Yu Shijian* [Deng Ziaoping's modern military theory and practice] (Nanchang, PRC: Jiangxi People's Publishers, 1991), pp. 272–319.

10. See the discussion in Arthur S. Ding, "War in the Year 2000: Beijing's Perspective," paper presented to the nineteenth Annual Sino-U.S. Conference on Mainland China, Taipei, 12–14 June 1990.

11. See the discussion in A. James Gregor, *In the Shadow of Giants: The Security of Southeast Asia and the Major Powers* (Stanford, Calif.: Hoover Institution, 1989), chap. 5; and Henry J. Kenny, "The South China Sea: A Dangerous Ground," *Naval War College Review*, Summer 1996, pp. 96–108.

12. In 1950, the commander of Chinese naval forces insisted that the PLAN "should be a light-type navy, capable of inshore defense. Its key mission is to accompany the ground forces in war actions." As cited in You Ji and You Xu, "In Search of Blue Water Power: The PLA Navy's Maritime Strategy in the 1990s," *Pacific Review*, Summer 1991, p. 139.

13. See the discussion in Alexander Chieh-cheng Huang, "The Chinese Navy's Offshore Active Defense Strategy: Conceptualization and Implications," *Naval War College Review*, Summer 1994, pp. 7–32, particularly p. 17.

14. Kim, p. 6. Song Yimin describes the realpolitik of the PRC's current strategic worldview in the following fashion: "In their eyes world politics continues to involve a zero-sum game, and a hierarchy of power inevitably exists within which the more powerful nations dominate the weak." As cited in Wang Jisi, "Pragmatic Nationalism: China Seeks a New Role in World Affairs," *The Oxford International Review*, Winter 1994, p. 29. See Thomas J. Christensen, "Chinese Realpolitik," *Foreign Affairs*, September–October 1996, pp. 37–52.

15. The notion that the defense of mainland China requires strategic depth was a consequence of the recognition that the bulk of the economic assets of the PRC are located on the littoral. Unlike the war with Japan, when China could trade space for time, any future conflict with a major military power would put China in jeopardy if its coastal economic base could not be defended.

16. See the discussion in Ai Hongren, *Zhonggong Haijun Toushi: Maixiang Yuanyang De Tiaozhan* [An inside look into the Chinese Communist Navy: Advancing toward the blue-water challenge] (Hong Kong: Cosmos, October 1988), in Joint Publication Research Service, China, JPRS-CAR-90-052, 16 July 1990, pp. 14–5; and Zhang Lianzhong et al., eds., *Haijun Shi* [A history of the PLA Navy] (Beijing: PLA, 1989), p. 247.

17. See Eric Hyer, "The South China Sea Disputes: Implications of China's Earlier Territorial Settlements," *Pacific Affairs*, Spring 1995, p. 41; and Eric A. McVadon, "China: An Opponent or an Opportunity?" *Naval War College Review*, Autumn 1996, p. 78. Under pressure from U.S. officials, Beijing declared that China was prepared to honor, in accordance with international law, the rights of innocent passage of foreign vessels and aircraft in the South China Sea.

18. See the discussion in Ulysses O. Zalamea, "Eagles and Dragons at Sea: The Inevitable Strategic Collision between the United States and China," *Naval War College Review*, Autumn 1996, p. 64.

19. As cited in Ai, p. 25.

20. Paul H. B. Godwin, "Uncertainty, Insecurity, and China's Military Power," *Current History*, September 1997, pp. 253–4.

21. Shambaugh provides a figure of approximately $48.5 billion ("The United States and China," p. 243). That would provide the People's Liberation Army with the world's third or fourth-largest annual military budget. The range of estimates is found in David Shambaugh, "Growing Strong: China's Challenge to Asian Security," *Survival*, Summer 1994, p. 54. See, in this context, Richard A. Bitzinger and Chong-pin Lin, *Off the Books: Analysing and Understanding Chinese Defense Spending* (Washington, D.C.: Defense Budget Project, 1994); Richard A. Bitzinger, "China Defense Budget," *International Defense Review*, February 1995, p. 37; Harry Harding, "A Chinese Colossus?" *Journal of Strategic Studies*, September 1995, p. 122, n. 5; and Richard S. Fisher, Jr., and John T. Dori, eds., *U.S. and Asia Statistical Handbook (1995)* (Washington, D.C.: Heritage Foundation, 1995), p. 37.

22. See Huang, p. 9.

23. See the discussion in Shaoguang Wang, "Estimating China's Defence Expenditure: Some Evidence from Chinese Sources," *China Quarterly*, September 1996, pp. 889–911; and Arthur S. Ding, "China's Defence Finance: Content, Process and Administration," *China Quarterly*, June 1996, pp. 428–42.

24. See the comments of Huang, pp. 16 f. and 30, n. 41.

25. The increasingly intimate relationship between Russia and the People's Republic has provoked misgivings in the West. See Matthew Brzezinski, "Sino-Russian Warmth Chills the West," *Wall Street Journal*, 25 April 1997, p. A10.

26. See Hsio Yu-sheng, "New Developments in the Chinese Air Force," *Kuang Chiao Ching* (Hong Kong), 16 January 1996, pp. 78–81, in Foreign Broadcast Information Service, FBIS-CHI-050, 13 March 1996, p. 41; David A. Fulghum, "China Buys SU-27 Rights from Russia," *Aviation Week and Space Technology*, 12 February 1996, p. 60; and Patrick E. Tyler, "China to Buy Advanced Fighter Planes from Russia," *New York Times*, 7 February 1996, p. A3. Russia has become a major supplier of conventional weaponry to nations in Southeast Asia. Malaysia now deploys MiG-29s, and Indonesia has purchased a variety of advanced weapons systems from Moscow.

27. In mock combat exercises, the Su-27 is reported to have outperformed the F-15. See "Exercise between F-15D and Su-27UB," *Modern Weapons*, September 1996, p. 43.

28. See the discussion in Richard D. Fisher, *China's Purchase of Russian Fighters: A Challenge to the U.S.* (Washington, D.C.: Heritage Foundation, 31 July 1996).

29. Kathy Chen, "Beijing Last Month Quietly Agreed to Purchase Two Russian Destroyers," *Wall Street Journal*, 14 January 1997, p. A12; and Richard D. Fisher, *Dangerous Moves: Russia's Sale of Missile Destroyers to China* (Washington, D.C.: Heritage Foundation, 20 February 1997).

30. Antony Preston, "World Navies in Review," U.S. Naval Institute *Proceedings*, March 1996, p. 110.

31. See Frank C. Bork, "Sub Tzu and the Art of Submarine Warfare," U.S. Naval Institute *Proceedings*, November 1995, p. 67.

32. Fisher, "Dangerous Moves," p. 10.

33. See Richard A. Bitzinger, "Arms to Go: Chinese Arms Sales to the Third World," *International Security*, Fall 1992, pp. 84–111.

34. "China Offered Carrier Design by Spain," *Jane's Defence '96: The World in Conflict*, p. 5. There have been regular reports of Chinese efforts to purchase an aircraft carrier "off the shelf." In 1992 it was asserted that Beijing was negotiating with Moscow for the purchase of the *Varyag*, and with France for the *Clemenceau*. See Huang, p. 7.

35. All of this is predicated on the ability of the PRC to incorporate the advanced technology of these platforms. The air force of the PLA has had considerable difficulty servicing the high-technology elements of its purchases from Russia. There is evidence that the PLAN has had substantial problems maintaining its Kilo-class boats. See Kathy Chen, "China's Inability to Keep Subs Running Shows Broader Woes Plaguing Military," *Wall Street Journal*, 1 August 1997, pp. 1, 11; and Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (Santa Barbara, Calif.: RAND, 1995), pp. 123–5, 177–9, 227.

36. See Kenny, pp. 99–100.

37. As cited in Zalamea, p. 63; see the discussion in Wanandi, p. 11, and in Maria Hsia Chang, "China's Irredentist Nationalism," *Comparative Strategy*, February 1998, pp. 83–100, and William J. Dobson and M. Taylor Fravel, "Red Herring Hegemon: China in the South China Sea," *Current History*, September 1997, pp. 259–60.

38. This is the central thesis of Michael Studeman, "Calculating China's Advances in the South China Sea: Identifying the Triggers of 'Expansionism,'" *Naval War College Review*, Spring 1998, pp. 68–90.

39. See Rodney Tasker, "A Line in the Sand," *Far Eastern Economic Review* (hereafter *FEER*), 6 April 1995, pp. 14–6.

40. See *Indochina Digest*, 21 April 1995, p. 1.

41. In mid-May 1997 the PRC complained that Philippine naval vessels had "driven away" Chinese ships from the contested Scarborough Shoal. "Philippines: Showing the Flag," *FEER*, 29 May 1997, p. 13.

42. There have been reports that negotiations continue. In the interim, Jakarta has purchased twelve Su-30MK multirole fighters from Russia for the defense of the giant Natuna gas field in the South China Sea. See John McBeth, "Turn and Burn," *FEER*, 21 August 1997, pp. 20–1, and Charles Bickers, "Bear Market," *FEER*, 4 September 1997, p. 25.

43. John McBeth, "Oil Rich Diet," *FEER*, 27 April 1995, p. 28. Beijing has consistently maintained that the PRC must be consulted in any activity in the South China Sea region. That insistence is now increasingly backed by military capabilities.

44. See the discussion in Kim, pp. 16–7.

45. For a careful analysis of China's agricultural problems, see Vaclav Smil, "Who Will Feed China?" *China Quarterly*, September 1995, pp. 801–13. In this general context, see the discussion in Pugh, pp. 118–21.

46. Pugh, p. 118.

47. There has been considerable discussion of these developments. See Michael Vatikiotis, Michael Westlake, and Lincoln Kaye, "Gunboat Diplomacy," *FEER*, 16 June 1994, pp. 23–8; "Russian Ship Seized," *FEER*, 1 July 1993, p. 14; and Julian Baum and Matt Forney, "Strait of Uncertainty," *FEER*, 6 February 1996, pp. 20–1.

48. See, for example, "Mainland Security Boat Halts 3 Taiwan Boats in the Spratlys," *Free China Journal*, 14 July 1995; and Baum and Forney.

49. See Barbara Starr, " 'Han Incident' Proof of China's Naval Ambition," *Jane's Defence Weekly*, 7 January 1995, p. 5.

50. See Dobson and Fravel, p. 260.

51. Stanley Roth, U.S. Assistant Secretary of State for East Asian and Pacific Affairs, provides a catalog of Beijing's declaratory commitments concerning the peaceful resolution of conflict in Southeast Asia, in "The China Policy Act of 1997," *Topics*, October 1997, pp. 40–6.

52. China's bilateral military arrangements with Myanmar have become a matter of concern. If reports are correct, the PLA has acquired signals-intelligence sites on Burma's Bay of Bengal coast that allow Chinese forces to monitor ship transits through the Strait of Malacca. See Yossef Bodanky, "The PRC Surge for the Strait of Malacca and Spratlys Confronts India and the U.S.," *Defense and Foreign Affairs Strategic Policy*, 30 September 1995, pp. 6–13.

53. See U.S. Defense Dept., *United States Security Strategy for East Asia-Pacific Region* (Washington, D.C.: Office of International Security Affairs, February 1995), esp. p. 20.

54. John H. Noer, "Southeast Asian Chokepoints: Keeping Sea Lines of Communication Open," *Strategic Forum*, December 1996, p. 1.

55. John H. Noer with David Gregory, *Maritime Economic Interests and the Sea Lines of Communication through the South China Sea* (Alexandria, Va.: Center for Naval Analyses, March 1996), pp. 4–5.

56. The United States has bilateral security treaties with the Republic of Korea and Japan, and the Taiwan Relations Act commits the United States, in domestic law, to the continued security and well-being of the people of Taiwan.

57. Noer, p. 2.

58. See John H. Noer with David Gregory, *Chokepoints: Maritime Economic Concerns in Southeast Asia* (Washington, D.C.: National Defense Univ., 1996), pp. 13 f., 23 f., 26, 53 f.; and Noer and Gregory, *Maritime Economic Interests*, p. 9.

59. See Henry J. Kenny, *An Analysis of Possible Threats to Shipping in Key Southeast Asian Sea Lanes* (Alexandria, Va.: Center for Naval Analyses, February 1996), pp. 6–7.

60. See the account in Kenny, *An Analysis*, pp. 19–20.

61. For traffic volume, see M. Lyall Breckton and Thomas J. Hirschfeld, *The Dynamics of Security in the Asia-Pacific Region* (Alexandria, Va.: Center for Naval Analyses, January 1996), p. 3.

62. See Gregor, "China, the United States and Security Policy in East Asia."

63. See Adam B. Siegel, *To Deter, Compel, and Reassure in International Crises: The Role of U.S. Naval Forces* (Alexandria, Va.: Center for Naval Analyses, February 1995).

64. U.S. State Dept., *United States Policy on the Spratlys and the South China Sea* (Washington, D.C.: Govt. Print. Off., 10 May 1995).

65. Kim, p. 32.

66. Richard C. Macke, "A Commander in Chief Looks at East Asia," *Joint Force Quarterly*, Spring 1995, p. 13.

67. See Jonathan Unger, ed., *Chinese Nationalism* (Armonk, N.Y.: M. E. Sharpe, 1996). For interesting insights into these issues, see Barry Sautman, "Racial Nationalism and China's External Behavior," a paper prepared for the American Political Science Association annual meeting, San Francisco, 30 August 1996.

68. See Tang Yongsheng, "Nationalism and the International Order," a paper presented at the Academic Conference on Nationalism at the Turn of the Century, Shenzhen, PRC, 17 November 1995.

69. See Bruce Gilley, "Potboiler Nationalism," *FEER*, 3 October 1996, p. 23, and Matt Forney, "Patriot Games," ibid., pp. 24–6.

70. Song Qiang, Qiao Bian, and Zhang Zangzang, *Zhongguo keyi shuobu* [China can say no] (Beijing: Zhonghua gongshang lianhe, 1996); also Zhang Xiaobo and Song Qiang, "China Can Say No to America," *New Perspectives Quarterly*, Fall 1996, pp. 55–6.

71. See the discussion in Chen Xi, "Zhongguo zhishi fenzhizhong di minzu zhuyi" [Nationalism among Chinese intellectuals], *Beijing zhichun* (Beijing spring), August 1996, pp. 39–42.

72. See the discussion in Michael Brecher, Jonathan Wilkenfeld, and Sheila Moser, *Crises in the Twentieth Century*, vol. 2, *Handbook of Foreign Policy Crises* (New York: Pergamon Press, 1988), pp. 2, 51, 160–4.

73. See the discussion in Michael G. Gallagher, "China's Illusory Threat to the South China Sea," *International Security*, Summer 1994, pp. 174–7.

74. In this context, it appears that the PLA operates, with increasing independence, as the principal defender of the nationalism that has assumed the legitimating role once held by Marxism-Leninism. An increasingly independent military would be a threat to peace and stability in the region. See Ellis Joffe, *The Military and China's New Politics: Trends and Counter-Trends* (Taipei: Chinese Council of Advanced Policy Studies, September 1997).

75. See Matt Forney and Pamela Yatsko, "No More Free Lunch," *FEER*, 16 October 1997, pp. 62–6, and Matt Forney, "Private Party," *FEER*, 2 October 1997, pp. 18–21.

76. See Denny Roy, "Hegemon on the Horizon? China's Threat to East Asian Security," *International Security*, Summer 1994, pp. 160–2.

77. See Jack A. Goldstone, "The Coming Chinese Collapse," *Foreign Policy*, Summer 1995, pp. 35–53.

78. See the account of the PRC's internal problems in Maria Hsia Chang, *The Labors of Sisyphus: The Economic Development of Communist China* (New Brunswick, N.J.: Transaction, 1997).

79. See Richard D. Fisher, Jr., "China's Missile Threat," *Wall Street Journal*, 30 December 1996, p. A16.

80. It is in this context that Beijing perceived Japan's expanded responsibilities under the 1997 renegotiation of the U.S.-Japan security arrangement as directed against the People's Republic. "U.S., Japan Expand Military Security Alliance in Asia," *New York Times*, as reported in *San Francisco Chronicle*, 24 September 1997, p. A11.

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Building the Military-Industrial Relationship
The U.S. Navy and American Business, 1854–1883

Kurt Hackemer

F OR MUCH OF THE NINETEENTH CENTURY, the United States Navy
wrestled with the problem of incorporating new and essential technologies
into the fleet. Rapid advances in naval science created managerial problems as
the naval bureaucracy tried to figure out how to incorporate technologies like
steam propulsion, iron cladding, and steel warship design without losing control
over the shipbuilding process. A lack of basic facilities and technical sophistica-
tion forced the Navy to turn to private companies for much of this technology,
which in turn compelled the service to alter its administrative practices in an
effort to maintain control over the construction of its warships. The forced in-
teraction and modified administrative procedures created closer ties between
the Navy and private industry that ultimately produced the nascent military-
industrial complex of the 1880s and 1890s.

The Navy dabbled in modernizing the fleet with steam technology during
the 1830s and 1840s, but the political climate would not support much experi-
mentation. Things began to change in the late 1840s and early 1850s. Bolstered
by the emerging doctrine of Manifest Destiny, Southern hopes of a slave empire
in the Caribbean and Latin America, and the spirited politics of "Young Amer-
ica," naval expansion became more acceptable to a broader spectrum of the
country's populace. Young America in particular breathed new life into a stag-
nant foreign policy, with its efforts to increase America's standing in the world
community. The Navy became an obvious instrument for the accomplishment

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sented in this article. For their advice and counsel at various stages of this project, the
author would like to thank Professors Joseph G. Dawson III and James C. Bradford.

of its goals, and for the first time in many years the growth of the fleet became politically feasible.[1]

Still, there were problems not so easily fixed by the changing winds of politics. The steam technology that powered modern war vessels was in a constant state of flux. Even the professional engineers of the Navy Department found it difficult to keep up with each new advance, and they preferred to make recommendations about equipment only after careful study and comparison. No universally acknowledged design for steam power plants yet existed; each ship's engine was a unique piece of machinery, attuned to the peculiarities of that particular vessel. A team of engineers might agree on the basic components, but each vessel had its own idiosyncrasies. Such an approach almost guaranteed mistakes and miscalculations, as was the case with well publicized failures of USS *Allegheny*, *Princeton*, and *San Jacinto.*

The Navy completed the *Allegheny* in 1847 as an experimental vessel mounting the Hunter wheel, an internal horizontal paddle wheel that proved a remarkable failure. The ship was rebuilt in 1851–52 as a conventional screw steamer and rejoined the fleet, but it never performed satisfactorily, one journal reporting it "completely disabled . . . in her first engagement with the enemy (wind and tide and fair weather)." Repairs made during active service and the alterations made in 1851–52 added over $150,000 of work to a vessel that originally cost $242,595.92.

The *Princeton* was a rebuilt version of a vessel originally designed by John Ericsson. Constructed at the Boston Navy Yard, it faced delay after delay as the engine builders and the Navy argued about the installation of the machinery. Part of the problem stemmed from the Secretary of the Navy at the time, William A. Graham, who never fully understood the implications of steam warships and exercised insufficient leadership when strong direction was sorely needed. When the ship was finally launched in November of 1852, its steam plant proved such a disappointment that the ship was taken back to port and "put in the hands of the doctors; but this time a change has been made in the practice, and there is some hope for the better, although but little can be expected where the patient has suffered so badly from malpractice." The *Princeton* retired soon after from active service and ended its career as a receiving ship.

The construction of the *San Jacinto*, launched at New York in April 1850, ruined several naval careers. The Navy's conscious effort to avoid royalty payments on existing patents saddled the vessel with flawed engines, an off-center shaft, and an obsolete propeller. The nation's engineering establishment almost universally damned the *San Jacinto*'s machinery before it ever built up a head of steam. Unfortunately, the power plant lived up to their low expectations. When Secretary of the Navy James C. Dobbin ordered new engines from a different builder and demanded guarantees for their performance, one leading technical journal observed that "in departing from the usage of the Department,

the Secretary has made a bold stand for the right," hardly a ringing endorsement of the Navy's past practices.[2]

Despite these recent failures, there was substantial political support for expansion. Secretary Dobbin made his case in December 1853 in his annual report. Although controversial in some of its aspects, Dobbin's program was presented without the vitriol usually associated with such appeals, and it proved politically acceptable to enough senators and representatives to receive the required support. Dobbin devoted much of his report to expansion of the fleet, painting a bleak portrait of the Navy's current condition and pointing out that the fleet could not hope to contend with America's European rivals. The geography of the United States only made matters worse; with two thousand miles of Atlantic and Gulf coastline and California recently added on the Pacific side, the nation was susceptible to seaborne aggression. Add to that the impressive tonnage of the vulnerable American merchant marine, and the country's shortage of adequate naval protection verged on the embarrassing. Still, Dobbin knew where to start—with the immediate construction of six steam, propeller warships. These frigates would mount fifty guns each, making them the equals of any steam warship afloat. In light of the materials on hand and those readily available from suppliers, Dobbin thought that these ships could be built and launched within twenty months of their authorization. On 6 April 1854, after a bitter but brief floor fight, Congress appropriated three million dollars for construction of the *Merrimack*, *Wabash*, *Minnesota*, *Roanoke*, *Colorado*, and *Niagara*.[3]

Despite apparent political success in the authorizing of the six steam frigates, the Navy still faced serious obstacles. A congressional mandate for "economy and efficiency" meant that the ships had to be built around previously stocked hull frames never intended for vessels of this size. Design difficulties were not the only problem; the department had to overcome its own recent history of technological failures and mismanaged contracts for steam machinery. The frigates were to be constructed in government yards, but inadequate facilities throughout the Navy meant that the power plants would have to be built by independent contractors. Secretary Dobbin would have preferred that the Navy build the engines itself, and he declared himself embarrassed "on account of the Governments [*sic*] being so entirely dependent upon private establishments" for their construction. The only naval facility capable of manufacturing marine engines—and only in limited quantities—was the Washington Navy Yard. The secretary found himself with no alternative but to turn to the network of private companies along the East Coast that traditionally supplied the Navy's machinery needs.[4]

Dobbin placed an advertisement for steam machinery in the *National Daily Intelligencer* in early July. The secretary used the opportunity to make recent changes in contract guarantees a matter of policy. Machinery contracts awarded

to private engine builders in the 1830s and 1840s had been relatively unsophisticated, and they had favored the contractor. For example, in the case of the *Missouri* and *Mississippi*, the Navy issued the contract, assigned an engineer to supervise construction, inspected the finished product, took possession, and paid the contractor in full. Possession terminated the engine builder's responsibility, much to the Navy's chagrin in some instances. In 1853, Dobbin began addressing the problem of substandard power plants by attaching a performance guarantee to a contract for a new set of engines for the *San Jacinto*. He expanded on this precedent in advertising for the new frigates' steam engines, making clear the following terms of payment:

> When one-third of the work provided for by the contract shall have been completed to the satisfaction of the Department, there shall be a payment of one-fifth of the whole amount of the contract; when two-thirds of the work shall, in like manner, be completed, there shall be a further payment of one-fifth; when the ship shall have made a trial trip, satisfactory to the Department, of not less than one week at sea, there shall be a further payment of one-fifth; and when the ship shall have been in the possession of the Department, and performed satisfactorily for six months, the remaining sum shall be paid; the repairs necessary during this period, from defective workmanship and material, being at the expense of the contractor.[5]

As if that were not enough, Dobbin required that bidders awarded contracts by the Navy post a secured bond equal in value to three-fourths of the amount of the contract. A bidder that could not meet the terms of the contract forfeited the bond.

Clearly, the Navy's relationship with private contractors was changing. As building programs went from the occasional steamship, often experimental, to entire classes, it was to change even more, most notably in that procedures became more formalized and contractors became more accountable for their craftsmanship. The uncertainty of experimentation still exerted some influence, but the sheer size of the building programs and their funding, coupled with the notable failures of the preceding decade, led to closer supervision of contracts. Of course, mistakes were still made, but by 1854 the Navy had recognized the scope of the problem and had taken realistic steps to correct it.

Subcontracting power plants to private establishments proved to be good for the Navy in both cost and efficiency. The Washington Navy Yard constructed one set of engines for the new class, for a total cost of $170,445. The remaining five plants, manufactured by private firms, cost an average of $169,647. Although all of the engines "require[d] some repairs within three years," the Secretary of the Navy noted in 1860, "the duration of the machinery built at private establishments has been the same as that built at the Washington yard."[6] These engines were far from perfect, but it seems that the mechanical problems and difficulties with contractors experienced by the Navy during the late 1840s

and early 1850s had been at least partially alleviated by the rigid controls and requirements enforced by Secretary Dobbin during the frigates' construction. The Navy thought so; the performance guarantees became standard policy for all subsequent engine and hull contracts.[7]

The outbreak of civil war in the spring of 1861 found the Union woefully short of ships of all kinds. With the Navy's limited shipbuilding capabilities quickly overwhelmed, the overtaxed bureaus turned of necessity to private industry for the construction of entire warships. The Navy quickly found itself once again confronted by a new technology clearly beyond its capabilities. Caught up in the chaos of wartime expansion but recognizing that it needed some way of monitoring private contractors, the Navy turned to the administrative mechanisms that had recently worked in peacetime.

In no case were private contractors more important than in the construction of the first ironclads. Secretary of the Navy Gideon Welles decided early on that the already overworked government yards—New York, Philadelphia, Washington, Boston, and Kittery, Maine—would not be responsible for construction of the first ironclads. On 7 August 1861 he published an advertisement soliciting "offers from parties who are able to execute work of this kind, and who are engaged in it, of which they will furnish evidence with their offer, for the construction of one or more iron-clad steam vessels of war, either of iron or of wood and iron combined, for sea or river service." Building on the Navy's prewar experience, he demanded that each offer "be accompanied by a guarantee for the proper execution of the contract, if awarded."[8] A naval board of three officers reviewed all plans submitted and recommended that three be built: the *Monitor*, a true, shallow-draft ironclad; the *New Ironsides*, an oceangoing cruiser; and the *Galena*, a hybrid gunboat traditional in appearance—and in the event a remarkable failure.[9]

The *Galena*'s contract, similar to those awarded for construction of the *Monitor* and *New Ironsides*, illustrates how the Navy applied its prewar experience with new technology. On 27 September 1861 the United States, represented by Gideon Welles, entered into a contract with Cornelius S. Bushnell & Company. The agreement contained safeguards designed to protect the government's interests. It allowed the Navy to assign to the project a superintendent, who had "the right to reject any of the materials and work which shall not be of the best quality." More importantly, the contract dictated that as the contractors submitted approved bills (in increments of at least twenty thousand dollars), the Department of the Navy would disburse three-quarters of the sums, the remaining 25 percent to be paid "after completion and delivery and satisfactory trial." Based on the Navy's experience with similar conditions during the construction of engines and hulls, the trial requirement seemed logical, and the clause was inserted as a matter of course.[10]

Design modifications and delays marred the *Galena*'s construction. The primary points of contention concerned the implementation of the new ironclad technology, as the contractor and the government's representatives debated the ship's design during the winter of 1861–1862. The deck plan was modified to accommodate revisions in the armor and ordnance required by the Navy. This was followed by changes in the steering mechanism and iron underlay, and finally by a complete redesign of the armor plating. The Navy's old nemesis, the steam power plant, also suffered from delays. Hampered by all the other changes being made to the vessel, the contractors could not get the engines installed on schedule.[11]

The deadline for launching, 27 January 1862, came and went. Tired of the delays and excuses, Commodore Joseph Smith, the bureau chief who oversaw construction of the first ironclads, finally took action. Invoking the provisions of the contract, he told the supervising naval constructor that "the Department has decided to make no further payments to the contractors until the vessel shall have been completed and accepted." Smith later partly relented in his threat to cut off payments, ordering funds released on 15 February to pay for the armor installed to date. However, the government still withheld a substantial portion of the contract price, pending successful completion and testing of the vessel.[12]

Finally, after further delays and more broken promises, Bushnell delivered the nearly finished vessel—on 15 April 1862, a critical time for the Union. Although the USS *Monitor* had turned back the CSS *Virginia* in Hampton Roads in early March, the Confederate ironclad still lurked up the James River, threatening to come down and complete the destruction of the wooden blockading squadron that was denying vital supplies to the Confederacy. No one knew if the *Monitor* could repeat its earlier feat, and all officers concerned eagerly awaited the new ironclad. With the *Galena* in its hands, the Navy rushed to finish construction, outfit the ship, and get it into combat. The work continued unabated for the next week as laborers and officers attended to the final details. On 21 April the Navy formally commissioned the *Galena*. Delivery and commissioning led to the release of more funds to the contractors, but the government still retained over fifty-six thousand dollars pending a successful trial, as called for in the contract. The following day, the *Galena* left New York for Hampton Roads.[13]

Shortly after the *Galena*'s arrival at Fortress Monroe on 24 April, and while the officers at the scene assessed the ironclad's combat readiness, Cornelius Bushnell began haggling with Commodore Smith over the final payment for the vessel. Bushnell himself journeyed to Hampton Roads on behalf of his partners, who hoped "you will get the money for the 'Galena' & *bring it back* with you." Bushnell thought he could sway the commodore on some minor issues, but his visit proved less than successful. The resolute naval officer refused to budge, and Bushnell left for New York on 2 May. Having refused to bow to

pressure from the contractor, Smith, using the precedent set in the steam frigate contracts back in 1854, suspended further payments and waited for "the report of the test of the *Galena*," after which "the Bureau will present its claim for damage in not complying with your contract" with respect to the completion date.[14]

Even as Smith considered the tests mentioned in Bushnell's contract, the gunboat steamed up the James River for its first test of another kind—combat. Confederate gunners emplaced atop Drewry's Bluff guarding the approaches to Richmond clearly got the best of the *Galena* in a prolonged engagement on 15 May, hitting the ironclad forty-three times. No area of the ship escaped the Confederates' attention. The *Galena*'s executive officer catalogued broken armor, gaping holes in the deck, broken timbers, shattered planking, damaged bulkheads, and a number of rounds still lodged in the hull. In short, the ironclad had suffered extensive damage.[15]

Despite the urgent need for major repairs, the *Galena* remained on station. The Navy made what on-site repairs it could, but the vessel was never again the same. It spent the summer of 1862 supporting General George McClellan's laborious movement up the Peninsula, providing fire support, covering troop movements, and harassing the enemy whenever possible. Although battered, its psychological impact as an ironclad made it worth more than any other ship in the James River Flotilla. Blinded by the almost mystical term "ironclad," the Confederates could not accurately assess its capabilities, which justified the reluctance to send the vessel to a navy yard for proper repairs.[16]

Its military and psychological impact aside, the *Galena* was an item purchased by the Navy from Bushnell & Company, and the status of the final payment on the ironclad's contract remained in doubt during the early summer months of 1862. Less than one week after the *Galena*'s return from Drewry's Bluff, Smith sent a note to the ship's captain asking him to arrange for a series of trials "for twelve consecutive hours in smooth water" to determine whether or not the terms of the contract had been met. The distance involved implied an ocean test, for which the *Galena* was clearly not suited at the time. Smith did not know the extent of the damage at the time of his request, but when he found out, he was, he assured Bushnell, "mortified." Although uncertain about what course of action to pursue in light of the ship's combat failure, he told the contractor, he was sure that the government would find "it necessary to withhold all further payments on account of that vessel."[17]

Unfortunately, Smith found himself in a race with time. Because of the damage inflicted at Drewry's Bluff, the Navy could be tripped up by its own contract conditions. The agreement with Bushnell & Company stipulated that the government had ninety days from the time of delivery to conduct a series of sea trials for the ship and power plant. Smith was confident that a report "will no doubt be received, and acted upon before the ninety days provided for the trial

of the vessel expires"; when it was, he would follow through on the terms of the contract—and deny funds to Bushnell, for having delayed construction and delivery. Still, he wrote Rear Admiral Louis Goldsborough, commander of the North Atlantic Blockading Squadron, and asked him to push along the trials. Recognizing the extent of the damage inflicted on the *Galena* at Drewry's Bluff, Smith gave up the idea of an ocean test, asking instead that the ironclad make a day's run down the James River.[18]

For a variety of reasons, Smith's request could not be accommodated. The deadline passed, and the Navy, ironically, fell victim to the terms of the contract, terms that had seemed to work so well during the peacetime construction of the steam frigates. Reluctantly, Smith informed Bushnell that "the time having expired within which tests of her performance should have been made, the Secretary of the Navy will not, under all the circumstances, enforce a claim for damage for non-compliance of contract in regard to time of completion." Smith was forced to relinquish the money that had been held back pending successful completion of trials, and he authorized the payment of thirty thousand dollars to the contractor in late July. On 6 August 1862, Cornelius S. Bushnell & Company received the final installment of $26,134.74. Clearly, the contract guarantees that were supposed to help manage the introduction of ironclad technology into the fleet had failed.[19]

The prewar administrative mechanism had given the Navy an effective measure of control over the building of frigate engines by private contractors because engines were what it had been designed for. Although a major component whose complexity exceeded that of the hull itself, the power plant was only one part among many. Other components under the direct control of the various bureaus, such as the hull, stores, and rigging, were addressed by different mechanisms, usually through the bureau chains of command. In peacetime the Navy also had time on its side; despite occasional political pressure, the Secretary of the Navy could always stall for a few weeks with no adverse effects.

The war had changed everything. In applying to the construction of entire ships—let alone to state-of-the-art ironclads—an administrative device that had been designed, however successfully, for a particular component system, the Navy lost the kind of day-to-day control it had enjoyed in its own shipyards, pegging its hopes instead on a comprehensive examination of the finished product. The government assigned on-site inspectors to these projects, but they had limited power over the contractors. The sheer magnitude and speed of construction overwhelmed the administrative mechanism. The pressures of war destroyed any remaining flexibility, because the Navy no longer had the luxury of extra time. The need to bring ironclad warships into combat was very real; excessive delays might prove disastrous. As a result, the prewar contract mechanism hurt the Navy as much as it helped. However, valuable lessons had been

learned, especially the need for greater oversight and more stringent contract requirements when working with private contractors.

Even as the Navy experimented with the ironclad contracts, it introduced in the fall of 1861 standard, preprinted contract forms for both steam machinery and hulls that reflected its antebellum experience. These forms were regularly modified over the course of the war, but their basic requirements stayed the same. Like the antebellum agreements, they called for a superintending engineer "who shall have the power to inspect [the machinery] at all times, and to peremptorily reject in any stage of its progress any materials, or articles, or any piece or part, which he may consider defective." Similarly, they released the United States from any financial obligations incurred for the use of patented mechanisms; prohibited members of Congress, naval officers, or government employees from profiting by the contract; and allowed the United States to seize the machinery or hull if the contractor could not deliver it as promised.[20]

Several refinements reflected antebellum experience. As before, the forms set up a payment schedule that allowed the government to withhold a portion of the contract price pending a successful sea trial. However, echoing the *Galena* contract, they called for a percentage of the final price to be withheld rather than a specific dollar amount. This gave the Navy more flexibility, allowing the government to make design changes and price adjustments without sacrificing control over a given project. The amount of time a contractor had to build and deliver the machinery would be determined on a case basis, but the contracts left blanks for specific delivery dates, to be filled in when a contract was signed.[21]

Reflecting the Navy's experience with the *Galena*, contracts printed in 1862 established strict procedures for the trial and acceptance of the contracted items. A power-plant contract offers a typical example of the tougher standards. First, after delivery the plant would undergo "one hundred and forty-four consecutive hours under steam of the maximum pressure that the boilers can be made to furnish." Second, for the three months following this marathon trial, "there shall be no deterioration or depreciation of the materials of which any of the machinery and its appurtenances are composed beyond that of ordinary friction." In addition, "there shall be no fracture of any of the parts from imperfection in design of detail, or from faulty workmanship." Finally, the machinery had to maintain at least a minimum condenser vacuum throughout the trial—a difficulty common in early steam propulsion plants. Of course, the Navy took on obligations during the trial period: it had thirty days from the time of delivery to prepare the vessel for sea and get the 144-hour trial under way; any additional time wasted would be deducted from the three-month follow-up, after which time the contractor would receive the withheld funds.[22]

The new contract forms represented more than just wishful thinking by the Navy Department; they were broadly applied to all kinds of naval construction throughout the war. For example, historian and naval engineer Frank M.

Bennett lists seventy-six ships contracted for by the Navy in 1862; the power plants for at least thirty-eight of them were built under the new terms. The Navy used similar contracts for entire classes of warships, including the nine *Canonicus*-class monitors ordered in September 1862 as well as steam-powered wooden gunboats that soon seemed to be everywhere.

The relationship between government and private industry was slowly changing. Contracts devised in the 1840s and early 1850s had been for individual ships or power plants and had met the limited needs of a particular situation. Things changed slightly in the mid-1850s, when a contract might be duplicated to cover all of the ships or machinery for a particular class, as in the case of the *Merrimack*-class frigates or the *Hartford*-class sloops. The complexity and uncertainty of the first wartime ironclads caused a regression to individual contracts. However, by the end of 1861 the Navy had found itself almost overwhelmed by the sheer number of vessels required for the successful prosecution of the war. Drawing upon its experience, the Navy settled on a series of conditions and obligations that could be applied in a variety of situations. Still, throughout this contractual evolution one theme remained constant: the Navy intended to retain as much control as possible over the shipbuilding process.[23]

The increasing number of contracts, with firms located all along the eastern seaboard, led to the creation of an office in New York City to oversee ship machinery contracts with private companies. Although the "monitor bureau" was nominally headed by Rear Admiral Francis H. Gregory, Chief Engineer Alban C. Stimers actually ran it. The oversight measures carried out by Stimers's office forged solid and long-lasting relationships with the most prominent shipbuilding firms in the country. These relationships were built around rules and regulations that applied equally to all contractors. Maintaining close correspondence with each contractor, the Navy also began to deal with contractors as a group, "to establish rules . . . explaining the course to be pursued in all cases." For example, a circular letter drafted by Stimers's office in August 1863 explaining the procedure for modifying ironclad contracts went out to twelve companies; another, sent in October 1863, was addressed to twenty-five firms.[24]

As the war went on the Navy dramatically expanded the number of companies with which it did business, because, as the *Army and Navy Journal* reported as late as September 1864, "the greatest difficulty in preparing the numerous vessels built within the last three years has been the want of the requisite number of machinists and machine shops." Government shipyards built seventy-one of the 192 hulls contracted for during the war, but fifty-six private firms constructed the other 121. The Navy's manufacturing shortcomings were more apparent when it came to advanced technology. Of the 199 steam power plants ordered over the course of the war, its yards built only six; sixty-four different companies with the necessary facilities and technological expertise produced the rest. As it had before, the Navy relied on contract conditions and

performance guarantees that traced their origins back to the *Merrimack*-class engine contracts, refined by the lessons that had been learned early in the war. While not flawless, the general contract formula worked well, and the government found itself amply supplied with vessels for the war effort.[25]

Wartime expansion, however, placed increased burdens on the entire naval administration. Recognizing the extent of the problem, Secretary of the Navy Welles reorganized the bureau system in 1862, increasing the number of branches from five to eight. Welles distributed the duties of the old Bureau of Construction, Equipment, and Repair among three new offices: the Bureaus of Equipment and Recruiting, Construction and Repair, and Steam Engineering. This reorganization facilitated control over the shipbuilding process; an increased definition of responsibilities meant that each bureau could more closely scrutinize the contractors working under its auspices. As a final touch, in the last year of the war Welles asked for and received approval from Congress to establish a judge advocate for the Navy. This officer's duties included investigating fraud and waste in naval contracts, to reinforce the authority of the revised bureau system.[26]

Over the course of the war, the Navy and its private contractors confronted problems similar to those faced during the construction of the *Galena*. Modifications after the signing of the contract and delays beyond the control of the builders, coupled with the Navy's strict adherence to its new payment guidelines, created confusion over whether the government owed contractors money and if so, how much and when. After bitter wrangling, similar to that between Cornelius Bushnell and Commodore Joseph Smith over the *Galena*, the issue was finally settled. A postwar investigation by the Senate Committee on Naval Affairs recommended that several firms be at least partially compensated for lost revenue and inflationary costs "caused by the delay and action of the Government," drawing the wartime era to a close.[27]

Despite difficulties over final payments, the limited number of Navy contracts after the war followed the wartime guidelines with only minor modifications, even using similar standardized forms. Nonetheless, some of the alterations were significant. The 1871 contract with John Roach for the engines of the USS *Tennessee* serves as a typical example and reflects the evolution of contract guidelines from the Civil War through the 1870s.

Originally built during the Civil War as the *Madawaska*, the *Tennessee* became a source of postwar controversy, earning a reputation as a financial sinkhole. After laying up the ship in 1867, the Navy spent more than half a million dollars for repairs and modifications between 1869 and 1871. The vessel then embarked on a three-month cruise, returning for additional repairs that took another three years to complete. John Roach, a private contractor in New York City, was awarded the contract for general repairs and a new set of propulsion machinery. In return, he would receive not only monetary compensation but

the *Tennessee*'s old engines, to sell for scrap. (This arrangement provoked a congressional investigation, because the Navy already had a duplicate plant at the Washington Navy Yard built for a sister ship, and the *Tennessee*'s original engines had never been condemned by a board of survey.)[28]

The *Tennessee*'s machinery contract duplicated much of the preprinted wartime instruments, often incorporating entire paragraphs from them. However, as it had with prior contracts, the Navy Department made both major and minor changes that reflected new experience with the private sector. Although the circumstances surrounding the *Tennessee* contract created controversy, the contract itself represented a positive step in the evolving relationship between the government and private industry. Both parties incurred new obligations while benefiting from new safeguards.

Like the earlier contracts, the 1871 agreement with Roach required that the finished power plant conform to an attached list of specifications and include all necessary tools and spare parts. If, however, the Navy inadvertently left anything off the list, a new clause mandated that "the same shall be furnished by the said parties of the first part [the contractor] to the satisfaction of the said parties of the second part [the government] without extra compensation therefor." This clause would simplify negotiations during the construction process, making it clear that the government expected a fully functional and maintainable power plant. As it had with all its contracts during the previous two decades, the Navy demanded that "all the materials, workmanship, detail and finish shall be of the first class," and it reserved the right to appoint a superintendent to oversee construction at the contractor's premises. Like his predecessors, the superintendent had the authority to "inspect . . . and to peremptorily reject, in any stage of its progress, any materials or articles, or any piece or part which he may consider defective, either in quality of material or of workmanship, or in propriety of detail."[29]

The new contract also contained familiar clauses designed to protect the Navy from unscrupulous contractors and political influence. The contractor was required to furnish drawings "of every piece or part used in the construction," detailed enough to allow "the same again to be constructed." He also had to provide assurances that the United States would not be held liable for any patent fees—an important lesson from the past. Finally, reflecting legislation that had been in effect since 1808, the contractor agreed that "no member of Congress, officer of the Navy, or any person holding any office or appointment under the Navy Department, shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom." Nor could a partial interest in the contract be transferred to an outside party after the signing. Failure to comply with either of the last two clauses would result in a null and void contract.[30]

As the case of the *Galena* so vividly demonstrated, one of the main points of contention during the Civil War had been how much time a contractor had to deliver a finished product. The preprinted wartime contracts tried to spell out the requirements in some detail, but, as noted, the Navy still found itself arguing with contractors well after the end of the war. Accordingly, the Navy now made small but important changes to the *Tennessee* contract.

Under the earlier agreements, contractors had been given a set period of time, usually two or three months, to install all the necessary machinery, bunkers, spare parts, and miscellaneous equipment and have a ship "ready for continuous sea service . . . unless prevented by the act of the Government." This arrangement had worked well when no substantial changes were made to the design of either the ship or its propulsion. However, the constantly evolving technology that characterized the Civil War period made major design changes a fact of life. During the war the government expected its contractors to make any modifications to the hull necessary to accommodate changes in the power plant. This expectation led to serious delays and prompted the government to invoke penalty clauses with increasing regularity.

Perhaps because after the war it had ultimately repaid many of the assessed penalties, the Navy inserted a new clause in the *Tennessee* contract acknowledging that "all changes in strengthening [the] hull for the more efficient erection of the engines, boilers, and their dependencies in this ship, or any modification rendered necessary in or about the hull for the more satisfactory fulfillment of this contract is [*sic*] to be made by the [Navy]." This modification protected both the government and private contractors by clearly defining each party's responsibilities. It also made it easier to assess blame, and therefore possible financial penalties, when construction lagged or contracted materials did not perform as expected. At the same time, the contractor would not be punished for delays caused by changes imposed by the government.[31]

The *Tennessee* contract contained familiar procedures for the trial and acceptance of new machinery. Again building on its wartime experience, the Navy had transferred those procedures to the new contract almost verbatim, but with one important change. Wartime engine contracts had given the private builders a great deal of latitude; although ultimately responsible for the performance of the power plants they built, they were allowed to "arrange and proportion the details of the said machinery in such manner as they shall deem best calculated to secure the most successful operation." This clause disappeared from the *Tennessee* contract; John Roach now had "rigorously [to adhere] to . . . the general drawings furnished." The new requirement restricted the contractor's freedom of action and increased the Navy's control over the project. In part, this reflected a measure of technological maturity. In the preceding decades, building steam engines had been a true craft, with several approaches possible. Each engine had its own idiosyncrasies and special requirements, which justified giving

contractors a fairly free hand. By the early 1870s, power-plant construction had become more of a science, especially with the move toward compound engines. As a result, the Navy had clearer expectations, which made it easier to dictate terms and specifications to its contractors.[32]

The most significant difference, however, between the wartime contracts and the *Tennessee* contract was the government's method of paying for work completed. Under an 1862 agreement, for example, the builders received six equal payments over the course of the contract, with 20 percent of each payment withheld pending a successful trial of the completed vessel and machinery. Even though this was a vast improvement over initial wartime payment schemes, it still proved less than satisfactory, because it required contractors to have significant capital reserves to fund their work while awaiting payments from the government, both during and after construction. The *Tennessee* contract took these difficulties into account, stipulating fifteen equal payments instead of six, and calling for a reservation of 16.66 percent instead of twenty. At the same time, it doubled the number of days the Navy had to prepare a vessel for its trials, from thirty to sixty. This provision, which may not have been expedient in time of war, guaranteed that the Navy would not be rushed as it prepared to evaluate a contractor's work.[33]

Despite allegations of impropriety that surrounded John Roach and the *Tennessee*'s new engines, the 1871 contract itself represented the culmination of two decades of hard-earned experience. The Navy now had a basic document that, with modest but telling modifications, had stood the test of time and whose framework would appear in future contracts. More importantly, the Navy had developed a working relationship with a number of private companies that had become accustomed to handling government contracts for both hulls and engines. This network would be drawn upon extensively in the next decade, when the Navy eventually embarked on an ambitious rebuilding program.

With the end of the Civil War and the disappearance of abundant funding, the Navy went from feast to famine. Americans lost interest in the fleet, asking only that it serve in its traditional roles of coastal defense and commerce protection. Because both missions could be served with stockpiled ironclads or traditional cruisers, the Navy exhibited little zeal for technological innovation. The United States quickly fell from being one of the world's preeminent naval powers to a minor player, on a par with the larger South American republics and smaller European nations. Although the Navy more than adequately performed its designated missions, it suffered a series of embarrassments during the 1870s and early 1880s. For example, the service's feeble reaction to the *Virginius* affair and its inability to protect American interests during the War of the Pacific showed how far the fleet had deteriorated since the glory days of the Civil War.

European observers no longer took the American fleet seriously, to the point of excluding it from published surveys of the world's navies.[34]

In this atmosphere of retrenchment and technological malaise came the first conceptual efforts to provide the United States Navy with warships reflecting recent advances in naval engineering. The papers discussed in the early meetings of the Naval Institute (founded in 1873) were, on the whole, examinations of the prospects and implications of technological advances in warships. The House Naval Affairs Committee, especially members Benjamin W. Harris of Massachusetts and W. C. Whitthorne of Tennessee, made repeated proposals in the late 1870s for a complete reevaluation of naval policy. Reacting to the Navy's penchant for using funds earmarked for repairs to, instead, rebuild completely obsolescent warships, the committee wanted a systematic examination of shipbuilding policy; however, its proposals repeatedly foundered in the Senate. Not until the James A. Garfield administration were any serious material steps taken toward rebuilding the Navy.

Not long after assuming his post in early 1881, Secretary of the Navy William H. Hunt appointed a board of fifteen naval officers to study the overall problem and make a recommendation. The board was chaired by Admiral John Rodgers, former captain of the ill-fated *Galena* and now in the twilight of a long and illustrious career. The Rodgers board (properly the First Advisory Board) spent the summer considering the future of the fleet. Reporting back to the secretary that fall, Rodgers and the panel recommended that the Navy immediately build sixty-eight ships, for a total cost of almost thirty million dollars. While desirable from a naval perspective, this request proved too much for the political tenor of the time, despite the approbation of Chester Arthur, who became president when Garfield was assassinated in July 1881. After much negotiating and wrangling, in August 1882 Congress authorized two steel ships but appropriated no funds for their construction. Although this congressional response seemed disappointing, it was the catalyst for the creation of the Second Advisory Board in the fall of 1882 by a new Secretary of the Navy, William Chandler; this board was chaired by Rear Admiral Robert Shufeldt. Taking a more realistic approach to the problem than its predecessor had, the Shufeldt board recommended only four steel ships. After some minor modifications to the proposal, Congress agreed and on 3 March 1883 appropriated $1.3 million for the construction of three steel cruisers and a dispatch boat—the so-called (after the initials of their names) ABCD ships.[35]

These ships, although not quite as advanced as their European counterparts, provided the foundation of the new steel navy that would enter service in the coming decades. As such, their authorization and construction have been correctly described as a significant turning point in the history of the United States Navy. The years that followed, the remainder of the 1880s and the 1890s,

during which problems of steel-production capacity and capability were worked out and the relationship between the Navy and the steel industry solidified, have been characterized as the formative period of the modern military-industrial complex. To a large extent, they were. However, failure to consider the service's relationship with private industry in the years just before ignores the true origins of the phenomenon.

One of the First Advisory Board's recommendations that found its way into the March 1883 bill required that the vessels be built of *domestic* steel. Once again the Navy confronted a technological challenge beyond its abilities. The government did not possess the necessary industrial capability, and there was some question about even the private sector's ability to provide the right kind of steel. Nonetheless, in some ways the Navy was on familiar ground: in reality, the problem was not how to build steel warships but how to introduce another new technology into the fleet. This was the kind of problem the Navy had tackled successfully in the 1850s with steam engines and in the 1860s with ironclad warships. Only the type of technology had changed. Although properly concerned about the mechanics of steel warship construction, the Navy knew where to start and how to go about the contract process. By late June the Navy Department could prepare a "list of firms to which blank proposals for construction of a steam cruiser of about 4500 tons displacement have been sent." Proposals had gone to Ward, Stanton & Company in Newburgh, New York; John Roach, who now owned the Morgan Iron Works in New York City; the Quintard Iron Works in New York City; the Pusey and Jones Company of Wilmington, Delaware; the Penn Works in Philadelphia; the William Cramp & Sons Ship and Engine Building Company in Philadelphia; Harrison Loring in Boston; the Harlan and Hollingsworth Company in Wilmington; the Union Iron Works in San Francisco; the Atlantic Works of East Boston; C. H. Delamater & Company of New York City; and H. A. Ramsay & Company of Baltimore.

The Navy Department chose most of these firms for the simple reason that it already knew something about them. Nine of the twelve companies had built either hulls or power plants for the fleet during the Civil War and were therefore familiar with contract procedures and the kind of supervision the Navy demanded on its projects. A tenth company had built a set of engines for the service in 1858. Still, the prospect of building steel warships intimidated several of these firms; some dropped out of contention almost immediately, to be replaced by other companies responding to the government's public call for bids. Ultimately, only eight companies submitted bids. Even so, six of them had prior contract experience with the Navy. When the bids were opened, John Roach's Morgan Iron Works had submitted the lowest price for each of the four ships; Roach was duly awarded all four contracts.[36]

John Roach and the Morgan Iron Works brought a wealth of experience to these first contracts for steel warships. Although construction of the USS

Atlanta, Boston, Chicago, and *Dolphin* was to be rife with controversy, with the three cruisers eventually completed in the Navy's own yards, the firm was an excellent choice for making the transition to steel technology. Roach himself, at the Etna Iron Works during the Civil War, had been the primary contractor for the machinery of the *Peoria, Dunderberg, Neshaminy, Java, Ontario,* and *Keosauqua* and a subcontractor for the machinery of the *Galatea, Glaucus, Neptune, Nereus, Pequot,* and *Somerset.* After the war, he built the power plants for not only the *Tennessee* but also *Ranger,* as well as the hull and machinery of the rebuilt *Alert, Huron, Miantonomoh,* and *Puritan.* In addition, the Morgan Iron Works itself had constructed the machinery of the antebellum *Seminole* and the wartime *Chippewa, Katahdin, Kineo, Mahaska, Tioga, Wachusett, Ascutney, Chenango, Onondaga, Ammonoosuc,* and *Idaho.*[37]

The Navy's past association with John Roach and with the Morgan Iron Works was significant for two reasons. First, both the contractor and his company were on the cutting edge of naval technology in the United States and had been so for years. Second, and more importantly, both the contractor and his company had established relationships with the Navy and were used to the constraints and conditions of its contract procedures. All of the ships listed above had been built under standard contract guidelines during the 1850s, 1860s, and 1870s. When it came time to draft the contracts for the *Atlanta, Boston, Chicago,* and *Dolphin,* the Navy could rely on procedures dating back two decades and more. The technology for the ABCD ships was different, but Roach had some idea what he was getting into.

The contracts for all four ships showed their antecedents, sharing many common characteristics with earlier agreements. Like their predecessors, the ABCD contracts demanded that the steel warships "conform in all respects to and with the plans and specifications hereto annexed" by the government. The craftsmanship was to "be first-class and of the very best quality, and shall, from the beginning to the end of the work, be subject to the inspection of the Naval Advisory Board." Engine repairs required within four months of delivery would be made at the contractor's expense, and any patent fees incurred during the course of construction were his responsibility. The contractor also had a defined period of time to build each ship, during which he would be paid in installments. When delivered, each vessel would undergo a trial trip; successful completion of sea trials would lead to payment of a portion of the contract price held in reserve during construction. Roach would receive the final reserved amount after the vessel was completely fitted out for sea. Neither part of the reserve could be withheld for delays beyond the contractor's control.

As had been the case throughout the 1860s and 1870s, the ABCD contracts contained refinements based on past experience and present necessity. Before letting the contracts the Navy had conducted an inquiry into the kind of steel that would best suit its purposes, and it incorporated its findings into the

agreement with Roach. In an effort to exert control over the vendor's implementation of the new technology, the contract clearly stated that "the steel to be used in the construction of the hull and boilers . . . shall conform to the 'tests of steel for cruisers' prescribed by the Naval Advisory Board." For the same reason, plans for any changes made to the vessel had to be drawn up by the contractor and "submitted to the Naval Advisory Board for approval before the material is ordered or the work commenced." These requirements limited Roach's freedom of action and ensured that the Navy knew at all times what it was buying.[38]

The service also took the opportunity to expand the clauses preserving the government's interests. For example, during the course of construction Roach was required to carry updated insurance "in the amount sufficient to cover all advance payments made under this contract, the loss, if any, to be stated in the policies as payable to the United States." Similarly, Roach built the propulsion plants under strict weight guidelines. He was given a target tonnage for the engines of each ship; if he exceeded that weight by 5 percent, he would pay a predetermined penalty. He would also pay a penalty "per ton for each ton of excess weight."[39]

Finally, the Navy inserted a protective clause that gave it enormous power over the entire shipbuilding process. This clause stipulated that "in case of the failure or omission of the contractors, at any stage of the work prior to final completion, from any cause other than the order of the Secretary of the Navy, to go forward with the work and make satisfactory progress toward its completion within the prescribed time, it shall be optional with the said Secretary to declare this contract forfeited." The contractor was then legally responsible for all payments made to date, with the completed work as collateral. The vendor could collect payment for as "much of the work as shall have been, at the time such forfeiture is declared, satisfactorily performed." Having paid this sum to the contractor, the Navy could—if it chose—finish the vessel itself. Even then, the government would not take on too great a burden; the contractor was obligated to "surrender . . . all materials on hand, together with the use of the yard or 'plant,' and all machinery, tools, and appliances appertaining thereto and therefore used or necessarily to be used in and about the completion of the work."

This is exactly what happened with the *Atlanta*, *Boston*, and *Chicago*. Unfortunately for Roach, partisanship entered the contract process in a new and disturbing way in 1885. Because of the large dollar amounts associated with ship and engine contracts, the Navy had been very careful over the years to avoid any appearance of impropriety. Major congressional investigations in 1859 and 1872 had pointed out some irregularities but generally cleared the Navy of any wrongdoing. However, the incoming Cleveland government, the first elected Democratic administration of the postwar era, raised politically charged

questions about the contract and made it difficult for Roach to receive payment for work completed.

William C. Whitney, the new Secretary of the Navy, was determined to root out what he saw as years of Republican corruption and influence in the larger operations of his department. Roach, because his *Tennessee* contract had been a prominent part of the 1872 investigation, became a convenient target of Whitney's ire. The Secretary refused to accept the *Dolphin* pending a full review of the agreement, which prevented the contractor from receiving his final installment—money Roach needed to move forward on the *Atlanta, Boston,* and *Chicago* if he was to meet their contract deadlines. Roach's fate was placed in the hands of a board composed of two naval officers and a civilian engineer hand-picked by Whitney. All were loyal Democrats with connections to the secretary. While waiting for the board's preordained result, Roach depleted his capital reserves, entered receivership, and forfeited the contracts for the three cruisers. The Navy finished them, in Roach's shipyard. In the end, partisan politics had interfered with the contract process, driving John Roach out of the shipbuilding business. Contractors who signed deals with the government in the wake of the Roach fiasco approached those contracts with some trepidation, demanding (and receiving) safeguards against such capricious action, but they continued working with the Navy.[40]

The introduction of steel warships into the fleet signaled the beginning of the United States Navy's slow return to respectability, and for this reason many historians use the ABCD ships as a clean break with the past, a repudiation of the postwar "doldrums." Certainly the building of these ships represented a significant turning point in the Navy's history, but both their contracts and contractors were firmly grounded in the past. These aspects can be best viewed as culminations of an evolutionary process that traces its roots back to the reaction against faulty steam power plants in the 1850s.[41]

The special relationship that developed more than one hundred years ago between the government and the nation's large steel companies did not suddenly materialize out of thin air. Later, in determining how it would interact with Gilded Age industrial giants and private shipbuilders, the Navy would draw upon its past, its earlier experiences with private contractors. That past showed clear evolutionary development, from the steam engines of the 1850s through the ironclads of the 1860s to the revised engine and hull contracts of the 1870s. Over time, the Navy developed relationships with a select group of contractors who conducted a sizeable portion of their business with the government and became dependent, in part, on continuing those relationships. The officers, politicians, and contractors responsible for forging the affiliations of the 1880s were products of their past and had evolved with the Navy's procedures. When it came time to build the New Steel Navy, that earlier era exerted a powerful

108 Naval War College Review

influence, for it was then that the antecedents of the military–industrial complex had taken shape.

Notes

1. David M. Potter, *The Impending Crisis, 1848–1861* (New York: Harper and Row, 1976), pp. 90–120, 199–224; C. Stanley Urban, "The Ideology of Southern Imperialism: New Orleans and the Caribbean, 1845–1860," *Louisiana Historical Quarterly,* January 1956, pp. 53–4; Robert E. May, *The Southern Dream of a Caribbean Empire, 1854–1861* (Baton Rouge: Louisiana State Univ. Press, 1973), pp. 10–6; and Merle E. Curti, "Young America," *American Historical Review,* October 1926, pp. 34–5. Young America was a youthful faction of the Democratic Party. It embraced the expansionist ideas of Manifest Destiny and assumed that all things American were clearly superior to the well-worn and often despotic ideas of Europe.

2. Frank M. Bennett, *The Steam Navy of the United States: A History of the Growth of the Steam Vessel of War in the U.S. Navy, and of the Naval Engineer Corps* (Pittsburgh: Warren, 1896; reprint ed., Westport, Conn.: Greenwood Press, 1972), pp. 54–5, 74, 110–22; U.S. Congress, House, *Annual Report of the Secretary of the Navy, 1851,* House Ex. Doc. 2, 32d Cong., 1st sess., 1851, pp. 76–149; "United States Steamers," *Journal of the Franklin Institute,* March 1854, pp. 186–7; Max R. Williams, "Secretary William A. Graham, Naval Administrator, 1850–1852," *North Carolina Historical Review,* Winter 1971, pp. 62–4; *Dictionary of American Biography,* 20 vols. (New York: Charles Scribner's Sons, 1928–36), vol. 2, p. 402; U.S. Congress, House, "Report of a Board of Engineers as to the Causes of Failure of Certain Steamers of the United States Navy," House Misc. Doc. 2, 33d Cong., 1st sess., 1853, pp. 1–8. For the power and influence of the Naval Affairs Committee on policy, see Robert Greenhalgh Albion, "The Naval Affairs Committees, 1816–1947," U.S. Naval Institute *Proceedings,* November 1952, p. 1229. In 1860, the Navy officially recognized that patented improvements in machinery more than made up for the extra cost with increased efficiency. See U.S. Congress, Senate, *Annual Report of the Secretary of the Navy, 1860,* Senate Ex. Doc. 1, 36th Cong., 2d sess., 1860, pp. 9–10.

3. U.S. Congress, Senate, *Annual Report of the Secretary of the Navy, 1853,* Senate Ex. Doc. 1, 33d Cong., 1st sess., 1853, pp. 307–11; Harold Hance Sprout and Margaret Sprout, *The Rise of American Naval Power 1776–1918* (Princeton, N.J.: Princeton Univ. Press, 1939), pp. 141–3; and *Congressional Globe,* vol. 28, pt. 1, pp. 455, 465–6, and vol. 28, pt. 2, pp. 847, 856.

4. Dobbin to John Lenthall, 10 June 1854, Naval Records Collection of the Office of Naval Records and Library, entry 13, Letters to Bureaus of the Navy Department, September 1842–November 1886, record group [hereafter RG] 45, M480, National Archives, Washington, D.C.; and Secretary of the Navy James C. Dobbin to S. P. Houston, Chairman of the Committee of Ways and Means, 18 December 1854, Naval Records Collection of the Office of Naval Records and Library, entry 32, Letters from Bureaus of the Navy Department, September 1842–December 1885, RG 45, M518, National Archives, Washington, D.C. For an estimate of the cost of completing the necessary facilities at the various navy yards, see Joseph Smith, Chief of the Bureau of Yards and Docks, to Dobbin, 24 November 1854, ibid. For a more comprehensive analysis see also U.S. Congress, House, "Estimates, Additional, from Bureau of Yards and Docks," House Misc. Doc. 19, 33d Cong., 2nd sess., 1855.

5. "Steam Machinery for United States Steam Frigates," *National Daily Intelligencer,* 8 July 1854, p. 4.

6. U.S. Congress, Senate, "Report of the Secretary of the Navy, upon Various Subjects Pertaining to the Naval Establishment," Senate Ex. Doc. 4, 36th Cong., 2d sess., 1861.

7. For example, see the September 1857 hull contract for the sloop *Brooklyn* and the 19 April 1858 machinery contract for the sloop *Lancaster* in the Naval Records Collection of the Office of Naval Records and Library, entry 143, Contracts for Transportation of Mail and for Manufacture of Parts of Ships ("Contracts, Transportation of Mail"), April 1847–October 1860, RG 45, National Archives, Washington, D.C.

8. "Copy of Advertisement Calling for Plans and Specifications. Iron-Clad Steam Vessels," in U.S. Secretary of the Navy, *Report of the Secretary of the Navy in Relation to Armored Vessels* (Washington, D.C.: U.S. Govt. Print. Off., 1864), p. 2.

9. "Report on Iron Clad Vessels," in U.S. Congress, Senate, *Annual Report of the Secretary of the Navy, 1861,* Senate Doc. 1, 37th Cong., 2d sess., 1861, pp. 152–4.

10. Contracts and Bonds 1861, Records of the Bureau of Yards and Docks, RG 71, entry 42, National Archives, Washington, D.C., pp. 249–51.

11. The details of the *Galena's* construction can be found in the correspondence between Commodore Joseph Smith and Bushnell & Co. in Subject File, U.S. Navy 1775–1910, AD—Design and General Characteristics 1860–1910, Ironclads, Correspondence relative to, between Commodore Joseph Smith and

various Designers and Builders, 1861 to 1863, RG 45, box 51, National Archives, Washington, D.C. [hereafter Correspondence Relative to Ironclads].

12. Smith to Samuel H. Pook, 12 February 1862, and Smith to Pook, 15 February 1862, ibid.; and Contract Ledger for Ironclads 1861–1862, Records of the Bureau of Yards and Docks, RG 71, entry 48, National Archives, Washington, D.C., p. 317.

13. Smith to Cornelius Scranton Bushnell, April 16, 1862, Correspondence Relative to Ironclads; Contract Ledger for Ironclads 1861–1862, p. 317.

14. John A. Griswold to Bushnell, 24 April 1862, Cornelius Scranton Bushnell Papers, New York Historical Society, New York, N.Y. [emphasis in original]; Bushnell to Griswold, 21 April 1862; Bushnell to Griswold, 28 April 1862; Bushnell to Griswold, 1 May 1862, John A. Griswold Papers, box 3, folder 56, New York State Library, Manuscripts and Special Collections, Albany, N.Y.; Smith to Bushnell, 17 May 1862, Correspondence Relative to Ironclads.

15. Report of Lieutenant Newman, U.S. Navy, executive officer of USS *Galena*, 16 May 1862, Additional Report of Lieutenant Newman, U.S. Navy, executive officer of USS *Galena*, 16 May 1862, and Additional Report of Lieutenant Newman, U.S. Navy, executive officer of USS *Galena*, 18 May 1862, U.S. Navy Department, *Official Records of the Union and Confederate Navies in the War of the Rebellion* (Washington, D.C.: U.S. Govt. Print. Off., 1894–1922), series I, vol. 7, pp. 359–62.

16. For a more detailed argument on this point, see Kurt Hackemer, "The Other Union Ironclad: The USS *Galena* and the Critical Summer of 1862," *Civil War History*, September 1994, pp. 243–6.

17. Smith to Captain John Rodgers, 21 May 1862, and Smith to Bushnell, 22 May 1862, Correspondence Relative to Ironclads.

18. Contracts and Bonds 1861, p. 249; Smith to Bushnell, 2 June 1862; and Smith to Rear Admiral Louis M. Goldsborough, 6 June 1862, Correspondence Relative to Ironclads.

19. Smith to Bushnell, 1 August 1862, Correspondence Relative to Ironclads; Waldo Abbott (Bushnell's private secretary) to Griswold, 6 August 1862, Griswold Papers, box 3, folder 56; Contract Ledger for Ironclads 1861–1862, p. 317.

20. Blank contracts found in Naval Records Collection of the Office of Naval Records and Library, entry 155, Contracts for Manufacture of Machinery for Vessels, August–December 1862, RG 45, National Archives, Washington, D.C.; Records of the Bureau of Ships, entry 235, Contracts for Construction of Naval Vessels, 1861–1864, RG 19, National Archives, Washington, D.C., and entry 39, Contracts and Specifications for a Screw Gunboat, 1861; Records of U.S. General Accounting Office, Records of the Accounting Officers of the Department of the Treasury, entry 232, Navy Contracts, May 1795–October 1893, RG 217, National Archives, Washington, D.C.

21. The Navy was determined to monitor carefully all contract changes and resulting price adjustments. For example, see the circular letters sent by the General Inspector for Ironclads, Alban C. Stimers, to all contractors building ironclad steamers on 31 August 1863 and 15 October 1863, in Records of the Bureau of Ships, Records of the Office of General Superintendence of Ironclads, entry 1254, Circular Letters Sent to Contractors, June 1863–July 1864, March–June 1865, RG 19, National Archives, Washington, D.C.

22. Blank contract, RG 45, entry 155.

23. For a list of ships contracted for, see Bennett, App. B. The thirty-eight contracts are found in RG 45, entry 155. The actual number of contracts may be higher, but these are the only ones extant. Harlan and Hollingsworth & Company, engaged in building the *Canonicus*-class monitor *Saugus*, referred to "the printed contracts" in a letter to Gideon Welles. See Harlan and Hollingsworth & Company to Gideon Welles, 10 March 1863, Records of the Bureau of Ships, entry 70, Letters and Telegrams Received from Contractors, January 1864–December 1868, RG 19, National Archives, Washington, D. C. The *Canonicus* contracts are located in RG 19, entry 235.

24. For the "monitor bureau," see Charles Oscar Paullin, *Paullin's History of Naval Administration 1775–1911* (Annapolis, Md.: Naval Institute Press, 1968), p. 265, and Edward W. Sloan, *Benjamin Franklin Isherwood, Naval Engineer: The Years as Engineer in Chief, 1861–1869* (Annapolis, Md.: Naval Institute Press, 1965), pp. 66–7. The circular letters are found in RG 19, entry 1254.

25. "Various Naval Matters," *Army and Navy Journal*, September 1864, p. 77. These numbers are extracted from Bennett, App. B.

26. Paullin, pp. 259–63.

27. For the postwar compensation issue, see Gideon Welles, *Diary*, ed. Howard K. Beale, assisted by Alan W. Brownsword (New York: Norton, 1960), vol. 2, pp. 201, 207; U.S. Congress, Senate, "Petitions of Woodruff and Beach, and Others, William H. Webb, Paul S. Forbes, and James R. Eads, for Additional Compensation for Construction of Naval Vessels and Machinery," Senate Rpt. 130, 38th Cong., 2d sess., 1865; U.S. Congress, Senate, "Record of a Board of Navy Officers Appointed to Inquire into and Determine How Much the Vessels-of-War and Steam Machinery Contracted for by the Department in the Years 1862 and 1863 Cost the Contractors over and above the Contract Price and Allowance for Extra Work," Senate Ex.

Doc. 18, 39th Cong., 1st sess., 1866; and U.S. Congress, House, "Investigation of the Navy Department," House Rpt. 80, 42d Cong., 2d sess., 1872, pp. 19–20.

28. Bennett, pp. 544–5. For a more detailed explanation of the *Tennessee* controversy, see Leonard A. Swann, Jr., *John Roach, Maritime Entrepreneur: The Years as Naval Contractor, 1862–1886* (Annapolis, Md.: Naval Institute Press, 1965), pp. 125–38. See also Donald Canney, *The Old Steam Navy*, vol. 1, *Frigates, Sloops, and Gunboats, 1815–1885* (Annapolis, Md.: Naval Institute Press, 1990), 133–44.

29. U.S. Congress, House, "Charges against the Navy Department," House Misc. Doc. 201, 42d Cong., 2d sess., 1872, p. 104.

30. Ibid., pp. 104–5, 108.

31. Ibid., p. 105.

32. Blank contract, RG 45, entry 155; Canney, pp. 149–53; Peter M. Rippon, *The Evolution of Engineering in the Royal Navy*, vol. 1, *1827–1939* (Tunbridge Wells, Kent: Spellmount, 1988), pp. 58–9. For a contemporary example of the move toward standardized engine designs, see Charles Cramp's description of his visit to British shipyards in 1871 in Augustus C. Buell, *Memoirs of Charles H. Cramp* (Philadelphia: J. B. Lippincott, 1906), pp. 111–7. Of course, not all contemporaries were so enamored of compound engines. See "The Compound Engine in War Ships," *Army and Navy Journal*, 25 July 1874, pp. 791–2. Even as late as the summer of 1877 a spirited discussion raged through the pages of the *Army and Navy Journal* over the merits and flaws of these engines.

33. For examples of the kinds of payment problems faced by contractors during the war, see U.S. Congress, House, "Relief of Certain Naval Contractors," House Rpt. 269, 43d Cong., 1st sess., 1874.

34. James L. Abrahamson, *America Arms for a New Century: The Making of a Great Military Power* (New York: Free Press, 1981), pp. 9–15; and Stephen Howarth, *To Shining Sea: A History of the United States Navy, 1775–1991* (New York: Random House, 1991), pp. 215–23. For an example of how severely the Navy's budget was slashed following the war, see U.S. Congress, House, "Letter from the Secretary of the Navy Transmitting Revised Estimates of Appropriations for that Department for the Ensuing Fiscal Year," House Ex. Doc. 111, 40th Cong., 2d sess., 1868. The *Virginius* was an old Civil War blockade runner caught by the Spanish running guns to Cuban insurgents in 1873. The execution of forty-nine crewmen by the Spanish led to a brief war scare and the mobilization of the American fleet at Key West, Florida. The assembled fleet tried to carry out maneuvers, and its inability to do so quickly demonstrated the Navy's decrepit condition. The War of the Pacific started in 1879, when Chile attacked Peru and Bolivia and quickly took the upper hand. The United States tried to bring an early end to the war, in part because of American financial interests in Peru. However, the American Pacific Squadron, containing only a few obsolete wooden vessels, was not taken seriously by the Chileans, who owned two new, state-of-the-art, British-built armored warships. Chile rather pointedly suggested that the United States mind its own business. The United States, unable to match Chilean naval power, backed down.

35. For an example of contemporary reaction to the *Virginius* affair and the call for rebuilding the Navy, see "Work for the Navy," *Army and Navy Journal*, 22 November 1873, p. 232; for historians' assessments, consult Paullin, pp. 387–93; Benjamin Franklin Cooling, *Gray Steel and Blue Water Navy: The Formative Years of America's Military-Industrial Complex, 1881–1917* (Hamden, Conn.: Archon Books, 1979), pp. 27–8; and Robert Erwin Johnson, *Rear Admiral John Rodgers, 1812–1882* (Annapolis, Md.: Naval Institute Press, 1967), pp. 366–76, and "John Rodgers: The Quintessential Nineteenth Century Naval Officer," in *Captains of the Old Steam Navy: Makers of the American Naval Tradition, 1840–1880*, ed. James C. Bradford (Annapolis, Md.: Naval Institute Press, 1986), pp. 269–70. For the majority report of the First Advisory Board, see U.S. Congress, House, "Construction of Vessels of War for the Navy," House Rpt. 653, 47th Cong., 1st sess., 1881. For the minority report, see U.S. Congress, House, "Condition of the Navy," House Exec. Doc. 30, 47th Cong., 1st sess., 1881. For the report of the Second Advisory Board, see U.S. Congress, Senate, "Report of the Naval Advisory Board," Senate Ex. Doc. 74, 47th Cong., 2d sess., 1883.

36. Naval Records Collection of the Office of Naval Records and Library, entry 200, Correspondence Concerning Construction of New Vessels ("Memoranda Concerning Construction of New Vessels"), April 1882–January 1888, RG 45, National Archives, Washington, D.C.; and Cooling, pp. 37–9. The number of firms with prior naval contract experience is based on information extracted from Bennett, App. B. Of the twelve companies listed, prior contract experience could not be verified for Ward, Stanton & Company and H. A. Ramsay & Company. Of the eight companies who bid on the ABCD contracts, prior contract experience could not be verified for Theodore Allen and Anthony Blaisdell of St. Louis or for H. A. Ramsay & Company.

37. Bennett, *Steam Navy of the United States*, App. B; and Swann, pp. 19–21.

38. U.S. Congress, Senate, "Letter From the Secretary of the Navy, Transmitting, in Response to Senate Resolution of March 5, 1886, Information Relative to the Chicago, Boston, Atlanta, and Dolphin," Senate Ex. Doc. 153, 49th Cong., 1st sess., 1886, pp. 21–22. This document contains the text of all four contracts.

39. Ibid., p. 22.

40. Ibid., p. 23; Swann, *John Roach*, pp. 209–34; Cooling, *Gray Steel and Blue Water Navy*, pp. 71–84.

41. Howarth, pp. 231–2; Dudley Knox, *A History of the United States Navy* (New York: Putnam, 1936), pp. 319–21; Sprout and Sprout, pp. 183–6; Edward L. Beach, *The United States Navy: 200 Years* (New York: Henry Holt, 1986), pp. 320–2; Kenneth J. Hagan, *This People's Navy: The Making of American Sea Power* (New York: Free Press, 1991), pp. 185–7; and E. B. Potter, *Sea Power: A Naval History*, 2d ed. (Annapolis, Md.: Naval Institute Press, 1981), pp. 159–60. Although his essay focuses more on strategy than technology, an exception to this view is Lance Buhl, who sees the ABCD ships as the natural result of the Navy's historical commerce-protection role and therefore not a break with the past. See "Maintaining 'An American Navy,' 1865–1889," in *In Peace and War: Interpretations of American Naval History, 1775-1984*, ed. Kenneth Hagan (Westport, Conn.: Greenwood, 1984), pp. 145–73.

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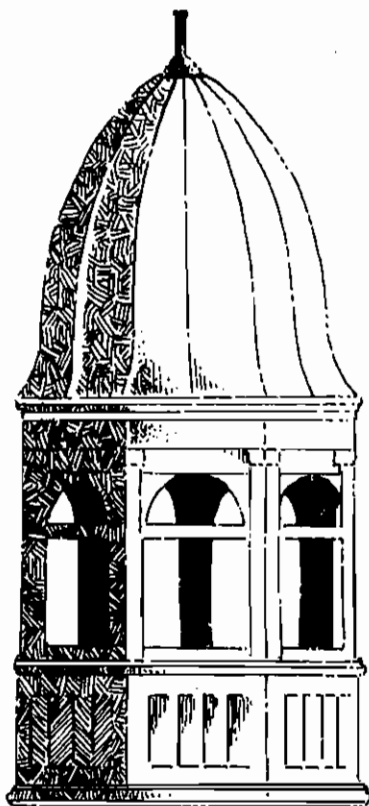
The Nonlethal Weapons Debate

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T HE PURPOSE OF THIS STUDY IS to examine the issues currently being debated about the development and employment of nonlethal weapons (NLWs)—the official Department of Defense term for a category of weapons often referred to as "less than lethal," "pre-lethal," "disabling," "low end," or other such appellations.[1] This article first briefly establishes its own position in the debate—by listing the advantages that nonlethal weapons represent—and sets forth necessary background: what the term "nonlethal weapons" actually embraces, and the concept's status in the U.S. Defense Department. It then discusses legal, ethical, and policy issues concerning their use; the missions envisioned for NLWs; and their implications for rules of engagement. It concludes that nonlethal weapons have much potential value for the U.S. armed forces and national security policy makers.

Succinctly stated, the debate goes like this. On the one hand, those who urge the development of nonlethal weapons point to them as evidence of the capacity

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Naval War College Review, Spring 1999, Vol. LII, No. 2

of the United States for civility and restraint. From a humanitarian perspective, they argue, the development of such weapons demonstrates a high moral position: reverence for life, and commitment to containing violence at a minimum level.[2] On the other hand, critics of the development of nonlethal weapons contend that the anarchic post–Cold War era has produced irrational actors, bent on atrocities and for whom treachery is a way of life. Nonlethal weapons, they argue, not only fail to strengthen the nation's position when dealing with such adversaries but convey that it is too squeamish to inflict serious harm on enemies or to accept casualties. Reflecting neither strength nor resolve, in this view, nonlethal weapons open up the user to hostile propaganda and to legal challenges over the use of force. These critics take the stand that one must stalwartly declare to the world that one will not tolerate unacceptable behavior but will resort to overwhelming force to restore order and peace.[3]

Both arguments contain valid points. The role of law and the right to self-defense must prevail, and deadly force cannot be ruled out for situations that demand more than verbal warnings. However, along the force continuum, nonlethal weapons can provide a means for escalation short of the use of deadly force or of weapons of mass destruction. The participants in this debate should keep in mind the entire spectrum of conflict and the whole range of weapons the nation has at its disposal to counteract bellicose behavior at the lowest level of intensity commensurate with the perceived threat.

Some critics of nonlethal weapons are products of the Cold War mentality or have been influenced by media coverage that focuses on the use of nonlethal weapons to the exclusion of the potential use of deadly force, as was reported of Operation UNITED SHIELD.[4] During UNITED SHIELD, the mission to evacuate the United Nations peacekeeping forces from Somalia in the spring of 1995, the U.S. Marines used nonlethal options in an attempt to accomplish military objectives without destroying the enemy.[5] Nonlethal devices had been used in other peacekeeping and peace enforcement applications; what set UNITED SHIELD apart was that they were now thoroughly integrated into the planning process and were used in a deeper portion of the spectrum of conflict. At the tactical level, the Marines employed NLWs to deny access and to protect troops; at the operational level, nonlethal weapons accomplished critical objectives; at the strategic level, the effective use of NLWs focused world attention on the restraint demonstrated by UN peacekeeping forces.[6] The success of nonlethal weapons in Somalia provided a model for future contingency operations, as in Haiti and Bosnia.[7]

The "Supreme Excellence"

The concept of achieving military objectives without the use of lethal force is not a new one. Some 2,500 years ago Sun Tzu wrote, "Hence to fight and

conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting."[8] Like Leonardo da Vinci's drawings of what would become the helicopter, Sun Tzu's idea has found embodiment in modern technology, which makes it possible to achieve this "supreme excellence" on an unprecedented scale.

Notwithstanding the positive aspects of NLWs, however, uncertainty and confusion abound, and many analysts view them with anxiety and foreboding. This apprehension might be allayed by full knowledge of the role nonlethal weapons play on the force continuum, as tools that augment and enhance mission capability in a critical way. Accordingly, "Joint Vision 2010" contains a joint concept for nonlethal weapons as part of "full dimensional" protection. Examining "the ability to produce a broader range of potential weapons effects," it identifies the operational capabilities required to allow commanders to accomplish their mission while reducing the adverse effects of military operations, especially collateral damage.[9]

NLWs have been used by American forces since before the republic was founded. However, the late twentieth century differs markedly from the late eighteenth century, the age of reason, and of limited war resulting in few civilian casualties. For instance, during the American Revolution, British and American forces suffered thirty-four thousand military casualties; civilian deaths were practically negligible. By the 1950s, however, noncombatants accounted for about half of all war casualties; by the 1980s noncombatant casualties had increased to 80 percent.[10] This alarming trend has continued in the 1990s, with increasing numbers of refugees, immigrants, and noncombatants caught in the crossfire of civil and ethnic strife and battles involving states, rogue states, failed nation-states, and terrorists. These statistics imply that NLWs may be as valuable in a major regional contingency as in operations other than war (OOTW): they offer an ability to discriminate between an enemy's forces and the civilian population, to disrupt communications, and to limit the vulnerability of friendly troops more effectively than is possible with lethal weapons.

Another advantage of NLWs is that they provide a military commander a way to take action when the use of lethal weapons would violate rules of engagement. NLWs create less material damage and are thus less provocative than conventional munitions. Consequently, NLWs provide more flexibility on the battlefield, enabling commanders to deal with restrictive targets that once posed serious challenges because of precautions and restrictions imposed by higher authority. Additionally, NLWs allow commanders to take the political and moral high ground in circumventing the strategy of terrorists. An added advantage is that they may replace lethal weapons, such as land mines, that are condemned by the international community because of their potential to cause, long after a conflict, damage to the environment and death or injury to people.[11]

Nonlethal weapons may well serve the intended function of such munitions without their long-term negative impacts.[12]

Department of Defense policy defines nonlethal weapons as "weapons systems that are explicitly designed and primarily employed so as to incapacitate personnel or materiel, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment."[13] NLWs are not "required to have a zero probability of producing fatalities or permanent injuries," but they are intended to reduce these probabilities significantly. Availability of nonlethal weapons does not limit a commander's inherent authority and obligation to use all necessary means, and specifically to take any appropriate action in self-defense. Doctrine and concepts of operations for NLWs are designed to reinforce deterrence and expand the range of options available to commanders. (See Figure 1 for a listing of nonlethal weapons by category.)[14]

In 1994, the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (OASD-SO/LIC) coordinated a policy study concluding that NLWs could be of significant value in low-intensity conflict and that their proper use would probably forestall any legal, ethical, or political challenge. Nonetheless, the acquisition process proceeded slowly, because defense funds are of course allocated first to the military's most important missions: prevailing in strategic war and major regional conflicts (MRC), as set forth in the national military strategy. With this in mind, in August 1996 OASD-SO/LIC (Policy Planning) prepared a report listing (in the framework of military and joint doctrine) potential applications for nonlethal weapons in operations other than war, in major regional conflicts, and for certain "emerging missions" (see Table 1).[15] The report argued that effectiveness in most military missions arising in these environments could be improved by employment of these weapons. Of the 103 possible missions associated with MRC and OOTW, it found, NLWs have utility in seventy-nine. (Of course, a given mission can be conducted in both MRC and OOTW; for instance, an enforcement action, such as riot or border control, could take place in the rear area of a military force prosecuting a battle miles away.)

A memorandum of agreement was signed by the services on 21 January 1997 formally assigning functional responsibility for NLW technology to the Commandant of the Marine Corps, as the NLW Program Executive Agent. The Joint Nonlethal Directorate Charter established a Joint NLW Directorate, whose principal function is to manage the day-to-day activities of the Defense NLW program and support an Integrated Product Team.[16]

Legal Dimensions

A long-standing Defense Department regulation requires that any new weapon undergo a legal review by the Judge Advocate General of the military
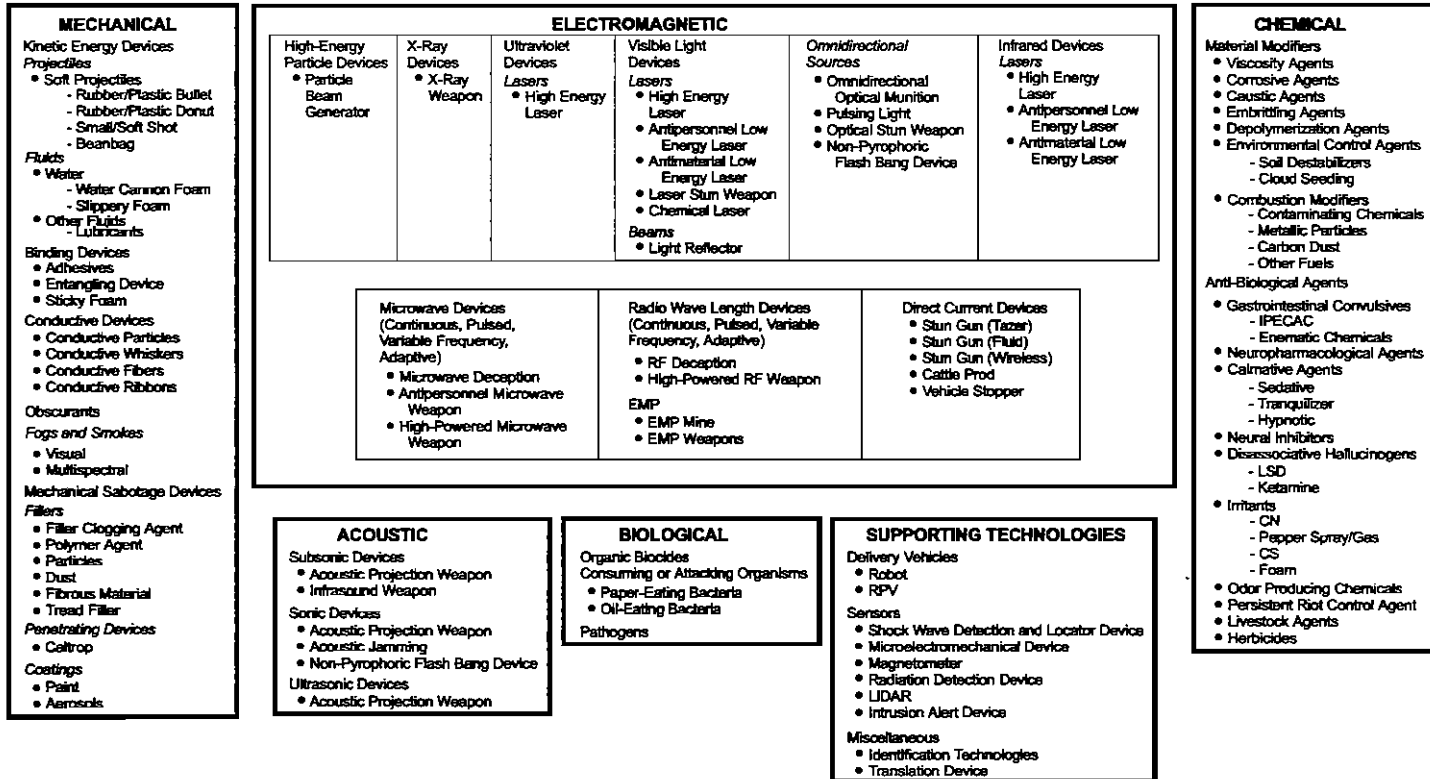
MECHANICAL

Kinetic Energy Devices
Projectiles
- Soft Projectiles
  - Rubber/Plastic Bullet
  - Rubber/Plastic Donut
  - Small/Soft Shot
  - Beanbag

Fluids
- Water
  - Water Cannon Foam
  - Slippery Foam
- Other Fluids
  - Lubricants

Binding Devices
- Adhesives
- Entangling Device
- Sticky Foam

Conductive Devices
- Conductive Particles
- Conductive Whiskers
- Conductive Fibers
- Conductive Ribbons

Obscurants
Fogs and Smokes
- Visual
- Multispectral

Mechanical Sabotage Devices
Fillers
- Filler Clogging Agent
- Polymer Agent
- Particles
- Dust
- Fibrous Material
- Tread Filler

Penetrating Devices
- Caltrop

Coatings
- Paint
- Aerosols

ELECTROMAGNETIC

High-Energy Particle Devices
- Particle Beam Generator

X-Ray Devices
- X-Ray Weapon

Ultraviolet Devices
Lasers
- High Energy Laser

Visible Light Devices
Lasers
- High Energy Laser
- Antipersonnel Low Energy Laser
- Antimaterial Low Energy Laser
- Laser Stun Weapon
- Chemical Laser
Beams
- Light Reflector

Omnidirectional Sources
- Omnidirectional Optical Munition
- Pulsing Light
- Optical Stun Weapon
- Non-Pyrophoric Flash Bang Device

Infrared Devices
Lasers
- High Energy Laser
- Antipersonnel Low Energy Laser
- Antimaterial Low Energy Laser

Microwave Devices (Continuous, Pulsed, Variable Frequency, Adaptive)
- Microwave Deception
- Antipersonnel Microwave Weapon
- High-Powered Microwave Weapon

Radio Wave Length Devices (Continuous, Pulsed, Variable Frequency, Adaptive)
- RF Deception
- High-Powered RF Weapon
EMP
- EMP Mine
- EMP Weapons

Direct Current Devices
- Stun Gun (Tazer)
- Stun Gun (Fluid)
- Stun Gun (Wireless)
- Cattle Prod
- Vehicle Stopper

ACOUSTIC

Subsonic Devices
- Acoustic Projection Weapon
- Infrasound Weapon

Sonic Devices
- Acoustic Projection Weapon
- Acoustic Jamming
- Non-Pyrophoric Flash Bang Device

Ultrasonic Devices
- Acoustic Projection Weapon

BIOLOGICAL

Organic Biocides
Consuming or Attacking Organisms
- Paper-Eating Bacteria
- Oil-Eating Bacteria

Pathogens

SUPPORTING TECHNOLOGIES

Delivery Vehicles
- Robot
- RPV

Sensors
- Shock Wave Detection and Locator Device
- Microelectromechanical Device
- Magnetometer
- Radiation Detection Device
- LIDAR
- Intrusion Alert Device

Miscellaneous
- Identification Technologies
- Translation Device

CHEMICAL

Material Modifiers
- Viscosity Agents
- Corrosive Agents
- Caustic Agents
- Embrittling Agents
- Depolymerization Agents
- Environmental Control Agents
  - Soil Destabilizers
  - Cloud Seeding
- Combustion Modifiers
  - Contaminating Chemicals
  - Metallic Particles
  - Carbon Dust
  - Other Fuels

Anti-Biological Agents
- Gastrointestinal Convulsives
  - IPECAC
  - Enematic Chemicals
- Neuropharmacological Agents
- Calmative Agents
  - Sedative
  - Tranquilizer
  - Hypnotic
- Neural Inhibitors
- Disassociative Hallucinogens
  - LSD
  - Ketamine
- Irritants
  - CN
  - Pepper Spray/Gas
  - CS
  - Foam
- Odor Producing Chemicals
- Persistent Riot Control Agent
- Livestock Agents
- Herbicides

Figure 1
Non-Lethal Weapon Taxonomy

Table 1

Mission Application of NLWs

MILITARY OPERATIONS OTHER THAN WAR

Military Assistance to Law Enforcement Agencies
Riot Control
Civil Affairs Public Safety Operations
Support to Law Enforcement–Siege Operations
Support to Law Enforcement–Dynamic Entry Operations
Curfew Enforcement
Counter-Drug Operations
Peace Operations
Border Control
Enforcement of Sanctions
Establishment and Supervision of Protected Zones
Forcible Separation of Belligerents
Guarantee and Denial of Movement
Interposition Operations
Protection of Humanitarian Assistance
Counterterrorism
Protection of Personalities
Countersniper Operations
Hostage Release
Counterinsurgency
Counterguerrilla Operations
Isolation of Insurgents from Support
Counter-Ambush
Air-Delivered Suppressive Fire
Insurgency
Ambush
Insurgency Support

MAJOR REGIONAL CONFLICT

Rear Area Operations
Protection of Key Installations
Population and Resources Control
Prisoner of War Operations
Forcible Entry Operations
Advance Force Operations
Facilities Seizure (airfields, ports, etc.)

Airborne Assault
Amphibious Assault
Airmobile Assault
Psychological Operations
Surface Psychological Operations
Airborne Psychological Operations
Interdiction Operations
Destruction/Disablement of Enemy Shipping and Ports
Joint Precision Interdiction Operations
Surface Interdiction of the Enemy Rear
Sea Control
Sea Denial
Destruction or Neutralization of Enemy Ships, Submarines, and Mines
Conduct of Barrier Operations in Ocean Choke Points
Operations in the Enemy Rear
Attack on Enemy Logistics
Attack on Enemy Command, Control, and Communications Facilities
Evasion and Escape
Airborne Personnel Recovery
Aerial and Surface Raids
Clandestine Air Infiltration/ Exfiltration and Supply
Maritime and Riverine Sabotage
Industrial Sabotage
Military and Aviation Sabotage
Equipment Seizure Operations
Special Reconnaissance
Surface Infiltration and Exfiltration of Agents, Equipment, and Personnel
Air Surveillance
Attack
Electronic Attack
Pursuit
Riverine Assault
Strategic Attack
Suppression of Enemy Air Defenses

Close Air Support
Ground Attack
Movement to Contact
Exploitation
Offensive Counter-Air Missions
Offensive Counter-Space Missions
Defense
Defensive Counter-Space Missions
Defensive Counter-Air Missions
Counterpursuit/Disengagement
Countermechanized Operations
Barrier, Obstacle, and Mine Warfare Operations
Mobile Defense
Area Defense
Air Defense
Ancillary Operations
Beach, Riverine and Coastal Reconnaissance
Special Activities (Covert Operations)
Urban Operations
Air Reconnaissance
Surface Reconnaissance
Retrograde Operations
Covering-Force Operations
Delay
Retirement
Withdrawal

EMERGING MISSIONS

Denial of Enemy Base Areas
Clandestine WMD Sterilization Operations
Disclosure of WMD and Related Technology Possession or Manufacture
Cease-Fire Enforcement
Extraterritorial Abduction of Terrorists or Drug Lords
Facility Denial

department involved to ensure that the weapon's intended use is consistent with the "obligations assumed by the United States Government under all applicable treaties, with customary international law, and, in particular, with the laws of war."[17] Further, the acquisition and procurement of weapons must be consistent with all applicable treaties and customary international law; each service is also to ensure that any planned activities that could reasonably generate questions concerning compliance with arms control agreements to which the United States is a party must first be cleared by the Under Secretary of Defense for

Acquisition and Technology, in coordination with the Office of the Secretary of Defense General Counsel and the Under Secretary of Defense (Policy). A legal review takes place before the award of the engineering and manufacturing development contract and again before the award of the initial production contract.[18] The Department of the Navy Judge Advocate General (JAG) conducts this review of NLWs for the Navy and the Marine Corps.[19]

To date the Navy JAG has completed reviews of several nonlethal weapons:[20] stinger grenades; the 12-gauge shotgun using bean bags, rubber pellets, and wood baton rounds; 40 mm rubber pellet foam-rubber, bean bag, and wood multiple-baton rounds; sticky and restraining foam; barrier foam; and the 40 mm M781 practice fuse modified for a foam-rubber projectile.* Additionally, the International and Operational Law Division of the Deputy Assistant Judge Advocate General of the Navy has recently approved a list of proposed new, advanced, or emerging technologies that may lead to developments of interest to the joint nonlethal weapons effort. Among these, antipersonnel technologies include gastrointestinal convulsives, calmative agents, aqueous foam, malodorous agents, oleoresin capsicum (OC) cayenne pepper spray, smokes and fogs, and riot control agents (CS and CN). Antimaterial possibilities are viscosity and surface polymerization agents, corrosives and supercorrosives, caustic and embrittling agents, depolymerization agents, combustion modifiers, and microbes. Sticky foam, adhesives, slick coatings, and superlubricants are potentially useful for either purpose. Only microbes did not receive approval for development; this category of weapons was held to violate the Biological Weapons Convention.[21] Calmative and gastrointestinal convulsives, if classified as riot control agents, can be acceptable. Once these technologies evolve into actual weapons or weapons systems, the Navy JAG will analyze them again as to their toxic properties and compliance with international laws, treaties, and domestic restrictions before final approval for series production, or rejection.

International Law Instruments. In its reviews, the Navy JAG must consult international agreements that have direct relevance to the military use of NLWs, keeping in mind three major issues. Would the weapon cause suffering that is needless, superfluous, or disproportionate to the military advantage reasonably expected from the use of the weapon? Could the weapon be controlled so as to

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* 12-gauge shotgun wood baton rounds, weighing three grams and 0.92 by 0.62 inches in size, are "skip-fired" (direct fire can be lethal) so as to strike the lower extremities of persons thirty to 150 feet away; 40 mm multiple baton rounds (three hardwood, 0.77 ounce batons, 1.35 by 1.35 inches) are also skip-fired at ranges between thirty feet and a hundred yards; the 40 mm, 58-gram foam rubber projectile for the M781 mortar practice fuse is nonpenetrating and nonlethal at ranges over twenty meters and has a maximum range of 150 meters.

strike only a lawful target and thus be discriminate in its effect? Do rules or laws exist that prohibit its use? These issues represent in essence the concept of "proportionality" under the law of armed conflict—that whereas any military action or weapon inevitably causes suffering, that suffering must be balanced against military necessity. Proportionality is subsumed within the overarching legal concept of "humanity," which requires that combatants and noncombatants not be subjected to unnecessary suffering. From these basic concepts the principles governing the prohibition and control of certain weapons are derived; they concern unnecessary suffering, discrimination, and treachery (or perfidy).[22] Nonlethal weapons such as lasers, directed-energy weapons, high-power microwaves and infrasound, weapons developed from biotechnology and genetic engineering, and chemical and biological weapons—along with their respective applications to the spectrum of modern conflict—must be analyzed according to these concepts and principles.

The groundwork for the declarations and conventions pertinent to the legal review of NLWs was laid in the Lieber Code of 1863 and the Declaration of St. Petersburg of 1868. The Lieber Code, produced for the regulation of the Union army during the U.S. Civil War and today the cornerstone of humanitarian law, established that military necessity does not embrace means and methods of warfare that are cruel, and that it must take into account the long-term consequences of the use of a particular weapon.[23] A few years later, as a result of a general abhorrence of inhumane weapons, the Declaration of St. Petersburg was signed. It legally prohibited employment of certain weapons that "uselessly aggravate the sufferings of disabled men, or render their death inevitable."[24] These documents, along with the Hague Declarations Concerning Asphyxiating Gases and Concerning Expanding Bullets (1899) and the Hague Convention Respecting the Laws and Customs of War on Land (1907), as well as the concomitant protocols, are standards by which future conventions and treaties can be evaluated.[25]

Of more recent conventions, those most directly pertinent to nonlethal weapons technology and applications were consulted by the Navy JAG.[26] The first such instrument, of particular relevance to various foam substances, was the Chemical Weapons Convention (CWC), signed on 13 January 1993 by the United States and ratified in 1998. The CWC definition of toxic chemicals does not apply to sticky foam, which acts as a "high-tech lasso," restricting the movement of an individual's limbs, and is essentially nontoxic. (This characteristic clearly distinguishes it from CS and CN gas, two riot control agents, or RCAs, that depend on their chemical effects on the human body for their efficacy. It should be noted that since "method of warfare" is not defined in the CWC treaty, RCAs may be used in operations not involving international armed conflict, such as peacekeeping, humanitarian or disaster relief, noncombatant evacuation, counterterrorist operations such as hostage rescue, and law enforcement.)

120   Naval War College Review

Sticky foam also raised an international environmental law issue related to the Montreal Protocol on Substances That Deplete the Ozone Layer. Dichloro-difluoromethane, or Freon-12, which constitutes 30–32 percent of sticky foam, is on the list of controlled substances and is being phased out of use on an accelerated basis. In the United States, the Clean Air Act, which implements the Montreal Protocol, and Environmental Protection Agency regulations banned production and consumption of Freon-12 after 31 December 1995.[27]

Relatedly under the CWC, barrier foam, classified as an RCA because it contains CS gas, may not be used against combatants in armed conflict.[28] The restriction results from a June 1994 presidential memorandum interpreting "method of warfare" in terms of circumstance (whether or not internal armed conflict is involved) and class of targets (that is, combatants, or combatants and noncombatants intermingled, or solely noncombatants).[29] Second, the Biological Weapons Convention, signed by the United States on 10 April 1972 and ratified in 1975, bans the development, production, stockpiling, or acquisition of biological agents or toxins of "types and quantities that have no justification for prophylactic, protective, or other peaceful purposes."[30] Third, the Nairobi International Telecommunications Convention of 10 January 1986 restricts the use of electromagnetic weapons. Article 35 (1) prohibits "harmful interference" with the radio services or communications of member states. The United States is not a party to this treaty, but it has nonetheless implemented its provisions by incorporating them into law (47 U.S. Code 502). The treaty's provisions do not apply during wartime; although "wartime" is not defined, it would certainly apply to major regional conflict.

Fourth, the 1977 Environmental Modification Convention (that is, the Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, or ENMOD) defines "environmental modification techniques" as "changing through deliberate manipulation of natural processes the dynamics, composition, or structure of the Earth, including its biota, lithosphere, hydrosphere, and atmosphere, or of outer space." ENMOD prohibits methods having widespread (several hundred square kilometers), long-lasting (months), or severe (serious or significant disruption or harm to human life, natural and economic resources, or other assets) environmental effects as a means of destruction, damage, or injury to any other state party.

The Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or Other Gases, and of Bacteriological Methods of Warfare, of 17 June 1925, entered into force 8 February 1928. When the United States ratified this treaty in 1975 it did so only with respect to first use in war of chemical weapons, but in May 1991 the Bush administration declared, "We are formally forswearing the use of chemical weapons for any reason, including retaliation, against any state, effective when the Chemical Weapons Convention enters

into force."[31] The Geneva Protocol does not itself prohibit the development or possession of CN-type weapons, so it does not directly affect the development of nonlethal weapons.[32] However, the Clinton administration has interpreted the CWC as prohibiting the use of RCAs in combat.

Lastly, the Certain Conventional Weapons (CCW) Convention of 1980 (properly, the Convention of Prohibitions or Restrictions on the Use of CCWs Which May Be Deemed to Be Excessively Injurious Or to Have Indiscriminate Effects) was ratified by the United States in 1995. This convention, also known as the UN Inhumane Weapons Convention, applies to lethal weapons only, but it does prohibit the use of laser weapons that are specifically designed to cause permanent blinding to unenhanced vision (the naked eye or an eye with corrective eyesight devices). On 29 August 1995 the Defense Department confirmed U.S. compliance with this restriction. Nevertheless, the use of lasers as NLWs is not affected by this policy, since if they are used appropriately in that framework their bioeffects are reversible. Defense Department policy highlights the vital role laser systems play in detection, targeting, range finding, and communications, as well as in the destruction of targets. Additionally, laser systems provide significant humanitarian benefits in that they allow weapon systems to be increasingly discriminate, thereby reducing collateral damage to civilian lives and property.[33]

Legal Concerns and Restrictions. With respect to chemical-based NLWs, although their use will likely be restricted to military operations other than war, certain difficulties arise. First, facilities where chemical-based NLWs are developed, produced, stored, or tested must be declared and under the CWC may be subject to routine or challenge inspections. This is an important consideration if the nature or existence of such chemicals is to be kept secret, and because even riot control agents declared under the CWC could be used by adversaries as an excuse for developing lethal chemical weapons.

A second legal concern is liability resulting from a decision *not* to use nonlethal weapons. This liability could be on the individual level (for example, of a soldier who decides to use lethal instead of nonlethal force in a humanitarian mission) or on a much broader scale. It is possible that a nation could bring a case to the UN or World Court claiming that the United States had used excessive force in that, having a nonlethal capability, it had chosen to use lethal force instead. For example, following DESERT STORM the human rights organization Middle East Watch argued that since the United States had precision guided munitions, the use of "dumb bombs" was illegal.[34]

In sum, there may well be legal and treaty restrictions on the use of NLWs in both operations other than war and major regional contingencies. For example, such nonlethal weapons as neural inhibitors, gastrointestinal convulsives, neuropharmacological agents, calmative agents, disassociative hallucinogens, and

122   Naval War College Review

sedatives may be considered "temporary incapacitants" and therefore toxic chemicals prohibited by the Chemical Weapons Convention for any purpose. Notwithstanding, other antipersonnel, chemical-based NLWs, such as sticky foam, odor-producing chemicals, and lubricants, are likely to be permitted. Riot control agents (which in major conflicts can be used only against noncombatants, such as in riot control situations or in rear echelon areas outside the zone of immediate combat) could be employed in operations other than war adjunct to a regional contingency. Biological weapons, both antipersonnel and antimaterial, violate U.S. domestic law, but the use of antimaterial chemical-based NLWs, such as corrosive, embrittling, viscosity, or depolymerization agents, is probably permitted under the CWC. If the Pentagon lawyers interpret "toxic chemicals" to include incapacitating NLWs, like calmative agents, their utility in combat will be questionable; the sole operational use of chemical-based antipersonnel NLWs would be in operations other than war.[35] The status of some NLWs is ambiguous under broadly conceived international conventions prohibiting the use of certain kinds of technologies and weapons. It would be ironic if "lethal weapons were employed because ambiguities in international law prevented the use of non-lethal weapons."[36]

Ethical Dimensions

Inevitably, the use of NLWs brings with it ethical and moral implications. The Western just war tradition is for U.S. decision makers the central point of reference concerning both the general decision on when the use of force is justifiable and how much force may be employed. By such criteria, the United States would be on a firm ethical basis in employing NLWs in regional contingencies. Today, situations arise that blur the lines of distinction between operations other than war and "armed conflict"—for instance, the unexpected use of deadly force by local factions during humanitarian assistance missions. *Jus ad bellum,* international law governing when a state may resort to war, lays down seven essentially ethical criteria that must be satisfied if a war is to be considered lawful: just cause, right authority, right intention, a goal of restoring peace, an overall preponderance of good over evil (proportionality), a reasonable hope of success, and force as the last resort.[37] *Jus in bello,* international law regulating the conduct of war (in essence, the law of armed conflict), sets ethical limitations once a justified decision to resort to military force has been taken.

The just conduct of war rests on two main principles, proportionality and discrimination. We have already discussed proportionality in connection with humanity; it requires that the means used be reasonably proportionate to the ends pursued. Discrimination, relatedly, prohibits the direct and deliberate targeting of noncombatants and civilian targets; civilian damage must be proportionate to the military advantage gained by the military measure.[38] "Nonlethal"

as a concept can foster the inevitable demand for humanity and proportionality (or suitability) of the applied means. From the perspective of the force continuum, applied within the context of justifiable use of military power as a legitimized instrument of state political power, nonlethal weapons use can be justified on the basis of moral and legal obligations to stop wrongdoing, to provide protection and justice, and to promote the return to order.[39]

How, then, can we say that the employment of NLWs is consistent with *jus ad bellum* and *jus in bello*? In the warfighting framework, specific weapons technologies figure (obliquely) in only two of the seven *jus ad bellum* criteria: those are overall preponderance of good over evil (proportionality) and reasonable hope of success. Since most weapons employed in any major armed conflict will potentially be lethal ones, with some possible exceptions for operations in urban terrain, it is highly unlikely that the possible use of NLWs will change the overall war-decision calculus. In war-conduct criteria, by contrast, the nature of weapons technologies figures much more directly. The impact on *jus in bello* is important, given that some NLWs may substitute for lethal weapons in certain combat missions, while others will open up new missions altogether. It is probably safe to argue, however, that the introduction of NLWs will not violate war-conduct criteria unless these weapons produce (as they should not) physiological effects that are major, long-term, or irreversible. If NLWs cause debilitating or permanent (even if nonlethal) effects such as blindness or paralysis, long-term lethal consequences (such as cancer), or other unnecessary suffering, serious questions will arise about proportionality. Additionally, combatants must not, in any treacherous or perfidious manner, use NLWs toward lethal ends (for instance, disorienting in order to facilitate killing). Finally, military planners and technologists design NLWs with the factor of discrimination in mind, as they must because of the legal review; nevertheless, some weapons—for example, infrasound and pulsing-light weapons used in urban operations—will not discriminate between combatants and noncombatants. Even so, however, they may be permissible if their effects are temporary and far less destructive than those of lethal weapons.[40]

Foreign and Domestic Policy Dimensions

The debate on the employment of nonlethal weapons has generated questions about implications for U.S. foreign policy. On the positive side, insofar as they increase U.S. warfighting effectiveness, NLWs should contribute to the success of foreign policy. They can make multinational coalitions more cohesive, by lessening casualties and collateral damage, and they provide a measure of escalation control at all levels of armed conflict. On the negative side, adversaries could interpret NLW use as unwillingness to employ lethal force, and that could be construed as a weakness to he exploited.

124   Naval War College Review

Certainly there are liabilities involved with a national commitment to nonlethal weapons, and it is important to evaluate them. A task force of the Council on Foreign Relations has perceived six inherent risks or problems related to NLWs.[41] The first, which it called the "slippery slope," is the likelihood of escalation if the use of NLWs leads to "unintended and unwanted involvement," including their use on a large scale. This prospect can be obviated by a comprehensive understanding of NLW capabilities and limitations; careful, coherent, and integrated planning; congressional consultation; and clear identification of the enemy. The second risk is of retaliation in kind, that is, enemy NLWs directed against "mirror-image" vulnerabilities: computer viruses, forced bank failures, etc. Indeed, U.S. and Western dependence on technology and financial infrastructures increases this vulnerability. The third risk is proliferation. Much military research and development is based on mimicry; other countries might develop NLWs, which could then fall into the hands of renegades and mercenaries. But then, no degree of restraint by the United States in development of NLWs will prevent their appearance in other nations. Russia, the United Kingdom, France, Italy, and Israel have made significant inroads in this domain, and the components are commercially available. Proliferation would require efforts to develop antidotes—which (though the Council did not point it out) would themselves proliferate, reducing the usefulness of the original weapons. Thus secrecy is of considerable importance.

The fourth and fifth problems, and possible objections, pertain to unrealistic expectations and comparative cost-effectiveness. As to the former, if the public expects bloodless battles and therefore requires that NLWs always be used before lethal means, disappointment and unnecessary exposure to danger will result. On the other hand, in the proper setting NLW employment could certainly increase the safety of U.S. troops and the effectiveness of American policy. Examples include a sniper who hides in a crowd consisting mainly of women and children and is thus shielded from lethal fire, and a hostile regime that the United States wishes to separate from its populace and army. As to expense, some have proposed that the casualty-limiting benefits of NLWs could be achieved more quickly and at less cost by increasing the precision of lethal arms. In the final analysis, however, NLW technologies are not expensive compared to their potential benefits or to the development, procurement, training, and operation of other weapon systems.

From a domestic perspective, U.S. policy may be influenced by the growing interest in the concept of NLWs on the part of the American media and special-interest groups. The "CNN factor," or media reaction to the employment of NLWs, will be an important influence upon public perceptions. In turn, media coverage will be shaped primarily by the circumstances and the appropriateness of specific instances of nonlethal force and by the integrity of NLW-capability claims. Media coverage might elicit such negative public or political reactions

as, on one hand, that NLWs violate international treaties, damage the environment, make war more likely by reducing the destructive consequences, maim and injure noncombatants, cost too much, or simply do not work; or on the other that NLWs reflect a sentimental or naive view of war and a lack of resolve to defend national interests, that such weapons risk the lives of soldiers, compromise operational effectiveness, are insufficiently potent to punish aggressors, and are "politically correct" but militarily irrelevant.[42]

From the perspective of the American public, there are reasons to support or reject development and employment of NLWs. Those who favor them emphasize that NLWs are humanitarian and minimize human suffering, that they save U.S. lives by enabling forces to disable enemy capabilities without, say, air strikes. They can enhance electronic attack, itself a generally nonlethal mode; in themselves they constitute an acceptable middle ground between diplomacy and conventional military force, aiming at strategic paralysis rather than destruction of the enemy. Notwithstanding, the public could reject NLWs on the basis of concerns and risks like those above, or a perception that they would produce a tendency toward "gradualism" vice application of overwhelming force. All these factors today influence and stimulate the debate over NLWs.[43]

Operation UNITED SHIELD is again a case in point. Then–Lieutenant General Anthony C. Zinni, commanding I Marine Expeditionary Force extracting UN forces from Somalia, had requested "less lethal" alternatives for use in unarmed hostile situations in Mogadishu. In time, however, his staff discovered that some media reports were putting the Marines at a disadvantage: a Pentagon official had provided to the media, which had duly published them, precise descriptions of the capabilities of barrier foam. The Somalis quickly learned to defeat this nonlethal technology; also, the world was led to expect the "first large-scale employment of non-lethal weapons by U.S. armed forces" and amazing abilities to immobilize hostile crowds quickly.[44] Evening news broadcasts ran footage of the movie *Ghostbusters* in which actor Bill Murray is immobilized by "slime." Sectors of the public may not have been aware that nonlethal weapons had never been intended to preclude the use of deadly force when justified; and thus they had a skewed perspective on the role of NLWs in a real-world scenario.

Rules of Engagement

U.S. national rules of engagement (ROE) for specific situations are based on the Joint Chiefs of Staff Standing Rules of Engagement (SROE) of 1 October 1994. The SROE, shaped by the principles of necessity and proportionality, apply to the use of force for self-defense and the accomplishment of missions. They give commanders the authority, and the obligation, to use all means necessary in self-defense, whereas the use of force for mission accomplishment generally involves supplemental restrictions.

During UNITED SHIELD most provisions of the operation's rules of engagement were unclassified. Each Marine was issued an unclassified ROE card: "When US forces are attacked by unarmed hostile elements, mobs, and/or rioters, US forces should use the minimum force necessary under the circumstances and proportional to the threat."[45] ROE restrictions on nonlethal options were arbitrary: no distinction was made between the use of deadly force and of other kinds. In spite of these restrictions—a consequence of the novelty of the employment of NLWs—the task force managed to employ properly and appropriately the NLWs, having trained with them prior to landing in Somalia.

Figure 2 depicts a force continuum, measured gradations between *no force* and *lethal force*. In its light, the limitations imposed by the ROE in UNITED SHIELD did not make sense. If a soldier or Marine has to wait until deadly force is actually authorized—that is, life is at risk—before, say, a bean bag or rubber baton can be used, then no incentive to restrict response to nonlethal means exists. In the Somalia case, there was misunderstanding in Washington about the effects of certain NLWs. For example, it was believed there that sticky foam (which local commanders considered most useful for area denial, in conjunction with other barricades) could suffocate a hostile subject and that it would be used as an antipersonnel weapon. Misconceptions abounded and interfered with progress.
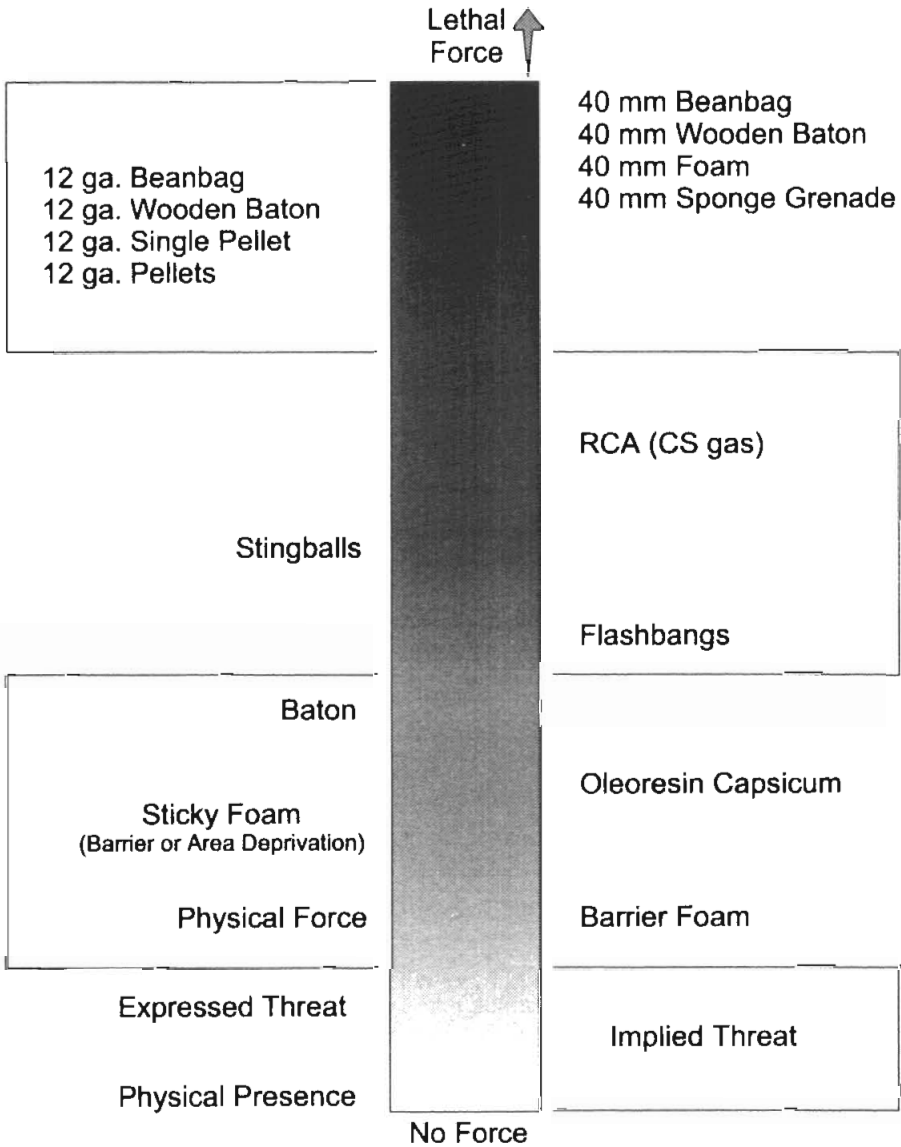
Because nonlethal weapons require quick decisions in stressful situations, fundamental concepts of training and employment are more critical than the technology itself. Troops on the scene may have to switch swiftly from nonlethal means to lethal and then back again as a situation develops. Thus initiative and leadership on the part of junior commanders take on a new magnitude of importance. NLWs should be considered as a component of training across the entire operational spectrum and force continuum, especially for armed interventions and peace operations.

"Weapons of Mass Protection"

Nonlethal weapons have gained a strong foothold in the minds of decision makers and military planners. Some scholars characterize these new weapons, along with anti–lethal and information weapons, as "weapons of mass protection" that constitute a "new arsenal for a new era of warfare."[46] Indeed, today's international climate demands a new dimension in warfare. The concept of "weapons of mass protection" reflects a hybrid approach to the new world order, or chaos, and by extension to the NLWs debate. In this view the West needs to expand its operational capabilities across a spectrum much broader than conventional warfare, not only in terms of peace operations but also of special operations and covert warfare.[47]

At the end of the Cold War, optimists foresaw the emergence of a new, peaceful world order based on the model of Western capitalism. Military

Figure 2
Force Continuum

Lethal
Force

12 ga. Beanbag
12 ga. Wooden Baton
12 ga. Single Pellet
12 ga. Pellets

40 mm Beanbag
40 mm Wooden Baton
40 mm Foam
40 mm Sponge Grenade

RCA (CS gas)

Stingballs

Flashbangs

Baton

Oleoresin Capsicum

Sticky Foam
(Barrier or Area Deprivation)

Physical Force

Barrier Foam

Expressed Threat

Implied Threat

Physical Presence

No Force

Source: Lorenz, p. 56.

activity was regarded as undesirable in a world preoccupied with creating wealth within and between capitalist societies. Liberal democracy and the market economy were the popular vernacular, and conflict between nations was to become an anachronism.[48] The use of military force would continue, but only on the scale of peripheral involvement; the majority of nation-states would bask in prosperity and stability. The resulting "peace dividend" could be diverted to civilian purposes.

Another perspective was postulated by the neo-Realists, who saw the 1990s as an interwar period; the collapse of the Soviet Union was creating a multipolar world in which preexisting rivalries between nation-states would continue to disrupt world tranquillity and stability. Conflict and the potential for it increased with the emergence of newly independent states in the former Soviet Union and elsewhere; growing economic and military power in Southeast Asia seemed to augur economic competition between allies—the United States and Japan, or a solidified European Union. "Fault lines" in human society based on fundamental differences in culture and social fabric would produce unresolvable tensions leading to a reversal of peace and peaceful uses of resources. Military capabilities would have to be increased to meet the ever-growing challenges, threats, and technological developments: "Hence the West will increasingly have to accommodate these non-Western modern civilizations whose power approaches that of the West but whose values and interests differ significantly from those of the West. This will require the West to maintain the economic and military power necessary to protect its interests in relation to these civilizations."[49]

These opposing views have now joined, largely as a result of the Persian Gulf War and the subsequent quagmire in the former Yugoslavia. The effects of this combined view can be seen in the cooperation of advanced industrial societies with the United States against rogue states, ethnic conflict, and civil war—while military planners at the same time consider longer-term military threats, a potentially resurgent Russia or an aggressively nationalist China.[50]

In this uncertain and fluid security environment—a "fourth epoch," founded on postmechanical energy—the introduction of nonlethal weapons on the battlefield will be as significant as the introduction of gunpowder during the European Renaissance.[51] In the heated debate on nonlethal weapons, this author concurs with the scholars, military leaders, and planners who postulate that in the decades to come the political and military value of the now-emerging nonlethal capability will be regarded as superior to lethal ones in the furtherance of the national security policy and national strategy, because it fills so well the gap between oral warnings and deadly force. With them, commanders will be able to function along the entire force continuum, like musicians playing fully chromatic musical scales where once they were limited to a few widely separated notes. Nonlethal weapons will make commanders much more responsive to

situations, more effective in employing a new, expanded operational spectrum—heretofore nonexistent—while maintaining the political, legal, and moral high ground.[52] Nonlethal weapons will in the future furnish the means to meet the challenges of an expanded battlefield of cyberspace, where boundaries will disappear and the enemy will melt into the environment. They promise a genuine technological breakthrough for military strategy and warfare in the twenty-first century.

Notes

1. U.S. Defense Dept., "Policy for Non-Lethal Weapons," Directive 3000.3, 9 July 1996; Leading-Edge Warfare Working Group, "Non-Lethal Technologies for Leading-Edge Warfare," Center for Strategic and International Studies Report on Session #7, 21 May 1997; and Xavier K. Maruyama, "Non-Lethal Weapons Technology and C2," Department of Physics and Institute for Joint Warfare Analysis, Naval Postgraduate School, Monterey, Calif. (published in Institute for Technology Assessment, *Technologies in Support of Peace Operations*, ITA Report BP-PSO-3 [Washington, D.C.: 1998]). Other terms for nonlethal weapons include nonlethal defense, less-lethal weapons, tunable lethality, limited-effects technology, soft kill, disabling technologies, nonlethal disabling technologies, low collateral- damage weapons, and anti-materiel weapons.

2. F. M. Lorenz, "Non-Lethal Force: The Slippery Slope to War?" *Parameters*, Autumn 1996, pp. 52–62.

3. Martin N. Stanton, "What Price Sticky Foam?" *Parameters*, Autumn 1996, pp. 63–8.

4. Lorenz.

5. U.S. Marine Corps Non-Lethal Weapons Capability Sets are "specifically designed to equip a 200 man reinforced rifle company" with "the munitions and equipment to employ a range of nonlethal options short of deadly force in contingency operations." Commanding General, Marine Corps Combat Development Center, Quantico, Va., "FY96 Nonletbal Weapons (NLW) Procurement: A US Marines NLW Capability," administrative message, 29 April 1996.

6. Charles Heal, "Making Not Breaking the Rules," *Jane's International Defense Review*, September 1997, pp. 77–8. Heal is a member of the Marine Corps Reserve and a lieutenant in the Los Angeles County Sheriff's Department; he is highly regarded as a nonlethal weapons expert by the military.

7. The Army employed NLWs in Haiti but had no capability kits; it used commercial, off-the-shelf items. The three NLWs used were shotgun munitions (flashbang [producing an intense flash of light and a loud report], shotgun stinger); 40 mm foam baton round and 40 mm stinger round; and OC pepper spray (individual canister size). In Bosnia the Army used the same NLWs, with the addition of one 40 mm foam baton round (smokeless). Charles Heal, interview, 4 December 1997.

8. Sun Tzu, *The Art of War*, ed. James Clavell (New York: Delacorte Press, 1981), chap. 3, axiom 3.

9. "A Joint Concept for Nonlethal Weapons," Commandant, U.S. Marine Corps, Nonlethal Weapons Directorate, Quantico, Va., 5 January 1998.

10. Ruth Leger Sivard, *World Military and Social Expenditures, 1989*, 13th ed. (Washington, D.C.: World Priorities, 1989), pp. 21, 23.

11. Anthony DePalma, "U.S. Avoids Mine Ban," *Monterey County (California) Herald*, 4 December 1997, pp. A1, A10. The formal signing by 120 nations of the global land mine treaty in Ottawa, Canada, took place on 3–4 December 1997. The United States, China, and Russia participated in meetings but did not sign. The treaty participants rejected at a September 1997 meeting in Oslo, Norway, an American proposal for an exemption in Korea. The United States fears the land mine ban applied to Korea would endanger the thirty-seven thousand troops stationed there and would invite disaster should the one million land mines already in place be removed. The signatories to the treaty pledged resources and money to eliminate the existing 100 million antipersonnel land mines known to exist throughout the world.

12. Anthony C. Zinni [Gen., USMC], telephone interview, 16 July 1997.

13. Defense Directive 3000.3, pp. 1–2.

14. Timothy J. Hannigan, Lori Raff, and Rod Paschall, "Mission Applications of Non-Lethal Weapons," Report for Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (Policy Planning), August 1996, Appendix C.

15. Ibid., p. 6.

16. Defense Directive 3000.3, p. A-2.

130 Naval War College Review

17. U.S. Defense Dept., "Review of Legality of Weapons under International Law," Instruction 5500.15, 16 October 1974.

18. U.S. Defense Dept. "Defense Acquisition," Directive 5000.1, 15 March 1996, p. 7.

19. U.S. Navy Dept., "Review of Weapons under International Law," Secretary of the Navy Instruction [hereafter SECNAVINST] 5711.8A, 29 January 1988, and U.S. Navy Dept., "Implementation of Defense Acquisition Management Policies, Procedures, Documentation and Report," SECNAVINST 5000.2B, 6 December 1996.

20. U.S. Navy Dept., Judge Advocate General [hereafter JAG], memoranda: "Legal Review of Stinger Grenades," 25 January 1995; "Legal Review of 12 Gauge Shotgun Bean Bag/Rubber Pellet/Wood Baton Rounds," 30 January 1995; "Legal Review of 40 mm Rubber Pellet/Foam Rubber Multiple Baton/Bean Bag/Wood Multiple Baton Rounds," 30 January 1995; "Legal Review of Sticky/Restraining Foam," 6 February 1995; "Legal Review of Barrier Foam," 6 February 1995; and "Legal Review of 40 mm Practice M781 Round Modified with Foam Rubber Projectile," 7 February 1995. For the M781 see "Mortar Systems Information (M931)," *FSAC Mortar Office Home Page*, <http://www.pica.army.mil/orgs/fsac/aif_mo/xm931/html> (29 June 1998).

21. U.S. Navy Dept., Deputy Assistant JAG, "Legal Review of Proposed Chemical Based Nonlethal Weapons," proposal 10 March 1997, final review and approval 30 November 1997; and telephone interviews, 30 September and 5 December 1997.

22. U.S. Navy Dept., Deputy Assistant JAG, "Legal Review."

23. Instructions for the Government of Armies of the United States in the Field, in *The Laws of Armed Conflicts: A Collection of Conventions, Resolutions and Other Documents*, ed. Dietrich Schindler and Jiri Toman (Dordrecht, The Netherlands: Martinus Nijhoff, 1988), pp. 3–23. See also Human Rights Watch Arms Project, "Blinding Laser Weapons: The Need to Ban a Cruel and Inhumane Weapon," Washington, D.C.: Human Rights Watch, September 1995.

24. W. Michael Reisman and Chris T. Antoniou, eds., *The Laws of War: A Comprehensive Collection of Primary Documents on International Laws Governing Armed Conflict* (New York: Vintage Books, 1994), p. 35.

25. Ibid., pp. 38–150.

26. U.S. Navy Dept., JAG, various reviews (see note 20).

27. U.S. Navy Dept., JAG, "Legal Review of Sticky/Restraining Foam," 1995, pp. 1–6.

28. RCA use was unacceptable in armed conflict because it could easily be confused with chemical weapons of a more lethal nature by the enemy, who might be provoked to escalate the conflict. In Vietnam, RCAs were used for offensive purposes, to widespread public disapproval: some soldiers employed RCAs to "smoke out" the enemy hiding in tunnels or other inaccessible places—once out in the open, the enemy soldiers were shot (rather than taken as prisoners of war). The use of RCAs against combatants in armed conflict has since then been legally disallowed. Navy JAG, interview, 30 October 1997.

29. U.S. Navy Dept., JAG, "Legal Review of Barrier Foam," pp. 1–4.

30. Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction.

31. General John M. Shalikashvili, Chairman of the Joint Chiefs of Staff, statement before the Senate Armed Services Committee, 11 August 1994.

32. Executive Order 11850: "Renunciation of Certain Uses in War of Chemical Herbicides and Riot Control Agents," April 8, 1975. The presidentially approved uses of riot control agents are quite specific and include four parameters: (1) to control situations in areas under direct and distinct U.S. military control, such as rioting prisoners of war; (2) when civilians are used to mask or screen attacks and civilian casualties can either be avoided or reduced; (3) missions in remotely isolated areas to rescue downed aircrews and passengers or escaping U.S. or allied prisoners of war; (4) in rear echelon areas outside the zone of immediate combat to protect convoys from civil disturbances, terrorists, or paramilitary organizations.

33. Hannigan, Raff, and Paschall, pp. 16–7.

34. W. Hays Parks (Special Assistant for Law of War Matters, Department of the Army Office of the Judge Advocate General), "Memorandum for OASD SO/LIC Policy Planning of June 17, 1994, Subject: Nonlethal Technology," cited in Hannigan, Raff, and Paschall, pp. 17–8.

35. Hannigan, Raff, and Paschall.

36. Malcolm H. Wiener, "Non-Lethal Technologies: Military Options and Implications," Report of an Independent Task Force, Council on Foreign Relations, Washington, D.C., 1995, p. x.

37. James Turner Johnson, "The Just War Tradition and the American Military," in James Turner Johnson and George Weigel, eds., *Just War and the Gulf War* (Washington, D.C.: Ethics and Public Policy Center, 1991), pp. 21–9.

38. William V. O'Brien, "Just War Doctrine's Complementary Role in the International Law of War," paper delivered at the Symposium on Moral/Legal Limits on Low-Intensity Conflict, U.S. Naval War College, Newport, R.I., 9 April 1992, pp. 23–5.

39. Edwin R. Micewski, lecture, "Moral Justification for Defense," Political Philosophy and Ethics seminar, Naval Postgraduate School, Monterey, Calif., 28 April 1998.

40. Hannigan, Raff, and Paschall, pp. 21–3.

41. Wiener, p. ix.

42. Hannigan, Raff, and Paschall, p. 28.

43. Ibid., p. 30.

44. Lorenz, p. 57.

45. Joint Task Force UNITED SHIELD, Rules of Engagement, unclassified ROE card ser. 1, 11 January 1995, cited in Lorenz, p. 62.

46. Chris Morris, Janet Morris, Thomas Baines, "Weapons of Mass Protection," *Airpower Journal,* Spring 1995, pp. 15–29.

47. Nick Lewer and Steven Schofield, *Non-Lethal Weapons: A Fatal Attraction?* (London: Zed Books, 1997), pp. 5–17.

48. Francis Fukuyama, *The End of History and the Last Man* (London: Penguin, 1992).

49. Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs,* Summer 1993, pp. 22–49.

50. Lewer and Schofield.

51. Robert J. Bunker and T. Lindsay, "Nonlethal Technology and Fourth Epoch War: A New Paradigm of Politico-Military Force," *The Land Warfare Papers,* no. 23 (Arlington, Va.: Institute of Land Warfare, February 1996), pp. 1–17.

52. Zinni.

Ψ

IN MY VIEW . . .

U.S. Hemispheric Interests

Sir:

I read with interest the comments made in the Winter 1999 *Naval War College Review* by Captain Jorge H. Recio, of the Argentinean Navy, about my article in the Summer 1998 issue ("Redefining U.S. Hemispheric Interests: A Bold Naval Agenda for the Twenty-first Century"). I would like to express just three ideas, which I consider support my thesis and by no means justify the criticism made by my friend and classmate of the 1997 Naval Command College Class at the U.S. Naval War College.

First, my theory is based upon an intellectual exercise and as such it is subject to all sort of critiques, but in no way does it lose its character of academic exercise. In that respect, it represents my personal point of view, and it cannot be considered as an official opinion from my country or the Chilean Navy at all. I wrote the article as an analyst of the U.S. interests in the region, on the basis of my experience as student, and afterwards as teacher and researcher in the U.S. Naval War College. As I stated in my article, I attempted to interpret the U.S. interests in respect to the hemisphere, and not to represent the Chilean interests, or those of any other country in the region. To try to give another interpretation to this academic exercise would be capricious.

Second, in developing my work, I tried never to ignore the geopolitical, political, economic and military importance of Argentina. On the contrary, I situated that nation in the context of what I called the "geopolitical triangle" of South America, i.e., as one of the three more important countries in the region with respect to U.S. hemispheric interests. To mention only one of the many

arguments that support this condition, such as the length of the coast of these three countries, is a deceptive simplification and a complete distortion of what I attempted to demonstrate.

Third, regarding the "confidence" matter, which seems to be the main concern for Captain Recio and the one that provoked his criticism, I would like to insist that I have tried to interpret the regional interests of the United States and not the Chilean interests in Latin America. The Falkland War was, undoubtedly, a hard blow to U.S. interests, because Argentina engaged in a conflict with the traditional and main North American ally: the United Kingdom. To ignore the fact that after this episode the United States decreased her degree of confidence in Argentina means to be blind to a contemporary reality. Today nobody can deny that Argentina has a navy with a "blue-water" capability, but this is not the point analyzed in my article: the eventual support of the United States to the future development of that capability, in a regional context. Thus, I have framed this article in the twenty-first century. As I said, the naming of Argentina as a "major non-NATO ally" is a favorable sign of the recovery of the confidence lost by the United States during the past decade.

I hope that this explanation meets doubts and concerns of Captain Recio, and I send my most respectful regards to him and to all the journal's distinguished readers, with a thought in mind: "The only way to make oneself free from flattery is to make men understand that nobody offends them saying the truth" (Niccolò Machiavelli, *The Prince*).

Commander Edmundo R. Gonzalez,
Chilean Navy

"Shock and Awe"

Sir:

Re your review of *Shock and Awe: Achieving Rapid Dominance* in the Summer 1998 edition, your reviewer rendered a gross disservice both to our paper and to those who are genuinely seeking innovative, creative, and constructive ways to deal with the future security of this nation. One hopes this disservice was inadvertent.

In the first instance, reviews are meant to be complete if not timely. The National Defense University edition of *Shock and Awe* was published over two years ago. A student in the field would know that since then, a second, follow-on, and far more specific work, *Rapid Dominance: A Force for All Seasons*, was released in 1997. For your readers' interest, a major conference was held at NDU this past September that featured much of Rapid Dominance as an alternative warfighting concept, and work is being completed on a strategic roadmap for implementing an experimental Rapid Dominance Force.

134 Naval War College Review

Any review of Rapid Dominance and Shock and Awe would be incomplete if not negligent without recognizing the follow-on, *A Force for All Seasons*, especially since it has been out for over a year. That error is akin to reviewing only the first volume of a multi-volume history of World War II and wondering in the review how the war turned out.

Your reviewer dismissed our strictures that "The purpose of this paper is to outline the beginnings of the concept of Rapid Dominance" and the concluding thought that "Rapid Dominance is still a concept and a work in progress. . . ." He then proceeded as if his only tasks were to refute all that we wrote and to seek out typographic errors that the computer printing and incomplete editing process had allowed to sneak through. (We must note that for inexplicable reasons, the word "blitzkrieg" is spelled correctly in certain places and not in others.)

To acquaint those of your readers who may not be familiar with the concept of Rapid Dominance, the theory combines two very old and fundamental components of war and politics: "shock and awe," and "will and perception." It is this premeditated combination of "shock and awe" and "will and perception" that distinguishes Rapid Dominance. The objective of Rapid Dominance is "to affect, influence and control the will and perception of the adversary through imposing or threatening to impose a regime of shock and awe sufficient to that end." If shock and awe cannot sufficiently affect will and perception and therefore the outcomes we seek, Rapid Dominance retains the capacity to project "overwhelming force" in line with the current strategy and defense guidance.

Vice Admiral Arthur Cebrowski, president of your great institution, recognizes this interaction of shock and awe, and will and perception as well as anyone. In his own view of "netcentric warfare," he argues that the accumulation of rapidly applied, correct decisions will produce shock and awe and contribute to achieving decisive action.

As part of our initial theory, we developed an eight-level hierarchy of shock and awe to demonstrate and illustrate both historically and practically how will and perception might be affected, influenced, and controlled at a variety of levels. That hierarchy ranged from the atomic bombings of Hiroshima and Nagasaki (which forced the Japanese to surrender despite suicidal resistance up to that point) to seven other cases. Your reviewer was uninformed about the example of the Roman legions and their relevance to shock and awe. Rome ruled most of the then-known world with small numbers of forces, which did not have to be deployed everywhere. The threat that dissent or disobedience in the hinterlands would ultimately be crushed by Roman power indeed produced enough "shock and awe" to affect will and perception.

The paper identified and developed four key characteristics for Rapid Dominance: total knowledge; rapidity; control of the environment; and brilliance in execution. While the reviewer accused us of rambling and incoherence, the

simple matter is that we sensibly organized these characteristics in a chapter on "Strategic, Policy and Operational Application," and one on "An Outline for System Innovation and Technological Integration." This was meant to provide the reader with some concrete examples of where we thought the concept could be headed in both policy and capability terms.

Finally, we examined a number of key questions and recommended next steps to be taken in the process of defining, fielding, and testing a Rapid Dominance force. These formed the basis for much of the subsequent volume. We are now working on a roadmap for putting these recommendations into a form for testing and experimentation.

We, as a nation, could choose to rest on our oars and take our future security for granted. Clearly, the Department of Defense and the civilian and uniformed leaders of our military forces are of an entirely different school, and there is no question that there is strong and genuine commitment to re-examining our strategy, force posture, and future directions. In the best of times, this is a very difficult process. What is needed perhaps most of all is a means for collecting and vetting good ideas in a process that encourages debate, dissent, and criticism. Our team has what we all believe is a good idea in Rapid Dominance, one that merits serious consideration. And we believe in a process that requires debate, dissent, and criticism to test good ideas.

But criticism, if it is to be useful, must be objective, balanced, accurate, and informed. Your reviewer showed none of these qualities. To be crass, I am shocked but not awed.

Harlan K. Ullman
Washington, D.C.

Major Conversino replies:

With all due respect, it appears that Dr. Ullman is unfamiliar with the purpose of a book review as well as the responsibility of authors, even of "works in progress," to ensure the accuracy of their manuscripts. Likewise, while stating that the study group of which he was a part wished to engender criticism and debate, Mr. Ullman's reaction to my review seems to suggest that he desires his group be given a pass on the research, writing, and editing of their work, and an endorsement of the concept behind the literary product. I stand by my review of *Shock and Awe* and wish to respond to Dr. Ullman's letter. In short, if I rendered a disservice to anyone, it is to those who seek to peddle "new" ideas with a minimum of research and analysis.

At the outset, let me point out that Dr. Ullman overlooked several key statements in my review. I stipulated, for example, that the authors did not intend for this book to be a "scholarly tome but expected their work to spark thought and debate." Still, this does not excuse them from ensuring the accuracy of the

text. Notably, Mr. Ullman does not mention my points concerning the book's reference to an Israeli raid on Syrian nuclear reactors in 1982—an event that never occurred—or several other particularly glaring factual mistakes that go well beyond mere typographical errors. As I noted in the review, such serious misstatements of historical events should cause the reader to doubt both the quality of analysis as well as the accuracy of other supporting material presented in the course of building that analysis. Indeed, I stated that the authors made good use of the historical evidence in casting blitzkrieg as an example of "shock and awe." In pointing out that "blitzkrieg" was consistently misspelled, however, I was merely noting one typographical error that was typical of the uneven quality of the book and, given the amount of emphasis the authors placed on that well known German strategy, a most distracting error at that.

Why is accuracy and sound proofreading important? The authors are clearly trying to "sell" a concept and should ensure that their message is not lost in hasty, sloppy work or through overstatement. The authors, however, might have provided more depth in their evidence and thus a more convincing analysis. Dr. Ullman fails to explain the contradiction inherent in a theory that relies on "*perfect knowledge*" (emphasis mine) but cannot be "over-visualized"—whatever that means—because of the enduring fog of war. Mr. Ullman resorts to the "work in progress" line of defense, which is an unsatisfactory attempt to avoid dealing with the book's shortfalls and the theory's contradictions.

Likewise, merely stating that certain historical events or scenarios provide examples of shock and awe is not the same as building a cogent and convincing analysis. For example, Dr. Ullman states that I was "uninformed" about the role the Roman legions played in inducing shock and awe throughout the empire. I made the comment in light of the authors' model, which touted "rapidity" as a key ingredient of their theory. I will concede that rapidity of movement might be relative, but how far does one stretch the concept of speed—"rapidity"— before it loses all meaning? The authors' conclusion, restated by Dr. Ullman in his letter, that the mere threat of Roman retaliation induced shock and awe, ignores the historical record. A cursory look at Roman history, particularly following the turn of the third century A.D., would reveal an empire often convulsed by major upheavals and rebellions, not all of which were easily or even successfully put down. Was it merely the "shock and awe" supposedly generated by the Roman legions that established order and stability? If so, why did it fail in certain periods? Furthermore, why did the legions fail to impose "shock and awe" on the Goths or Persians? Does shock and awe exist, except where it doesn't?

This brings us to a broader point about the use of history in "proving" an otherwise untested theory: while *Shock and Awe* was meant to be a thought-provoking work in progress, the authors then should expect, as Dr. Ullman claims they do, "dissent" and "criticism" based on their application of the

historical evidence. This is particularly true when they simply throw an idea on the table with little or no evidence to support it and expect "objective" and "informed" readers to accept their view at face value.

I should remind Dr. Ullman that I was asked to review a completed volume, not a series of roundtables and debates. Neither did the editors of this journal ask me to debate the concept of shock and awe. Thus, Dr. Ullman attempts to compare the 1996 book, which was apparently superseded by a subsequent work, to the first volume in a multivolume series on World War II. I agree that one would be grossly remiss in criticizing an author for not ending the war in his first installment. On the other hand, should the author portray the *anschluss* as transpiring in Belgium or describe a September 1939 German invasion of Latvia, a reviewer should rightly call these errors to the reader's attention. Whether that book is a single volume or is the first in a series, the authors have an obligation to provide an accurate representation of the historical record. This is even more important when the ideas at the heart of the work are still in development and therefore more vulnerable to criticism than a fully developed theory.

In closing, I might point out that Dr. Ullman asserts that I lacked objectivity, balance, accuracy, and was not "informed" in crafting my review. I can only conclude that "objectivity" and "balance" to Dr. Ullman are reflected in a book review that overlooks serious flaws in evidence and argumentation, as well as in editing. I clearly stated in the review that I considered the book's central thesis to be valid and that *Shock and Awe* contains "new concepts for the nation's defense," provided one can get past the distracting errors, poor organization, and occasional contradictions. As for accuracy, I challenge him to point out which of the specific errors I noted were not contained in the book. I will admit that I am not "informed" on the current state of "shock and awe's" development. Nevertheless, I submit that neither my professors in graduate school nor my faculty colleagues at the Air Force Academy and the U.S. Air Force School of Advanced Airpower Studies would have found the volume that I was asked to review to meet acceptable standards of evidence, organization, argumentation, and editing. In a published book, spelling does count! Dr. Ullman may not have intended *Shock and Awe* to be a work of intense scholarship. Hopefully, the second volume to which he refers, *Rapid Dominance: A Force for All Seasons*, rises above the questionable standard he has apparently accepted for *Shock and Awe*.

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SET AND DRIFT

A Real Revolution in Naval Affairs and What It Achieved

Frank Uhlig, Jr.

A COMMON THEME AMONG AUTHORS writing in the *Naval War College Review* and other journals serving the armed forces is that a "revolution in military affairs" is upon us. Indeed, they are right; in fact, they and many who went before them would have been right to make such an observation at any time since the beginning of the age of technology more than a century and a half ago. There have been a lot of such revolutions; more are in the making. One characteristic they all share is that they are centered on one or, often now, a cluster of war's instruments. Those efforts at revolution that succeed change much, but they never change everything.

For example, they never change the obligation of policy makers and commanders to be clear about their objective and to focus everlastingly on it, nor do they change the need for those same people to concentrate force both where it is needed and in a form useful to the occasion.

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What might we expect from a revolutionary instrument of war? For some clues, let us examine the development years of one—the submarine. While the submarine did not change the purposes of war at sea—chiefly to make sure that friendly shipping can flow and that hostile shipping cannot—it did change fundamentally its nature. Hitherto a warship could expect to engage in battle only in certain well defined parts of the sea and usually had to depend on having time to prepare for it. But with the coming of the submarine, for the first time the enemy could be lurking anywhere at any time. The fear of being ambushed by an unseen attacker became an unwelcome but ever-present shipmate of all who went to sea.

By the time war broke out in August 1914, every important fleet had submarines, and had had them for years. Britain had seventy-three, Germany thirty-one. From the beginning submarines extended the effective range of their fleets into waters that most ships could not reach. For example, they alone extended the reach of the British fleet into the Baltic, that of the German fleet into the Mediterranean, and late in the war on into the coastal waters of the United States. Moreover, unlike other ships, submarines of both fleets kept watch off the approaches to enemy ports, laid mines in the fairways, and with considerable success torpedoed and damaged or sank unwary or unescorted battleships and cruisers. When World War I was over, submarines and mines (many of which had been laid by submarines) had sunk thirty-six battleships and armored cruisers. By contrast, only fifteen battleships, battle cruisers, and armored cruisers had been sunk by other surface combatants, and more than half of those in one action—Jutland.[1]

Still, long before the war was over the men in the big ships had learned how, in most instances, to frustrate the enemy's submarines: steaming more swiftly than was otherwise necessary, changing course frequently (zigzagging); keeping a keen lookout for periscopes or torpedo wakes, sailing only with a screen of destroyers, having the channels and shallows swept of mines, and avoiding waters in which it was believed a submarine might be lurking. Though generally successful, they represented a formidable list of burdens and restrictions laid on the battle fleet by a small, primitive, but almost totally stealthy type of warship. Moreover, none of those large ships was capable, save by accident, of sinking a submarine.

Had all these accomplishments been the sum of submarine achievement in the war, the type would have been recognized, just as anticipated before 1914, as a highly valuable element of any country's fleet but no more than that.

In general, the way navies had proposed to deal with shipping, both friendly and hostile, was indirectly. By concentrating their fighting ships into powerful fleets and then using those fleets in battle to destroy the enemy, they would set the stage for the next act. In that act the ships of the victorious fleet would disperse, acting both as blockaders to halt the flow of enemy shipping and as

hunters for surviving enemy warships that had eluded the blockade and were raiding the victorious fleet's shipping. The ships of the successful fleet would also escort such ships as troop transports, whose survival could not be left to chance.

The problem in real life was that opposing fleets seldom were equal in size, or in eagerness to seek out the enemy. This was the case in 1914. British efforts to entice the Germans to sea, where they could be defeated, failed. So did German efforts to trap small portions of the British fleet. The result was that the Grand Fleet blockaded, and the High Seas Fleet was blockaded. Behind that British blockade allied shipping flowed, but German shipping did not. Allied merchant ships not only bore commercial goods into and out of friendly and neutral ports but also bore raw materials for the allied arms industries, arms for the armies engaged in battle, and whole armies themselves, either to reinforce those already engaged overseas or to begin a new campaign elsewhere. Shipping mattered.

German submarines (U-boats) changed the situation that had become so comfortable for the allies. Unhindered by the Grand Fleet, they attacked both inbound and outbound allied ships, as well as neutrals (mainly because it was difficult to distinguish a neutral ship from an enemy ship, but also because neutrals often carried allied cargoes). The British attempted to deal with the problem by patrolling the seaward approaches to friendly harbors, where merchant shipping was thick. It was in these waters that the U-boats were to be found. Keeping in mind the generally sensible maxim that the best defense is a good offense, the British rejected the thought of gathering the merchantmen into convoys escorted by destroyers or other small warships; they saw convoys as defensive, patrolling as offensive. Undeterred by this offensive patrolling, the U-boats kept on sinking merchant ships. By the spring of 1917 the Germans calculated that the end was nigh. Gloomily, the British reached the same conclusion: whatever allied merchant ships had not yet been sunk soon would be. When that happened the allied position on the Eastern Front, on the Western Front, everywhere, would collapse.

In the nick of time the British, and their new associates, the Americans, adopted the escorted convoy. For the U-boats this meant that instead of being presented with a multitude of merchant ships steaming singly toward their ports of destination—which meant that if the U-boat missed one ship, there soon would be another—they faced the possibility not of many individual ships to attack but of only a few convoys. That in turn meant that if the U-boat missed a convoy not only would it have missed many ships, but it would be some time before it got another chance to attack. Moreover, those convoys were guarded by destroyers or, in any event, escorts of some sort.

Assuming that a U-boat has sighted a convoy within closing range, because of the escorts it must avoid closing on the surface; compared to the merchantmen its speed is high, but it must now be submerged, where its speed is low. Therefore, unless from the first moment the U-boat is ahead of the convoy, it is

not likely ever to get into a firing position. Thus, even if the escorts never learn that a submarine has been nearby, they will have frustrated its attack.

Within a short time of the convoy's adoption, the sinking of merchant ships fell off. Despite the fact that about the same time the Eastern Front collapsed, the allies' position in the West improved sufficiently that their armies, fortified by the addition of two million American soldiers who had advanced three thousand miles across the Atlantic in escorted convoys, were able in the summer of 1918 to go on the offensive and win the war after all.

The revolutionary weapon, the submarine, had moved the focus of the naval struggle from the North Sea to the Atlantic; just before its moment of triumph, it had been frustrated by the resurrection of a tactic not used since the age of sail. What did this do to the opposing battle fleets left behind in the North Sea? It might have put them out of business. But if the British were to decommission the ships of their battle line, the German fleet would be able to sail unmolested into the English Channel or the Atlantic Ocean and there overwhelm the small escorts and their convoys. If the Germans relegated their heavy ships to idleness, the British would be free to do so too, with the result that the destroyers retained to screen the British battle line would be free to reinforce the convoy escorts. So, at least nominally, both fleets remained ready for battle.

What we have seen is the near triumph of not just the submarine but of the submarine used in the most effective way possible, directly against the object of naval warfare—shipping. It came close both to putting the battle fleet out of business and to winning the war. Finally, it is worth keeping in mind that the allies' victory in the Atlantic, though a prerequisite to their armies' success in France in 1918, would not have led to victory without the success of the armies.

For now the most important ideas revealed by these long-ago experiences are that in war—and before war—we should be clear strategically, operationally, and tactically, about what we need to protect and what we need to attack; we should understand that sometimes the best defense is a good defense; we should observe that when a dominant instrument is displaced by another, instead of losing all value the old system may merely step down to a supporting role; and we should keep in mind that our next dominant instrument of war, or our enemy's, may prove to be something already in hand. So might its antidote.

We must consider one more matter. This simple, practical instrument of war, the submarine, employed directly with devastating strategic effect upon shipping—the object around which naval war revolves—achieved its effect in the most brutal fashion. Because they dared do it no other way, submarines torpedoed merchant ships without warning, and because they had no way of rescuing those who survived the blast, they left them to the mercy of chance. Chance is not often merciful.

Few people care about merchant seamen, especially if they are foreigners. Almost everyone cares about passengers in a ship or in an airplane, especially if

they are fellow citizens. The torpedoing by a U-boat of the British passenger liner *Lusitania* in April 1915 cost 1,200 people their lives. Over one hundred of those who drowned were American men, women, and children. The *Lusitania* was not the only passenger ship torpedoed in that war, only the most prominent among them.

It was the brutality associated with the sinking of ships by submarines that was a primary cause, perhaps the primary cause, of the U.S. declaration of war against Germany in April 1917. Following first upon that declaration was the dispatch of American destroyers to Europe. It was those destroyers and those which followed that made the convoy system a practical proposition for the allies. Following thereafter was the dispatch of the two million soldiers to France. It is likely that without the clear display of submarine warfare's inherent brutality those American contributions to the allied victory would never have come to pass.[2] That is, without the Americans, probably there would have been no allied victory, only allied defeat.

After all the atrocities the world has experienced since the end of that war, perhaps people have become too numb to react against other examples of brutality explained, or excused, by the shortcomings of an otherwise perfect military or naval system. But as the current campaign against the manufacture and use of antipersonnel land mines illustrates, those who develop and use weapons, which by design or not cause unexpected suffering, should not count on that.

Notes

1. On submarine numbers in 1914 see Paul G. Halpern, *A Naval History of World War I* (Annapolis, Md.: Naval Institute Press, 1994), p. 8. On the sinking of big ships see H. W. Wilson, *Battleships in Action*, Vol. II (London: Sampson Low, Marston & Co., n.d. but probably 1926), pp. 341–3.
2. On destroyer numbers and employment in the spring of 1917, see Wilson, pp. 356, 359.

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REVIEW ESSAY

Modern Approaches to Considering Modern Military History

Lieutenant Colonel Michael N. Schmitt, U.S. Air Force

Townshend, Charles. ed. *The Oxford Illustrated History of Modern War*. New York: Oxford Univ. Press, 1997. 354pp. $49.95

Black, Jeremy. *War and the World: Military Power and the Fate of Continents, 1450–2000*. New Haven, Conn.: Yale Univ. Press, 1998. 334pp. $35

EXCESSIVE AMBITION USUALLY yields only failure. As the readers of the *Review* surely realize, history teaches that this truism knows few exceptions in war. Interestingly, writers are no less subject to such ambition than those on the field of battle—even writers on the history of war. In *The Oxford Illustrated History of Modern War* and *War and the World*, two accomplished historians have taken on an ambitious task indeed: analyzing war over the past five centuries. Nonetheless, both succeed in their risky endeavor, adding two solid contributions to our understanding of military history. Both merit serious scholarly and professional attention.

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Edited by Keele University's Charles Townshend, *History of Modern War* has as its goal to "provide a history not merely of modern warfare but of modern war as a whole." Townshend operates from the premise that modern war differs from the organized violence that characterized conflict in centuries past. The point of demarcation for modern war, he suggests, occurred between the sixteenth and eighteenth centuries, when Europe developed the wherewithal to withstand attacks from the East, a turning point symbolically marked by the Ottoman defeat at Vienna in 1683. This European victory signaled the beginning of the progressive Western dominance that would reach full maturity in the nineteenth century. For Townshend, "this shift cannot be understood in purely military terms. It was part of a complex process of social and economic modernization."

This theme of a symbiotic relationship between war and society pervades the book's organization and substance. To develop the theme Townshend has neatly, and appropriately, bifurcated the study. Part I traces the evolution of modern war from its transitional period, starting around the sixteenth century, through the twentieth-century phenomenon of "people's war." In Part II, various elements of modern war are addressed separately—technology, modern combat, war at sea, aerial warfare, war and society, women in war, and the normative control of, and opposition to, war. Though each part could easily stand alone, the net result of the combination is a synergism between complementary approaches. The former provides the context within which the elements of war can be better understood, whereas the latter explicates and illustrates how that evolution played itself out in discrete areas of interest.

The success that the book achieves relies heavily on the distinction of the group of contributors Townshend has gathered. Of particular note are a number of names familiar to those associated with the Naval War College: John Hattendorf, the renowned naval historian who holds the Ernest J. King Chair at the College; Douglas Porch, a former member of the Strategy and Policy Department, now on the faculty of the Naval Postgraduate School; and Oxford's Adam Roberts, who has worked closely with the College's Oceans Law and Policy Department. The remainder of the group are no less accomplished; it is an impressive array of intellect and expertise.

Virtually every one of the chapters is remarkably well done. Several, though, will prove especially interesting to this journal's readership. The introductory chapter by Townshend, "The Shape of Modern War," sets the stage beautifully with an insightful general survey of the topic. For Townshend, the rise and evolution of modern warfare were driven by technological, administrative, and ideological change, and he identifies a number of key historical milestones in those processes. The revolutionary decree of *levée en masse* by the French Republic in 1793, for example, made possible battles of expanded scope and frequency. More importantly, the *levée* permitted expanded objectives,

including destruction of the enemy state itself. "War would increasingly be seen as the acid test, not merely of military and economic strength, but more fundamentally of the social cohesion of states, and the viability of nations." Also determinative for Townshend were organizational changes made by the Prussian Helmuth von Moltke. His establishment of a general staff, in combination with the advent of modern weaponry, turned on its head the traditional view that short-service conscripts were inferior. Effective staff work, particularly mobilization planning, enhanced the advantages of numerical superiority to such an extent that states no longer needed to rely primarily on professional soldiers.

World War I was a classic demonstration of Townshend's technological, administrative, and ideological dynamic, as Clausewitz's "absolute war" gave way to "total war," which relentlessly drew whole societies into the war-making endeavor. New weaponry, in particular advances in artillery, resulted in grinding trench warfare. This motivated an ever-increasing effort to produce and field more manpower and war material—hence the reliance on the "home front." Nationalism, symbolized by the rallying cries "*Weltmacht oder Niedergang!*" (world power or downfall) and *"On les aura!"* (we'll get them), stymied any hope for an early resolution of the conflict. These trends were only exacerbated in the Second World War.

The nature of war changed yet again with the emergence of "people's war." As war between the major powers became increasingly risky (and unlikely), due in great part to technological advances in weaponry, ideology (whether religious, ethnic, or nationalist) fostered a string of "lesser" conflicts labeled "low-intensity war." By the 1980s and 1990s the tragedy of "total people's war," in which paramilitary militias were the central actors, had come to the fore. This new reality, exemplified by such conflicts as those in Lebanon, Afghanistan, and Yugoslavia, leads Townshend to conclude that "we approach the end of the millennium with a whiff, if no more, of fear that the next one may witness a return to what Thomas Hobbes saw as the state of nature: the war of all against all."

Although he ably lays the foundation, it is his colleagues who craft the edifice. In the chapter on warfare at sea, John Hattendorf offers a systematic survey. Taking a macro view, he ultimately dismisses the notion of radical change on the horizon: "Between 1950 and the 1990s, many naval leaders returned to the older ideas about the range and functions of navies, extending wartime tasks into peacetime duties. . . . The fundamental role of navies has remained to establish control for oneself at sea or to deny it to an enemy, linking that control to broad political and economic issues ashore. In peacetime, navies continue to have a diplomatic and international role, a policing role, and a military role." This prognosis bodes well for a navy in search of its appropriate role in twenty-first-century U.S. military strategy.

146   Naval War College Review

Richard Overy comes to much the same conclusion, in the context of aerial operations, as Hattendorf. Noting that the Royal Air Force deployed only seventy-six combat aircraft to the Persian Gulf War but ended World War II with over eight thousand, he argues that "with smaller numbers of technically sophisticated and expensive aircraft the choice of objective became more important. Air power was once again, as in 1918, directed at strong points on the battlefield, at the enemy air force, and at supplies and communications feeding the battle zone. . . . By the 1990s air warfare had become more effective militarily, but less radical in its strategic impact, than the pioneers of air power theory could ever have expected." This is an interesting conclusion, likely to draw some disagreement from aviators and strategists. The numerical comparison he proffers is hardly telling, given the qualitatively and quantitatively improved capabilities of modern aircraft, current operational concepts for their employment, and the context in which they were used in the Gulf war. Moreover, while the Gulf war techniques for employing aircraft to achieve strategic ends might surprise aviation pioneers, it nevertheless remains that air power was put to effective strategic use in that conflict, a use which those same pioneers would have applauded. Despite this arguable assertion by Overy, as a whole he presents an extremely perceptive historical analysis of much value to those who consider air power.

Perhaps most thought-provoking is the piece by Martin van Creveld, titled "Technology and War: Postmodern War." He first addresses nuclear weapons, concluding that at the end of the twentieth century most countries that can field large-scale conventional forces are also capable of acquiring nuclear weapons. Van Creveld points out that nuclear weapons "have put military history into reverse gear: in *every* region where they have been introduced, large-scale, interstate war has as good as disappeared." This finding forms the first prong of his ultimate conclusion. Turning to the other end of the spectrum of violence, he notes the general demise of state-on-state conflict. Indeed, of the one hundred or so conflicts after 1945 the vast majority involved nonstate actors employing forces that were not conventional armies and were without advanced weaponry. When states fielding conventional forces became embroiled in these conflicts they usually suffered defeat (albeit not necessarily in the traditional sense of the term), despite inflicting heavy casualties on their opponents. The cause? According to van Creveld, "the more powerful and more modern the technology at the disposal of an army . . . the less useful it was in combating an enemy who did not represent a territorial state, did not have permanent bases or lines of communication, did not possess modern weapons, and, most important of all, could not be distinguished from the surrounding population." This point forms the second prong of his conclusion, that "large-scale conventional warfare and the armed forces by which it is waged are being squeezed out of existence by nuclear weapons on the one hand and subconventional warfare on the other.

Together with the modern technology at their disposal, these forces are heading for a fall; like Humpty Dumpty, once broken they may not be put together again."

Whereas *History of Modern War* contributes to the discipline by viewing war in its broader social setting, in *War and the World* the University of Exeter's Jeremy Black approaches the subject of war during the past half-millennium from a radically different angle. In his view, "most military history, whether operational or the so-called 'new military history' that adopts a wider social dimension, concentrates on Western history and is very much Euro-centered even when it considers developments elsewhere in the world." He laments the "reluctance to grasp the wider global context" of war and the tendency to approach military history in terms of a particular explanatory model, "classically that of the triumph of the West through technology." To a great extent, even non-Western military cultures are considered in terms of their relation to the Europeans. These flaws Black sets out to remedy. He does so not through novel approaches, for he focuses on factors that pervade war irrespective of locus— weapons, tactics, and strategy, and the interrelatedness of war and the political and social environment in which it occurs. Instead, the uniqueness of his approach is found in his global perspective.

Black's point of departure is what he labels "Gibbonian Strategies." For Edward Gibbon, the eighteenth-century historian best known for *The History of the Decline and Fall of the Roman Empire*, the key to Europe's preeminence lay in its existence as a grouping of states in competition with each other. The centrality of the competition to progressive development was illustrated not only by the fall of Rome but also by the demise of Byzantium, which, given its isolation, "was not disturbed by the comparison of foreign merit; and it is no wonder if they fainted in the race, since they had neither competitors to urge their speed, nor judges to crown their victory." Competition and emulation would prove particularly important to technological progress, for they encouraged European powers not only to adopt advances made elsewhere but to pursue their own when neighboring states lost pace. Gibbon also focused on the importance of balance of power politics at both the international and domestic levels. As Black notes, balance of power in the Gibbonian paradigm "was self-correcting, prevented hegemony and permitted progress through emulation that was essentially competitive but . . . tempered by 'the general manners of the times.'"

Black suggests that this latter approach was quite the creature of the culture from which it emerged: "The apparent precision and naturalness of the image and language of balance greatly contributed to its popularity in an age in thrall of Newton and mechanistic physics. . . . Balance served as an appropriate *leitmotif* for a culture that emphasized the value of moderation." In fact, he argues, it lacked analytical rigor, failing to offer usable criteria for assessing military capability or an opponent's intentions, or even to provide guidelines for response to

change. Moreover, it did not account for the dynamics of regional balance within the larger general context. In essence it was Eurocentric, in its dismissal of non-Europeans as lacking balance.

The Eurocentric tendency to emphasize weaponry as the dominant engine of change is also challenged. For instance, Gibbon emphasized the importance of gunpowder and fortifications in securing Europe against the onslaught of the "barbarians" from the East. While acknowledging the criticality of technology, Black takes a much wider view, suggesting that the relationship between progress and technology is more complex than is often suggested. "Technology and change interpenetrate; they were, and are, not simply alternatives. Technology has to be understood in its social context." As an example, he notes that the decay of Timur's nomadic empire was as much the result of the "lack of legitimating principles, succession struggles, lack of common ethnic base and geographical challenges" as of military factors. This theme of contextuality in understanding the evolution of war and warfare pervades his work.

Black devotes the bulk of the book to a chronological voyage through military history, from the fifteenth to the twentieth centuries. Great emphasis, far more than is usually present in works of military history, is placed on non-European conflicts and cultures. In *War and the World* discussion ranges freely from Portuguese colonialism to the Russians and Kazan; and from India, China, and North Africa to the American Revolution and World War II. This emphasis is a particular strength of the book, which is more likely than classic fare to spark the interest of a knowledgeable reader; *War and the World* is not simply old wine in new bottles. Additionally, whenever the historical record suggests that Eurocentrists are viewing history through rose-colored glasses, Black goes to some trouble (some might suggest, excess) to highlight the possibility. Each time, the reader is forced back into the historical record to reconsider any preconceived notions. Lest the book be viewed as polemical, at its core is fine history—well written, well researched, and fascinating. The focus on Eurocentrism is a theme, an approach—not a cause.

For the wider readership, two chapters are of particular interest. Before launching into the final chapter on the twentieth century, Black pauses for comment on "Warfare and the State between 1450–1900." It is perhaps the crowning effort in the book. In the chapter Black discusses the increasing monopolization of violence by the state in recent centuries, the roles of the government in setting the goals to be achieved by war and in providing the resources necessary to support it, the importance of domestic political cohesion to a successful military effort, and such inhibitors of imperial cohesion as nineteenth-century nationalism or twentieth-century international ideologies, like communism. Its placement is curious, for had Black extended the range of the chapter through the twentieth century, it would have made a fitting closure to the book.

In Black's reflections on the twentieth century, he analyzes the two world wars in an especially artful fashion, dismantling them to ascertain which factors were influential in their course and which have perhaps been overrated or misunderstood. For instance, in addressing the First World War he dismisses contentions that it was an "impasse made indecisive by similarities in weapons systems." On the contrary, the war evidenced decisive victories by conventional forces—for example, in the capture of Belgium and large sections of Russia by the Germans. He also points to success beyond the European theater, including the effective British campaigns against the German colonies and against the Turks in Mesopotamia and Palestine. Also important were the new technologies, such as the submarine and airplane; the American intervention in 1917; and the ability of states to mobilize their productive and manpower resources, as both were exhausted at fantastic rates on the battlefield. These and other factors operated synergistically to affect irreversibly social, political, and economic processes, whether in the guise of female employment, inflation, trade unionism, challenges to the privileged status of the elites, or of threats to the political stability of states.

After dissecting the world wars thoroughly, Black goes on to assess the collapse of the empire system, and the conflicts of the Cold War era. He then shifts to a very perspicacious identification of certain topics of contemporary interest. For instance, he considers the evolution of civilian attitudes regarding war and military service, identifying a trend of opposition to the use of force as an instrument of national policy—witness Vietnam, Afghanistan, and even the casualty-aversion of the Somalia operation. Yet this trend is not matched outside the Western world, a fact evidenced by the Chinese conquest and retention of Tibet, the Iran-Iraq War, the Iraqi invasion of Kuwait, the violence committed by government forces in the Nigerian civil war of 1967–1970, Indonesian actions in the South Moluccas and East Timor, and so on. Black also describes the pervasive role of the military in twentieth-century politics, tendencies in the use of force (such as conflict caused by the vacuum left in the wake of the Western retreat from colonial empires), the effect of the pace of technological change and the limits thereof, and nuclear weaponry.

Black concludes his study with a brief comment on the future. Not unexpectedly, he returns to the themes that he presented throughout his study. Major powers will be able to project power but "will find it difficult to achieve military and political objectives against recalcitrant people whatever disparity exists in the formal firepower capability of the two sides." Similarly, while technology will continue to be easily disseminated, its adoption will depend on the "institutional characteristics, resources, and cultural, social and political receptivity" of the state in question. Perhaps most importantly, he rejects the Gibbonian promise of technological barriers against "barbarians." The force of economic globalization and information pervasiveness will not allow this to

150 Naval War College Review

occur. In the end, then, he returns to his basic criticism of the Eurocentric approach. Non-European military cultures do matter, and they matter in their own terms, even when they fall within the camp of the defeated. Technology also matters, but it is only one facet of the grammar of war; culture, economics, ideology, resource bases, and a myriad of other factors also matter. And finally, war for Black is a global phenomenon, one that can be adequately understood only if approached from a global cognitive perspective.

There is little to criticize in either of these excellent works. Perhaps the scant attention paid to the Persian Gulf War or even post–Cold War events such as Grenada, Haiti, Panama, Somalia, and Yugoslavia detract somewhat from their comprehensiveness, particularly in the case of *War and the World*. In both books, greater attention to these widely known events would have placed the thematic premises they offer in familiar context. The topics may have been considered "postmodern" or simply not ripe enough for in-depth historical analysis, but these works could have been somewhat improved through greater currency.

Between the two, *History of Modern War* is more user-friendly for the nonexpert. It is extremely well written, takes an easily understood approach to the topic, and draws on examples more likely to be familiar to the average reader. Though *War and the World* is sometimes tough going due to the amount and depth of unfamiliar material (after all, most readers are likely to be Eurocentrists by training), its premise is provocative and well presented. As an added benefit, the two books are beautifully and usefully illustrated. Ultimately, both works are highly recommended for scholars of military history and military professionals, as well as for those dealing in related subject areas, such as the law of armed conflict or international relations.

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BOOK REVIEWS

The Shift to a New Paradigm

Arquilla, John, and David Ronfeldt, eds. *In Athena's Camp: Preparing for Conflict in the Information Age.* Santa Monica, Calif.: RAND, 1998. 501pp. $20

THIS LIVELY AND HIGHLY READABLE SURVEY of trends in information warfare provides an excellent overview of an expanding field in military science. The editors, John Arquilla of the Naval Postgraduate School and David Ronfeldt of the RAND Corporation, are well versed in the complex theories of information warfare, and they render the subject highly approachable to those not fully engaged in the debate.

The central theme of the work is that today we are in the midst of a shift from traditional approaches to conflict—where power is based on material strength and information—to a new paradigm in which "information becomes physical and power immaterial." The more traditional approach is embodied in Mars, the ancient Roman god of war, while the new construct is represented by Athena, the cerebral goddess of warrior wisdom—hence the title. This fundamental theme is repeated by a wide variety of contributors in nearly twenty essays.

Interestingly, Arquilla and Ronfeldt believe this shift is not completely a product of the late-twentieth-century technology explosion. They point to the Mongol hordes of the twelfth and thirteenth centuries as the progenitors of this mode of warfare. The Mongols relied almost entirely on learning exactly where their enemies were while maintaining secrecy concerning their own location. Despite inferiority in numbers, the Mongols were able to win overwhelming victories over their opponents with seeming ease. Using pony-express teams of high-speed horsemen (the "arrow riders"), they were able to see the battlespace with relative clarity, while their opponents remained effectively blind. The Mongols used carefully coordinated operations, struck at the command-and-control networks of their opponents, and relied on information, mobility, and precisely applied power—an information-age strategy.

Another fascinating example of information-style warfare offered is that of the U-boat campaigns of the Second World War. These boats did not operate routinely in the famous "wolf packs" but were spread widely over the entire battlespace until information caused them to assemble and attack at a specific vulnerable node, for instance a laden convoy. As succinctly stated in this work,

"This is the first case in naval history of a force whose maneuver units stayed quite far apart most of the time, then coalesced to swarm to the attack, and afterwards dissevered to return to scouting for new targets."

Much of the historical and analytical material supports the ideas contained in the final essay, "Looking Ahead: Preparing for Information Age Conflict." One key idea advanced is the concept of "battleswarm," as a new doctrine for combat. In battleswarm, U.S. forces would rely not on overwhelming material force but instead on near-perfect knowledge of the battlespace, the ability to maintain networked communications, and the capability to coalesce suddenly at a time and place of their own choosing to destroy (swarm attack) and then suddenly disperse.

Essentially, three key points appear throughout the book. First is the idea that information is "reshaping the traditional political, economic, and military domains of grand strategy"; second is the concept that a distinct new domain of information strategy is emerging, with its own dynamics; and third is that the United States should pursue a strategy of "guarded openness," described as "a deliberately ambivalent pairing of words . . . which will entail a constant balancing act, in which completing goals and concerns may be at stake, involving tensions and trade-offs between whether to stress openness or guardedness." While the first two ideas are largely self-evident at this point in the information revolution, the third idea is not so well laid out and begs further explanation. It may strike some as excessively ethereal, a quality that has been a lingering criticism of the entire concept of a revolution in military affairs and the associated information revolution.

The truth in all this lies, as it usually does, somewhere in between. Most analysts believe there is a middle ground between the camps of Athena and Mars where the bulk of our efforts should remain. We cannot entirely discard the mass and depth of firepower afforded by the more traditional doctrines of warfare, yet we must clearly continue to move forward in exploring information warfare as an integral part of our strategy, operational art, and tactical execution.

This excellent volume provides the background to the debate, and it represents one-stop shopping for any serious military analyst seeking to understand the current language, trend lines, and tensions in the discussion of information warfare. It may not provide all the answers, but it serves as a superb starting point.

James Stavridis
Captain, U.S. Navy

Shultz, Richard H., Jr., Roy Godson, and George H. Quester, eds. *Security Studies for the 21st Century*. Dulles, Va.: Brassey's, 1997. 446pp. $49.95

At first glance, *Security Studies for the 21st Century* does not appear relevant to many in the *Naval War College Review* readership. As explained in the book's introduction, "Its purpose is to provide instructors and curriculum planners of security studies programs with model curricula and model courses that address traditional short-comings and reflect . . . changes in the contemporary international environment." Consequently its target readers appear limited to those who design security studies curricula. For them, the book is an impressive collection of essays, syllabi, and critiques, obviously worth the costs of acquiring and reading. However, this work is more than it professes to be; it has value for the military professional and any other student of security studies.

There are eleven chapters, each of which consists of three essays. The first essay, written by a prominent professor or other authority, lays out and justifies the syllabus for a graduate-level course in security studies. Included with each essay is an extensive collection of notes, essentially a bibliography. The second and third essays of each chapter are scholarly critiques of the proposed course structure and content, with notes again provided. These critiques are written by peers of each chapter's primary author, and they provide the reader with provocative analyses, insights, and opinions on the subject under discussion.

A selection from chapter six, "Economics and National Security: The Evolutionary Process," provides a good example. Here, Richard Rosecrance, professor of political science and director for international relations at UCLA, poses what is becoming a common idea in discussions, how the global economy will affect international order. He offers as part of his premise that "among developed countries, it is possible that economic competition will replace military conflict in the years ahead, and the traditional role of the state in shaping national strategy may be challenged by economic forces, particularly multinational firms." Rosecrance builds and documents the logical underpinnings of his arguments and clarifies his assertions, all which makes for informative reading.

However, he does not have the final word. Instead, the editors offer as a counterweight the opinions of Robert Gilpin, the Eisenhower Professor of International Affairs and faculty associate at the Center for International Studies at Princeton University. As part of his counterargument he states, "While men and women continue to give their utmost loyalty to the nation-state and are willing to die for it, few individuals, to the best of my knowledge, have made an equivalent sacrifice for the European Community or for a business enterprise. Despite Lee Iacocca's rantings against his Japanese rivals, I seriously doubt that even he would give his life for the greater glory of Chrysler Motors. For better or worse, the state still holds a virtual monopoly on human loyalty. Talk of a borderless world is a conceit of individuals living in prosperous nations with secure borders!"

It is the interplay between informed assertion and considered critique that

154 Naval War College Review

makes reading this work informative and thought provoking. A related strength lies in the intellectual nudging provided by the notes in each chapter. A quick search on the internet spurred by an intriguing note or cited source can reveal a previously unknown body of thought and become a catalyst for further interest and reading.

In addition to having ready access to the internet, potential readers would be well advised to keep a good dictionary nearby, since the book is replete with words that fall outside common usage. If a tendency for verbal complexity can be considered a drawback, a related complaint is that many will find portions of the book very dry. These two factors will probably keep those outside its target audience from reading the book. This would be a shame, because this work rewards the reader handsomely for the time and trouble required.

BILL MURRAY
Lieutenant Commander, U.S. Navy

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Hillen, John. *Blue Helmets: The Strategy of UN Military Operations.* Dulles, Va.: Brassey's, 1998. 305pp. $26.95

This book undertakes a rigorous examination of the military aspects of UN peacekeeping missions and offers a persuasive analysis of why some succeeded while others failed. For this task the author is highly qualified. John Hillen fought as a U.S. Army officer in the Persian Gulf War and studied as a Fulbright scholar in England, receiving his doctorate from Oxford in international relations. He is currently the

Olin fellow for national security at the Council on Foreign Relations.

The author groups UN missions into four general types: observation, traditional peacekeeping, second-generation peacekeeping, and enforcement. Using the "prisms" of force structure, command and control, and military objectives, Hillen analyses each type both generically and through detailed case studies, supplementing published accounts and documentaty sources with interviews of prominent participants. At the price of some repetitiveness, he builds a convincing edifice of evidence and logic.

The main conclusions may be summarized in a few sentences. Despite the UN's lack of authority or well developed structures for planning and executing missions, it has succeeded when its objectives have been predominantly political, when the scale of operations has been relatively small, and when indigenous elements have cooperated —conditions generally characterizing the first two types of operation listed above. The UN has also "succeeded" when it has "contracted out" to a powerful nation (the United States) or a tested coalition (Nato) the conduct of operations whose objectives were largely military, that required large, heavily armed forces, and that faced violent opposition—conditions generally prevailing in the latter two types of missions. The UN has failed, sometimes catastrophically, when it has undertaken such missions itself, as in the Congo in the early 1960s, the concluding phase of operations in Somalia, and the United Nations Protection Force experience in Yugoslavia. In cases like these, shortcomings in command and

control, inconsistencies and turbulence in force structure, and disparity between objectives and means have proven fatal to success.

Hillen generally avoids political issues and normative judgments, but he is bluntly critical of nations on the Security Council, including the United States, for succumbing to political expedience and passing the buck to the United Nations to conduct operations they are unwilling to undertake themselves. He also makes clear his belief that the capacity of the UN to conduct large, complex operations in hostile environments will not improve significantly whatever reforms it may undertake, because the ultimate cause of failure stems from a lack of sovereign authority, which will continue to reside in the nation-state.

Hillen's analysis should be of interest to a broad spectrum of theorists and practitioners. While the realism he exemplifies may be anathema to some utopians, if it saves the UN from being tasked with operations that can only result in failure, it may ultimately serve to strengthen the organization.

LAWRENCE F. MODISETT
U.S. Naval War College

Landes, David. *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor.* New York: Norton, 1998. 650pp. $30

Cohen, Daniel. *The Wealth of the World and the Poverty of Nations.* Translated by Jacqueline Lindenfield. Cambridge, Mass.: MIT Press, 1998. 152pp. $27.50

These two books, although dissimilar in size and scope, are vitally connected to an understanding of long-term strategic stability in the post–Cold War world. The titles of both books derive from Adam Smith's 1776 classic *The Wealth of Nations.*

David S. Landes is an economic historian at Harvard University. He reviews the standard geographic explanations for the disparities in wealth and in relative levels of industrialization. He then affirms that it is the relationship between secular and religious authority, the willingness of government to protect rather than impinge upon private property rights, and the cultural work ethic that, in sum, determine which nation shall be rich and which shall be poor.

Landes then tests his hypothesis with elegantly written historical case studies on such modern overseas empires as Spanish colonial America, British colonial Africa, the Europeanized rim of modern Asia, and Japan's regional empire projects in Asia, to name a few. Using the very best of historical sources and highly sophisticated interpretation, Landes horsewhips virtually every buzzword theory of economic development. For example, Landes shows that the Spaniards really did exterminate huge segments of indigenous people in the Western Hemisphere, that Spanish economic organization and technological knowledge were necessary to jump-start modernization, that the Spanish monarchy stifled much of the resultant economic growth, and that Latin America is nevertheless far better off today for the Spaniards having colonized it long ago. In the powerful telling of this process, Landes

partially vindicates the Black Legend view of Spanish cruelty; demolishes the noble-savage theory in regard to the Incas, Aztecs, Mayas, and Chibchas; buries the interpretation that wise Catholic kings knew what was best for their subjects; tears Marxist and neo-Marxist hypotheses to shreds; and leaves the postconstructionist worldview in tatters.

No cynic is this historian. Landes weaves his own powerful vindication for the intermix of the Calvinist work ethic with neoliberal economic policy. He concludes that economic development is not for the faint of heart— social injustices, great disparities of wealth, and even great waves of death and suffering are often the inevitable early by-products of the process.

Daniel Cohen, the author of *The Wealth of the World and the Poverty of Nations*, is a professor of economics at the University of Paris (Pantheon-Sorbonne) and a consultant to the World Bank. His short treatise is part critique of contemporary economic theory and part articulation of Cohen's own economic worldview.

When economic development of a traditional culture is undertaken by a modern society, new and yawning disparities in wealth are certainties. Wealth is created, states Cohen, by a tiny and highly competent sector of economic risk takers who understand applied technology. Developed nation citizens who fulminate over supposed job loss to the less-developed countries do not comprehend that a worse polarization of rich (the new technically elite worker) and poor (the manual-process worker) has already happened at home.

According to Cohen, booming new world trade dynamics can break nations apart as well as bind them together. On the African continent, pandemic corruption is the factor that most impoverishes the citizens. In the U.S. labor force, strains on the institution of marriage tend to follow vocational fault lines. All these disparate forces, collectively, are the world's third industrial revolution. Like Landes, Cohen has little patience for Marxism, postconstructionism, programmatic Keynesianism, or the morally smug dimensions of neoconservatism.

What has all this to do with national defense and strategy? Three issues leap from the comparative analyses of these two books. First, Alfred T. Mahan concluded a century ago that international trade was the appropriate vehicle of modernization and democratization but that it was also a major vehicle for conflict. Second, Plato, Aristotle, Machiavelli, John Locke, and Thomas Jefferson are only a few of the dominant intellectuals who posit that armed revolution is a natural consequence of perceived economic injustice during developmental times. Third, Landes and Cohen reveal the intellectual bankruptcy of both Marxism and its nihilistic replacement, postconstructionism, as worldviews during this age of neoliberal global economics and booming democratization. However, they also avoid the common Pollyanna nonsense about those turbulent processes, allowing the strategist an avenue by which to think rationally about war and the U.S. role in its deterrence.

RUSSELL W. RAMSEY
Fort Benning, Georgia

Hamilton, Donald W. *The Art of Insurgency: American Military Policy and the Failure of Strategy in Southeast Asia.* Westport, Conn.: Praeger, 1998. 216pp. $55

Donald Hamilton has written a textbook about the antecedents to, and the U.S. experience in, Vietnam. The reader should not be led astray by the title. The real subject of the book is the subtitle, *American Military Policy and the Failure of Strategy in Southeast Asia.*

Hamilton provides interesting historical insights into the American Vietnam experience. He also looks at the subject of insurgency with fresh eyes. The merger of Vietnam and insurgency in this book rekindles research that was done in the 1960s and 1970s about what insurgency really is. Readers primarily interested in learning more about the U.S. experience in Vietnam can safely skip over the insurgency discussion and proceed directly to the post–World War II material. Those interested in insurgency theory can profitably compare Hamilton's explanation of it to other attempts with which they might be familiar.

Still, Hamilton comes up short in two ways. The first is his insistence that insurgency is more a form of war than politics, and the second is his explanation, which incompletely reconstructs the work of Roger Darling ("A New Conceptual Scheme for Analyzing Insurgency," *Military Review*, February 1974). Specifically, Hamilton's conflict model portrays a questionable dichotomy. He correctly sets insurgency apart from civil war and, incorrectly, from revolution. He portrays it as both indigenous and nonindigenous, and then he dichotomizes insurgency as transforming into civil war if indigenous, and into revolution if nonindigenous. It is his portrayal of revolution, and by extension insurgency, as non-indigenous that brings into question the definitions used in his theoretical explanation.

That aside, Hamilton provides unique insights concerning Vietnam that are revealing, at least to this reviewer—Hamilton's discussion of the "domino theory" in particular. Readers interested in the historical antecedents of U.S. involvement in Vietnam will profit from Hamilton's research. Although he explains that his work "is not comprehensive enough" to ensure that the lessons of American involvement will positively affect global security policy in the future, it is illuminating enough to help policy makers understand some very painful history.

MILES L. KARA, SR.
Colonel, U.S. Army, Retired

Whitcomb, Darrel D. *The Rescue of BAT 21.* Annapolis, Md.: Naval Institute Press, 1998. 164pp. $27.95

In March 1972, American participation in the Vietnam War was winding down. The policy of Vietnamization had been in effect for three years, and the vast majority of U.S. ground forces had been withdrawn. Covering that withdrawal were hundreds of American aircraft, located on carriers in the South China Sea and at bases in Vietnam and Thailand. On 1 April things changed dramatically, when the North Vietnamese launched a massive

invasion. Known as the Easter Offensive, it consisted of over eight divisions and was supported by tanks and heavy artillery; it quickly pushed back the South Vietnamese army. The United States responded by committing massive air assets to the battle—more carriers were deployed, and Air Force and Marine fighter-bombers and B-52s were rushed back into Southeast Asia. One of the first American casualties of the Easter Offensive was an Air Force EB-66, an electronic warfare aircraft with six crew members. The EB-66 was hit by a surface-to-air missile that immediately killed all but one of the crew; the remaining aviator, Lieutenant Colonel Iceal Hambleton, ejected safely but landed directly in the middle of a major North Vietnamese army unit sweeping south. Hambleton, whose call sign was "Bat-21 Bravo," would evade capture for the next twelve days before being rescued by a Navy SEAL, Lieutenant Tom Norris, who received the Medal of Honor for his daring feat. Hambleton's story has appeared in a previous book and in a motion picture (starring Gene Hackman), but neither troubled themselves to ensure accuracy. In truth, there is much more to Hambleton's story than his evasion and rescue. Classified parts of the operations are now revealed, but more importantly, basic questions regarding the nature of the cohesion between men in combat, and the price of that cohesion, are addressed.

The author, Darrel Whitcomb, is a reserve Air Force colonel who flew three combat tours in Vietnam. His own experiences give him a sure feel for what combat was like and the attitudes, fears, and beliefs that shaped

it. His account is absolutely riveting. When Hambleton went down on 2 April 1972, the response was immediate and overwhelming. A search and rescue operation was launched that took precedence over virtually all other air missions being flown in South Vietnam. Eight hundred sorties were flown by bombers, fighters, forward air controllers, and helicopters in an attempt to get Hambleton out. In the process, six more aircraft were shot down, several others were severely damaged, ten more airmen were killed, and air operations against the massive Easter Offensive were disrupted. It was a high price to pay for one man. Why did American forces make such extraordinary efforts to rescue a single downed aviator? For Whitcomb, this is the crucial question, and his answer elevates this book above a simple war story.

The Vietnam War had never been popular with Americans. Certainly, enormous efforts were expended, and vast numbers of soldiers, sailors, airmen, and Marines did their jobs responsibly and well. As Vietnamization took hold, however, there seemed to be even less reason to fight and die in a land far away.

But there was an exception: one's buddies *were* important and worth fighting for. Thus, when Bat-21 went down it was simply *accepted* that every effort would be made to get him out. However, this attitude was controversial to some. The Vietnamese, for example, were in the middle of a major battle, and they resented a rescue operation "for only one man" that distracted the airmen from helping them stop the North Vietnamese invasion. Whitcomb addresses this core issue,

concluding that although such a rescue effort was seemingly inefficient in the short term or when seen as an isolated event, it becomes far more understandable in a broader context. What had kept the American military doing its mission in a remarkably professional fashion for so long was, to a great extent, the realization of its members that they could count on each other, that they would not be abandoned when they were in trouble. Whitcomb argues that by 1972 that bond was particularly strong among the airmen of all the services, for the simple reason that they were virtually the only Americans left in combat. They never questioned whether Hambleton was "worth it"; he was, as they would be in the same situation.

This is an outstanding book, made all the more timely by the release of the blockbuster movie *Saving Private Ryan*. It was in 1944 and in 1972, and it is today, an article of faith in the American military that when people are lost, every effort will be made to get them back. This book is exhaustively researched, extremely well written, and contains some penetrating insights into combat: a must-read.

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

McMaster, H. R. *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam*. New York: HarperCollins, 1997. 446pp. $27.50

Major H. R. McMaster, a West Point graduate and a University of North Carolina (Chapel Hill) Ph.D., believes that "despite scores of books on the subject, the why and how of direct U.S. intervention in the Vietnam War remains [*sic*] unclear." Drawing on recently opened sources, such as the official history of the Joint Chiefs of Staff (JCS) during the war and the papers of General Wallace M. Greene, Jr. (Commandant of the Marine Corps from 1964 to 1967), McMaster focuses on the period from November 1964, when President Lyndon B. Johnson was elected to the office in his own right, to late July 1965, when Johnson announced a major escalation of the Vietnam War. The result is a dense, repetitive, but fascinating book that explores in great detail the approach of LBJ, Secretary of Defense Robert McNamara, and the JCS to the growing crisis in South Vietnam.

McMaster rejects the argument of many scholars that the transformation of the war in 1965 was inevitable, the result of larger political, ideological, and institutional forces that overshadowed the peculiarities of individual leaders. The Vietnam War, he argues, "was not forced on the United States by a tidal wave of Cold War ideology"; rather, LBJ's decisions leading to full-scale war "depended primarily on his character, his motivations, and his relationships with his principal advisers."

What emerges from these pages is an unflattering portrait of the president and his secretary of defense, one that at times is scathing. McMaster depicts LBJ as a parochial political leader, obsessed with his domestic programs, insistent on consensus among his advisers, distrustful of the military, unaware of where his incremental decisions on

Vietnam would lead, and deceitful in his dealings with the public and Congress. McNamara, if anything, emerges as an even more unsavory figure: arrogant, manipulative, untruthful, and convinced that a policy of graduated pressure would both force the enemy to back down and satisfy the president's domestic political needs.

The most illuminating part of this book deals with the Joint Chiefs and their peculiar performance during this critical period. McMaster traces with skill the careers and attitudes of individual chiefs and the transformation of the JCS from a group of combat commanders to a collection of officers "more experienced in staff work and managing information." From November 1964 through July 1965 the JCS accepted a marginal position in the deliberations over the escalation of the war, and they were often consulted only after the fact or in a perfunctory way. In part their influence was limited because of clever manipulation by the president and McNamara, who exploited divisions among the JCS and who repeatedly hinted that the military would eventually get all that it wanted. In part, however, the Joint Chiefs were instrumental in their own undoing; they were paralyzed by interservice rivalries and divided by differences over how the war should be fought. Also, they were led by a political general, Earle Wheeler, who allowed President Johnson to undercut the authority of his military advisers. While all the members of the JCS rejected the idea of graduated pressure and advocated the aggressive use of force, they could not subordinate the parochial interests of their various services to a larger strategic plan. Lacking an alternative, they accepted the president's

and McNamara's incremental approach, convinced that restrictions on the deployment of American forces would gradually be removed.

McMaster's analysis of the frailties of LBJ's decision-making system, and especially of the role of the JCS, is full of new information, and his doubts about the inevitability of American involvement in a large-scale war, if not entirely convincing, pose a stimulating challenge to earlier scholarship. However, his portrait of Johnson is misleading, exaggerating his flaws and the weaknesses of his advisory system. McMaster's analysis of McNamara misses the enormous confidence that the secretary of defense had in the application of American power in Vietnam. Also, he is so preoccupied with the dynamics of the inner circle around the president that he largely ignores the assessment that LBJ, McNamara, and the JCS made of the strength of revolutionary forces in Vietnam. This Washington-centered approach relegates the battlefield to the historical margins and leads to the conclusion that the war in Vietnam "was lost in Washington, D.C. even before Americans assumed sole responsibility for the fighting in 1965 and before they realized the country was at war." McMaster would have us believe that while American entrance into the war could have been avoided, our defeat in that struggle was foreordained. This curious conclusion mars what is in many ways an impressive work of scholarship.

CHARLES E. NEU
Brown University

Dingman, Roger. *Ghost of War: The Sinking of the Awa maru and Japanese-American Relations, 1945–1995.* Annapolis, Md.: Naval Institute Press, 1997. 373pp. $35

In the *Ghost of War*, Roger Dingman recreates both the intense national emotions of World War II and the high drama of U.S. submarine warfare in the Pacific theater. Interweaving the strategy of nations with the operational imperatives of submarine warfare, Dingman recounts the tragic sinking of the Japanese merchant ship *Awa maru* by the American submarine *Queenfish*. Traveling under a safe-passage agreement with the United States, *Awa maru* was torpedoed while transiting the Taiwan Strait, with the loss of all hands, save one.

Was the sinking of the *Awa maru* intentional, or was its loss simply another tragic act within an unscripted theater of global conflict? Did the U.S. submarine commander intentionally disobey orders that granted the ship safe passage? Did he, in concert with the U.S. theater commander, knowingly send it to the bottom? Did the fact that the Japanese had openly violated *Awa maru's* terms of safe passage by loading it with contraband mitigate the political consequences of its sinking? Would Japan's brutal treatment of allied prisoners of war, which had prompted the shipment of Red Cross relief supplies to them onboard *Awa maru*, be intensified? Should the commander of *Queenfish* have been court-martialed? Should the United States have apologized to an enemy who had little respect for international convention? Should it have made reparations for the sinking of *Awa*

maru, to an enemy that tortured and murdered its prisoners of war? And, of lasting consequence, how did the sinking of the *Awa maru* affect postwar political relationships between the Supreme Commander Allied Powers and an emerging postwar Japanese government?

Brilliantly written and exceptionally documented, *Ghost of War* transits the uncertain chasm between the exquisite development of a national policy and the visceral employment of weapons of war. Exploring the nuances of the war and its political aftermath, this book notably accomplishes all of its stated purposes, most notably offering "substantial food for thought about how individuals, governments, and peoples deal with issues that war raises for all of us."

SAVERIO DE RUGGIERO
Newport, Rhode Island

Bischof, Günter, and Robert L. Dupont, eds. *The Pacific War Revisited.* Baton Rouge: Louisiana State Univ. Press, 1997. 220pp. $25

This book is a collection of works on some of the more obscure aspects of the World War II Pacific theater, offered at an Eisenhower Center conference that coincided with the fiftieth anniversary of Pearl Harbor. Noted scholars contributed monographs that explored the roles played by culture, racism, and logistics in determining American action against Japan, including unrestricted submarine war against Japanese shipping and the decision to drop the atomic bomb.

162   Naval War College Review

D. Clayton James's introduction validates the approach and the topics considered. Michael Schaller investigates the political considerations and compromises made to placate General Douglas MacArthur and to assuage his potential political ambitions. Though Schaller provides a wealth of relevant documentary information, he only amplifies the ambiguities of the relationship between MacArthur and Roosevelt and of its implications for U.S. Pacific strategy rather than resolving them. The reader is left to sort out truth from the posturing of the times. Ronald Spector considers what Sir Michael Howard referred to in a 1979 article as a "Forgotten Dimension of Strategy"—the social dimension. He makes a compelling case that racism and ingrained feelings of social superiority had more than a casual influence on U.S. aggressiveness and ferocity in the execution of strategic decisions aimed at Japanese destruction. Spector maintains that it is culture that structures strategic debate and frames the reference for acceptable standards of conduct in war. Daniel Blewett details the severe constraints on strategic options and operations imposed by logistics limitations, particularly on petroleum products in the war's early stages. He highlights the severe resource limitations, compounded by distance, at points in the war where the strategic balance was still in question.

Kenneth Hagan describes what might be called the "third prong" of the two-prong strategy in the Pacific. While MacArthur and Fleet Admiral Chester Nimitz contested for strategic priority in their western and central-Pacific advances toward Japan, Hagan makes a compelling case that the most significant challenge to Japan after 1942 was posed by the devastating submarine campaign against the movement of petroleum and mineral resources on sea lines of communications. This largely unheralded campaign left Japan near exhaustion of its domestic oil and, in his view, made the necessity for a U.S. invasion of the home islands or the use of atomic weapons questionable. Hagan advocates resource denial as a necessary and sometimes sufficient strategic option in creating strategic leverage for war termination. Gregory Urwin details the captivity of the Wake Island defenders and maintains that their survival rate and their health upon repatriation was the result, in large part, of their cohesiveness and the sense of ultimate military superiority they attained during the spirited, if short, defense of Wake against a determined and vastly more numerous foe. Valuable lessons on the importance of self-discipline and sense of individual sacrifice for the greater good of the unit emerge. Kathleen Warnes addresses another group of little-known heroes of the Pacific War—nurses. Significant numbers of nurses faced unbelievable torture and dehumanization at the hands of their Japanese captors. Warnes personalizes their character, courage, and steadfastness during captivity.

The essays by Herman Wolk, Stephen Ambrose, and Brian Villa reexamine the decision to drop atomic bombs on Hiroshima and Nagasaki. Wolk maintains that racism played a significant role in that decision and downplays the lesser viability of other strategic options for securing Japanese capitulation. Though his arguments are

powerful, he fails to consider the possibility that Emperor Hirohito might have flown to Manchuria to continue the Japanese war effort even if the home islands had been overrun. Nor does Wolk deal with the outrage against the Japanese that festered after Pearl Harbor, irrespective of racial bias. U.S. servicemen were stationed as observers only ten thousand yards from ground zero during testing (nuclear fallout being a theory rather than a proven reality at the time); the bomb seemed merely a more efficient means of mass destruction. Racism may be overemphasized by Wolk as the primary motivation for its use. Ambrose and Villa provide what may be the most compelling essay of the lot. They comprehensively discuss alternative rationales for the use and nonuse of nuclear weapons, coming to the conclusion that the decision made excellent sense in structuring the postwar U.S.-Japanese relationship. President Harry Truman receives credit for adroit politicization of the nuclear military option, in using it to drive a wedge between the militarists and the emperor—without which the former would not have been discredited, and Japanese society would not have been restructured on favorable lines.

The Pacific War Revisited will be of particular interest to those who are conversant with major World War II events and are interested in broadening their understanding. While some essays widen the debate over particular events rather than provide definitive answers, all are meticulously researched. Perhaps the book's strongest aspect is its usefulness as a "mine" of resource materials. Considering the relative brevity

of some of the compositions, the wealth of source documentation throughout is indeed impressive.

<div style="text-align:right">

DOUGLAS V. SMITH
Naval War College

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Evans, David C., and Mark R. Peattie. *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887–1941.* Annapolis, Md.: Naval Institute Press, 1997. 696pp. $49.95

Like a flare ascending from the dark sea, the Imperial Japanese Navy rose swiftly, burst brilliantly, and then winked out. Like a flare, after it was gone it left almost no evidence that it had ever existed.

The authors of this long-awaited book, David Evans and Mark Peattie, make plain their purpose in their introduction: it is "to explain as far as possible the sources of both the navy's triumphs and its defeat. The perspectives we have chosen are those of strategy, tactics, and technology, or, more precisely, the evolving interrelationship of the three. . . . We have sought to understand the overriding strategic issues confronting the navy, the synthesis of foreign and indigenous influences in the shaping of its tactics, and how the navy acquired its technology and material assets. We have, at various points, discussed aspects of the navy—intelligence, manning, logistics, naval fuels, to name the most prominent—that relate directly or indirectly to our three main concerns. Finally, as much as anything else, we have attempted to explain how the Japanese navy thought

about naval war and how to prepare for it."

To achieve this aim, Evans and Peattie have found and used more evidence on their subject than most people knew existed. They have used it to provide an accurate, clear, concise (even though long), and essentially complete account of a great fighting navy's short but dramatic and, for a time, highly influential life.

The authors began their work long ago, when they could still take advantage of the memories of some of the senior officers of the Imperial Japanese Navy. They have read widely and perceptively, and they have checked their work with other people well informed on their subject. They have written well, and their styles are so much alike that it is not possible to tell by whom which part of the book was written.

Authors and publisher alike have provided this book with plenty of well chosen illustrations, some of them photographs, others drawings; they have served their readers well with maps both suitable and sufficient; they have provided useful tactical and organizational diagrams; they have given us full, informative, and interesting notes; and their bibliography will be helpful for years to come.

The Imperial Japanese Navy's combat history lasted little more than half a century, from 1894 to 1945, and during that period it fought three wars, each larger and longer than the one before. The first, against China, ended successfully in 1895 after about six months of fighting; the second, against Russia, ended equally successfully in 1905 after about eighteen months of fighting; and the last, merging with an

already existing assault upon China, was fought against many countries, the United States foremost among them. It lasted for forty-five months and ended in failure. But, as the authors observe, had that war ended any time in the first two years, that is, in 1942 or 1943, it too would have been a success.

However, except in the very last chapter, "Reflections on the Japanese Navy in Triumph and Defeat," the authors do not dwell on the imperial navy's last war. Their book deals with all that came before, and all that explains that navy's last war.

Despite the surprise attack by Japan's carriers on the U.S. Pacific Fleet at Pearl Harbor, which (though in American eyes only) began the war in the Pacific, that war was not one swiftly decided upon. In 1907, the same year the U.S. Navy began working on its Orange Plan for rescuing the Philippines from Japan, the United States became for the Japanese navy the "budgetary enemy." By 1923, the year after the Washington naval conference in which all five of the great naval powers of the time agreed to reduce the sizes of their navies, the United States had become the "inevitable" enemy.

Because they expected to fight a fleet bigger than their own, the Japanese navy's leaders made great efforts to outrange the expected foe tactically. In aircraft, torpedoes, and guns, they succeeded. More than that, they ensured that the Japanese navy's aviators not only had better aircraft than the Americans but that those aviators were more skillful than the Americans. Japanese cruisers and destroyers were armed with torpedoes far more powerful and far longer in range than those the

Americans or anyone else had, and their officers and men were more skillful at night warfare than were their American opponents. What was important about this was that, as it turned out, most of the forthcoming war's surface actions took place at night. Night was also the time when the torpedo was most effective.

About the same time, the Japanese navy decided to convert its ships fully from coal-fired to oil-fired boilers. But nearly all of Japan's oil came from the "inevitable" enemy. The only practical alternative source for oil was the Dutch East Indies. But in 1940 the Germans invaded the Netherlands, which made that country's government-in-exile an ally of Britain, and therefore of the United States. It was shortly after this that Japan chose to ally itself with Germany, thus making itself officially hostile to, though not yet at war with, Britain and the Netherlands. An advance by the Japanese army into southern Vietnam in 1941 led to an American and Dutch embargo on all trade to Japan, including that in oil.

The Japanese navy could not deal with this problem peaceably. The decision to seize the Dutch East Indies made war with the United States inevitable. But though they were foreseeable, the navy had not reckoned on the wartime needs for both a large number of tankers and escort forces powerful and effective enough to protect them. This failure was to prove disastrous.

As Evans and Peattie make clear, while the Japanese navy was able to overcome many difficult tactical and technological problems, it proved incapable of overcoming the enormous logistical and strategic problems that

came with war against the United States. Though it is no part of the book under review, the U.S. Navy, surprised by its tactical and technological inferiority to the Japanese in so many ways, proved able from the beginning to overcome its own daunting logistical and strategic problems in the Pacific. It was this ability that gave the Americans both the space and the time they needed to make good their technological and tactical shortcomings. In 1944 and 1945 the Americans annihilated the imperial navy and made possible the end of the world's most terrible war.

Evans and Peattie have written a splendid book on the Imperial Japanese Navy. Now it is time for some other scholar, or scholars, to do as good a job on the U.S. Navy in the same period. There are some who could do that.

FRANK UHLIG, JR.
Naval War College

Ambrose, Stephen E. *The Victors: Eisenhower and His Boys: The Men of World War II.* New York: Simon & Schuster, 1998. 396pp. $28

As reflected in the commercial success of Steven Spielberg's *Saving Private Ryan*, no military historian is in greater public demand than Stephen Ambrose, whose *D-Day, Citizen Soldiers, Band of Brothers,* and *Pegasus Bridge* provide the most extensive coverage of World War II in the European theater. In his latest work Ambrose has drawn from his best-selling accounts of World War II to create a single volume of the campaign from D-Day to V-E Day. The

result is rich in drama, with tales of epic courage from ordinary men who found themselves in extraordinary circumstances. Why another book on the European campaign? Because the ground war was so vast in its magnitude, so horrific in its suffering, and so dramatic in its consequences that there is still a story to tell.

At the heart of *The Victors* is the American citizen-soldier who struggled ashore in Normandy and waged an unrelenting war against Hitler's Germany. Included are Captain Joe Dawson, the first officer to penetrate the German defenses above Omaha Beach; First Sergeant Len Lomell, the Ranger who destroyed the guns at Pointe du Hoc; and Major Dick Winters, who commanded E Company, 506th Parachute Infantry Regiment, during MARKET-GARDEN. What makes this current volume so compelling is the author's decision to allow the soldiers to speak for themselves, since only they can truly narrate the war from a rifleman's perspective. Ambrose's most impressive contribution is to weave their stories into a coherent narrative of the European war.

While America badly needed the leadership of George Marshall, Dwight D. Eisenhower, and their contemporaries, they needed more a well trained army. That army was composed of eight million citizen-soldiers. Led by junior officers and noncommissioned officers, that army helped to defeat Hitler and win World War II. In the process, however, it paid a heavy price, with casualties often exceeding 200 percent in the infantry alone. America's finest young men went down leading soldiers in battle. They were natural leaders, and they died one by one on the blood-soaked beaches of Normandy, in the freezing mud of Lorraine, and in the snow-covered forests of the Ardennes. Perhaps one of the war's greatest tragedies was the unfulfilled promise of these young men and their generation.

Not surprisingly, Eisenhower plays a pivotal role in Ambrose's narrative, but only in the sense that he is the embodiment of a democratic society. More than any other officer, Eisenhower understood that soldiers of a democracy require a unique style of leadership, one that stresses teamwork and cooperation. As the Supreme Commander's premier biographer, Ambrose credits Ike with providing the essential elements of leadership that resulted in victory by the Western Allies. Marshall put it best: "You have made history, great history for the good of mankind and you have stood for all we hope and admire in an officer of the United States Army."

But *The Victors* is not so much the story of the Allied high command as it is the story of Eisenhower's boys. If one searches for the fitting accolades to acknowledge the soldiers whom Ike commanded, the reader only has to turn to Sergeant Mike Ranney of the 101st Airborne Division: "In thinking back on the days of Easy Company, I'm treasuring my remark to a grandson who asked, 'Grandpa, were you a hero in the war?' 'No,' I answered, 'but I served in a company of heroes.'" *The Victors* is Ambrose's tribute to all the heroes of World War II.

COLE C. KINGSEED
Colonel, U.S. Army

Stevens, David, ed. *In Search of a Maritime Strategy: The Maritime Element in Australian Defence Planning since 1901*. Canberra: Strategic and Defence Studies Centre, The Australian National Univ., 1997. 252pp. $A24

The perennial problem which Australian governments have faced in devising an effective defence strategy is epitomised by the title of this book. It is one of the latest to emerge from the Royal Australian Navy's own Maritime Studies Program, in conjunction with the Strategic and Defence Studies Centre of the Australian National University. Any glance at a map of Australia and its region brings with it the realisation that a workable defence system must be maritime in nature. But to move further than this raises a wealth of conundrums for a country that is itself essentially a "dry archipelago," with a barren and sparsely settled inland and north, and in which the northernmost major settlement, Darwin, is closer to Singapore than it is to the major cities of southern Australia. Add to this an ambiguous threat environment, an underlying sense of remoteness from the rest of the world, an essentially continental, if not introverted, national outlook, and a military history which has seen much more emphasis on the operations of large expeditionary land forces overseas than on maritime warfare, and the extent of the difficulties can be understood.

In Search of a Maritime Strategy is a coherent effort, the product of a seminar held in Canberra in August 1996 to bring together the history of Australia's attempts in the twentieth century to reconcile itself to its strategic realities,

both perennial and ephemeral. The papers are not wholly the product of naval historians or strategists, although there are distinguished contributions from such authors, including John Hattendorf's scene-setting "What Is a Maritime Strategy?" Some of the leading Australian thinkers on land and air warfare, such as David Horner and Alan Stephens, are included, and their perspectives highlight many of the opportunities missed because of the deficiencies of co-operation between the services on many occasions in the last eighty years. The reasons for these problems deserve close examination, not only because many had at their root continuing inadequacies in the budgets but also because of the resultant tendency for the services to be set in opposition to each other. The increasingly bitter debates over force structures and operational employment disguised—often to the convenience of governments—the reality that there was simply not enough money for the job.

One of the particular strengths of this book is in its second half, in which seventy-five pages are devoted to a selection of excerpts from contemporary documents. These range from the views of Alfred Thayer Mahan on Australasian defence in 1902 to the ministerial statement on defence in 1996. Careful reading of these documents will confirm the themes that emerge time and again within the analytical papers. The Australian situation, in the end, is and will remain unique, because of the nature of the relationship between the area of interest—which in even the most limited and isolationist schema encompasses some 10 percent

168 Naval War College Review

of the earth's surface—and the lack of resources, both of people and money.

There are, nevertheless, lessons to be found in this book for others than Australians or New Zealanders. *In Search of a Maritime Strategy* deserves careful study because of the insights it can give to those in other democracies with maritime interests and vulnerabilities who must decide the form and pattern of national strategy. In particular, it has much to teach those who are required to devise strategies in the absence of direct threats to the homeland but in situations in which threats to long-term national interests might well manifest themselves with little warning and in locations apparently far removed from one's own territory. Perhaps, for Australia, as well as for all other democracies intent on maintaining a secure and peaceful strategic environment, the problem is now not simply one of understanding the situation but of educating both the public at large and our elected and appointed policy makers. *In Search of a Maritime Strategy* contributes more than its mite to both processes.

JAMES GOLDRICK
Commander, Royal Australian Navy

Sweetman, Jack, ed. *The Great Admirals: Command at Sea, 1587–1945.* Annapolis, Md.: Naval Institute Press, 1997. 535pp. $49.95

Editor Jack Sweetman has created an interesting volume of collective and comparative biography, tying key figures from four hundred years of naval history to their conduct in battles at sea. Sweetman intends for the reader to take his subtitle literally, hinting through it that the subjects in this book are the fighting admirals who fought the great fleet actions in naval history. Distinctly joining the followers of A. T. Mahan, Sweetman argues that in the period he has chosen to illustrate, "battle, in the form of fleet actions, is the crowning act of naval warfare and the supreme test of the naval profession."

Such battles have of course been rare, and Sweetman calculates that in all not more than 135 have occurred, and rarely more than three or four in each of the thirty wars he considered. Certainly there is a limited number of admirals who could qualify to be included in such a volume, but even so, Sweetman faced difficult choices in making his selection. Using the two criteria of an admiral's personal ability and the historical importance of the battle that he fought, Sweetman narrowed his list, while at the same time he sought to cover several centuries and to bring in figures not often found in the Anglo-American pantheon. The result is a volume that brings together article-length studies on nineteen different admirals. Accounting for more than half the book between them are the British with six names and the Americans with four. Nevertheless, Sweetman makes a distinct contribution by adding two Japanese and two Dutch admirals, along with one each from Austria, Denmark, France, Germany, and Greece. Looking at the selection from a chronological point of view, the twentieth century dominates with seven names, followed by the nineteenth century with five; the two of them make up two-thirds of the volume. These are followed by two

names from the eighteenth century, four from the seventeenth, and one from the sixteenth.

The editor asked each contributor to assess the combination of personal attributes and professional experience that shaped each subject's leadership and to analyze one of the admiral's battles that best illustrated these characteristics in action at sea. From the point of view of the available historical literature, this volume makes a valuable contribution by providing a summary of the most recent research on and understanding of such well known figures as Francis Drake, Horatio Nelson, David Farragut, George Dewey, William F. Halsey, John Jellicoe, Andrew Cunningham, and Raymond Spruance. Even more importantly, however, the volume offers studies of admirals that have not previously been readily available in English: Niels Juel, Pierre-André de Suffren, Andreas Vokos Miaoulis, Wilhelm von Tegetthoff, and Reinhard Scheer.

Each essay provides a separate and valuable contribution to naval literature, and each ends with an extremely useful note on further sources for reference. The first impression a reader has on going from one chapter to another is that of contrasts among individuals. The editor has eased the transitions by providing linking essays that summarize the main trends in naval history separating the central studies. Yet the book reveals a remarkable divergence in personalities and personal values, ranging from the reserved and thoughtful Spruance to the slovenly Suffren, the charismatic Nelson to the mild Dewey, the revolutionary Miaoulis to the conservative Tegetthoff. These

divergences in personality provide an important insight that is often overlooked in modern naval thinking and provide an antidote to those who assume that the successful "fighting admiral" fits only one mold.

While contrast is certainly the most valuable point here, comparisons among such different personalities, different cultures, different traditions, and different technological contexts can be as illuminating as they are difficult to make. There is perhaps much more to be done in this area than can be accomplished through the collective work of a score of authors; in this case, however, Sweetman has found some useful points to make. Most importantly, his study shows clearly that it is an admiral's ability to inspire confidence and to orchestrate all the tools of his trade, not technological superiority, that makes the difference. In each of the nineteen case studies, four common, basic characteristics among the admirals were revealed: technical competence, initiative, bold conception, and both physical and moral courage.

In general, Sweetman's selection of these great admirals makes a ready reference on important figures in naval history, while also providing useful historical insight for aspiring naval officers. Modern readers will clearly understand that although fleet battle has now become even more rare than in the preceding four centuries, the common characteristics of effective and successful leadership are equally applicable to today's navy, as well as to other areas of the modern world. These historical cases provide useful

170 Naval War College Review

food for further thought and investigation.

JOHN B. HATTENDORF
Naval War College

Tucker, Spencer C. *The Great War 1914–18*. Bloomington: Indiana Univ. Press, 1998. 272pp. $16.95

Spencer Tucker has taken on the extraordinary task of chronicling the first Great War of this century in one short volume. Tucker is the John Biggs Professor of Military History at Virginia Military Institute and has to his credit the general editorship of *The European Powers in the First World War: An Encyclopedia*. His background is obvious in the structure of this book and the fashion in which he approaches the topic. The chapters are conveniently divided by year, starting with 1914 and progressing to the armistice of 1918. One advantage of addressing the war in this fashion is the linear progression of escalation on all sides, as the initial objectives and estimates became increasingly unattainable.

Tucker begins his study with background on the revolution in military affairs that occurred at the end of the nineteenth century and exploded during the first decade of the twentieth century. These developments in technology demonstrate the impact that technological strides have, not only on the way in which war is conducted, but also on the very decisions that would tempt states into pursuing war as a viable foreign policy option. In the background discussion Tucker focuses on the culpability of the Dual Monarchy and Germany in initiating this conflict.

He makes reference to prominent German historians such as Fritz Fischer, who places the blame on the unyielding attitudes of Austria-Hungary and Germany. Tucker chronicles the ambitious objectives that were designed by both the allied and Central powers. Once again the format that Tucker chooses demonstrates the digression of strategy in the first months of the war, as neither side was accomplishing the objectives of what they had seen as a war that would last only six weeks. In the next chapters Tucker goes to great length to describe the stalemate that ensued after the opening movements by the opposing land forces. What is striking in his account are the numbers of casualties sustained by all forces during the years 1915 and 1916. The account of battle of Verdun in 1916, followed by the battle of the Somme, is especially telling in the current environment of surgical strikes and minimal casualties. In the Somme the British suffered over fifty-seven thousand casualties in one day, with over nineteen thousand of those dying in battle or of their wounds. These facts are well known to all historians of this period, but Tucker has successfully woven these statistics with a readable narrative to give the reader a general overview of the conduct of the war on the battlefield.

The drawback to such a format is the exclusion of the political and societal dynamics that manifested themselves on the battlefield in the form of objectives and campaigns. Battlefield strategy is never developed in a vacuum, and progressing in a yearly format with the focus on developments in the field to the exclusion of concurrent foreign policy gives the reader only one

dynamic in the war's prosecution. To be fair, however, it is nearly impossible to do otherwise in one volume, which leads one to the question of whether it should be attempted at all or left to the books of World War I that already occupy our shelves. Although he does not contribute any new material in this work, Tucker does present a concise, though limited, account of World War I. This work of history is not for the fainthearted, nor should one expect to curl up with it in front of a fire. It serves only as a general overview and reference. All periods of history should be continually revisited; however this work is not for that purpose. Rather, it serves as a reaffirmation of our respect for that which preceded us, and as a warning not to repeat the same mistakes.

MILAN S. STURGIS
Lieutenant Commander
CHC, U.S. Navy

Bruhn, David D. *Ready to Answer All Bells: A Blueprint for Successful Naval Engineering*. Annapolis, Md.: Naval Institute Press, 1997. 178pp. $22.95

In the surface navy, orders to a ship as the engineer officer are often received with apprehension. Many recognize the engineering department head position as the most difficult and challenging tour of a junior officer's career. In order to help the newly arrived engineer officer, David Bruhn, an experienced surface naval officer with several afloat engineering department tours to his credit, has attempted to write an overview of what an engineering officer's job truly

involves. It is highlighted with his personal examples of successful practices, as well as those of several others. Bruhn states that his purpose in writing this book is to provide a philosophy to help one lead and manage an engineering department, to shorten the "learning curve" by exposing the new engineer to fleet experience. Although the material is thoughtful and offers the reader a look into the world of "the hole," it falls short in providing a philosophy for success.

Although advertised as a "blueprint," the book centers only on preparing for inspections rather than providing a coherent strategy for operational success. Someone unfamiliar with the duties of naval engineers may conclude that their lives are nothing more than one examination after the next. Also, the author uses ambiguous terms such as "PEB (Propulsion Examining Board) standards" and "good engineering practices" without providing adequate definitions. He pays little attention to how the new officer should organize the engineering department and how best to use enlisted leadership to set the standards and how to define what those standards are. Most importantly, while Bruhn does provide a framework for preparing the department for the interdeployment evaluation cycle, he does not discuss how to build a leadership team necessary for success.

Bruhn does a good job of familiarizing one with what to expect from the interdeployment schedule, as well as some good ideas on how to succeed during assessments. In this respect the work may serve as a useful primer.

J. TODD BLACK
Lieutenant Commander, U.S. Navy

RECENT BOOKS

Dinstein, Yoram. *War, Aggression and Self-Defense*. New York: Cambridge Univ. Press, 1994. 325pp. $110

In this second edition of his classic 1988 study of the topic, Yoram Dinstein, president and professor of international law at Tel Aviv University, has authored what many scholars believe to be the single best study of the *jus ad bellum*—that body of international law governing the resort to force by states. His analysis is three-tiered. The study begins with an examination of the legal boundaries dividing war from peace. The discussion of *status mixtus*, that is, conflicts which exhibit characteristics of both war and peace, is especially noteworthy. With "war" defined, Dinstein turns to its legality under treaties, including the Charter of the United Nations, and customary international law. Particular attention is paid to the concept of aggression, as explicated both in the UN General Assembly's resolution purporting to define it and in the Nuremberg Tribunal's holding regarding crimes against peace. Finally, in the most "provocative" section of the book, Dinstein dissects the most widely recognized exception to the prohibition on the use of force—self-defense. Not only is self-defense authorized in the UN Charter when facing an "armed attack," but it is also considered an inherent right of victim states under customary international law. The most troubling issue is, when can a response in self-defense occur? Must a state wait until the blow falls before defending itself, or may it act preemptively? Dinstein argues that the aggressor has to have embarked on an " irreversible course of action"; in doing so, he rejects notions of "anticipatory self-defense" in favor of "interceptive self-defense."

The work has been completely updated to factor in the end of the Cold War, the 1990–91 Persian Gulf War, and the conflicts in the Balkans. Dinstein concludes that these events, particularly the Gulf war, have to some extent breathed new life into the security scheme of the UN Charter, a scheme long unfulfilled due to divisive bipolarity. Despite this phenomenon, and though the risks of a global cataclysm have diminished, the use of force regionally has grown significantly, a trend Dinstein highlights. *War, Aggression and Self-Defense* is well written, exhaustively researched, and superbly reasoned. Like its predecessor, it is certain to become a modern classic of international law.

Dye, Ira. *The Fatal Cruise of the* Argus: *Two Captains in the War of 1812*. Annapolis, Md.: Naval Institute Press, 1995. 368pp. $35

At a time when the last great wars in the age of fighting sail are popularized in the novels of Patrick O'Brian and by the two-hundredth-anniversary

celebrations for the USS *Constitution,* Ira Dye's comparative study of these two naval officers is particularly valuable. His well written and meticulously re-searched volume culminates in the battle that merged the careers of Henry Allen and John Maples off St. David's Head, Wales, on 14 August 1813, be-tween USS *Argus* and HMS *Pelican.* Neither this single-ship defeat for the U.S. Navy nor its main actors have previously received much attention from naval historians. Dye's research, however, proves that Henry Allen, of Providence, Rhode Island, was an engaging and charismatic man. A paradigm of the Ameri-can naval officer corps, he participated in nearly every important action that the U.S. Navy saw in the years of his service between 1800 and 1813, when he of-ten played a central, if subordinate, role. His opposite number was an older man, John Maples of the Royal Navy, who joined up as a twelve-year-old in 1784. Acquiring a wide variety of sea experience, Maples went on to serve un-der Horatio Nelson at Copenhagen and in a frigate at Trafalgar. This book is a comparative study of two typical officers of opposing sides, and of their ships and crews. The details of the forgotten naval battle between the brigs *Argus* and *Pelican* are woven around these lesser figures of the age, creating a highly read-able and very effective microcosm of the age of fighting sail.

Wells, Donald A., ed. *An Encyclopedia of War and Ethics.* Westport, Conn.: Greenwood, 1996. 552pp. $95

The editor and forty-four other contributors, including many leading experts, offer nearly three hundred entries in the huge overlap of two large subjects. The essays are clearly written, rich with information, and augmented with brief bib-liographical recommendations for further reading. From "Accidental Nuclear War" to "Zyklon B War Crimes Trial," this book will likely satisfy even a reader demanding rather precise information. Often, for a topic not accorded its own full entry, the book's twenty-five page index is sufficiently detailed to identify an entry that discusses that topic or suggest a related topic.

There are some significant criticisms, however. The coverage is uneven, with marginal topics included and even addressed at surprising length. It is not clear why, for example, "Okinawa, Military Occupation of" should receive the same amount of space (four pages) as "Vietnam War."

Finally, the price limits the likelihood that many individuals will purchase personal copies, even though those who regularly write and teach about war and ethics would find this encyclopedia valuable.

Taylor, Michael, ed. *Brassey's World Aircraft & Systems Directory 1996–97.* London: Brassey's (UK), 1996. 576pp. $99.95

This is the "inaugural edition" of this reference. Its chief editor was assisted by contributors Piotr Butowski (for Russian and Polish military aviation), David Mondey (helicopters), Neville Beckett (British military aerospace), Geoffrey P.

174   Naval War College Review

Jones (recreational aircraft), Joachim Ewald (sailplanes, motorgliders), Doug Richardson (missiles and radars), and Mike Jerram (runway bearing strengths). Chapters are provided for combat aircraft; reconnaissance, electronic, and other "special mission" aircraft; helicopters and autogyros; general aviation; "buoyant aircraft"; engines; and others implied in the list of contributors above. Each chapter is divided by country, in alphabetical order, and within country by manufacturer. All aircraft or systems in production or development are listed, plus others that seem especially significant. Foreword by Michael Taylor, full-color guide to air force insignia, glossary, and index.

176   Naval War College Review

one is a publishing executive, and one teaches cultural studies at Ripon. The chronology is a particularly useful and varied look-up resource; for instance, it is rich in social entries (first woman naval aviator commissioned, 22 February 1974) and of "firsts" generally (first aircraft destroyed by proximity-fused projectile in combat, by USS *Helena*, 5 January 1943). The reference shelves of scholars, students, buffs, and copyeditors will be the stronger for this book. Glossary.

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Historical Monograph Series

The Historical Monograph program was established in 1975 to encourage both the writing of books on the history of naval warfare and the use of the Naval Historical Collection of the Naval War College Library.

Hayes, John D., and John Hattendorf, eds. *The Writings of Stephen B. Luce*, 1975. $10

Spector, Ronald. *Professors of War: The Naval War College and the Development of the Naval Profession*, 1977. $8

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