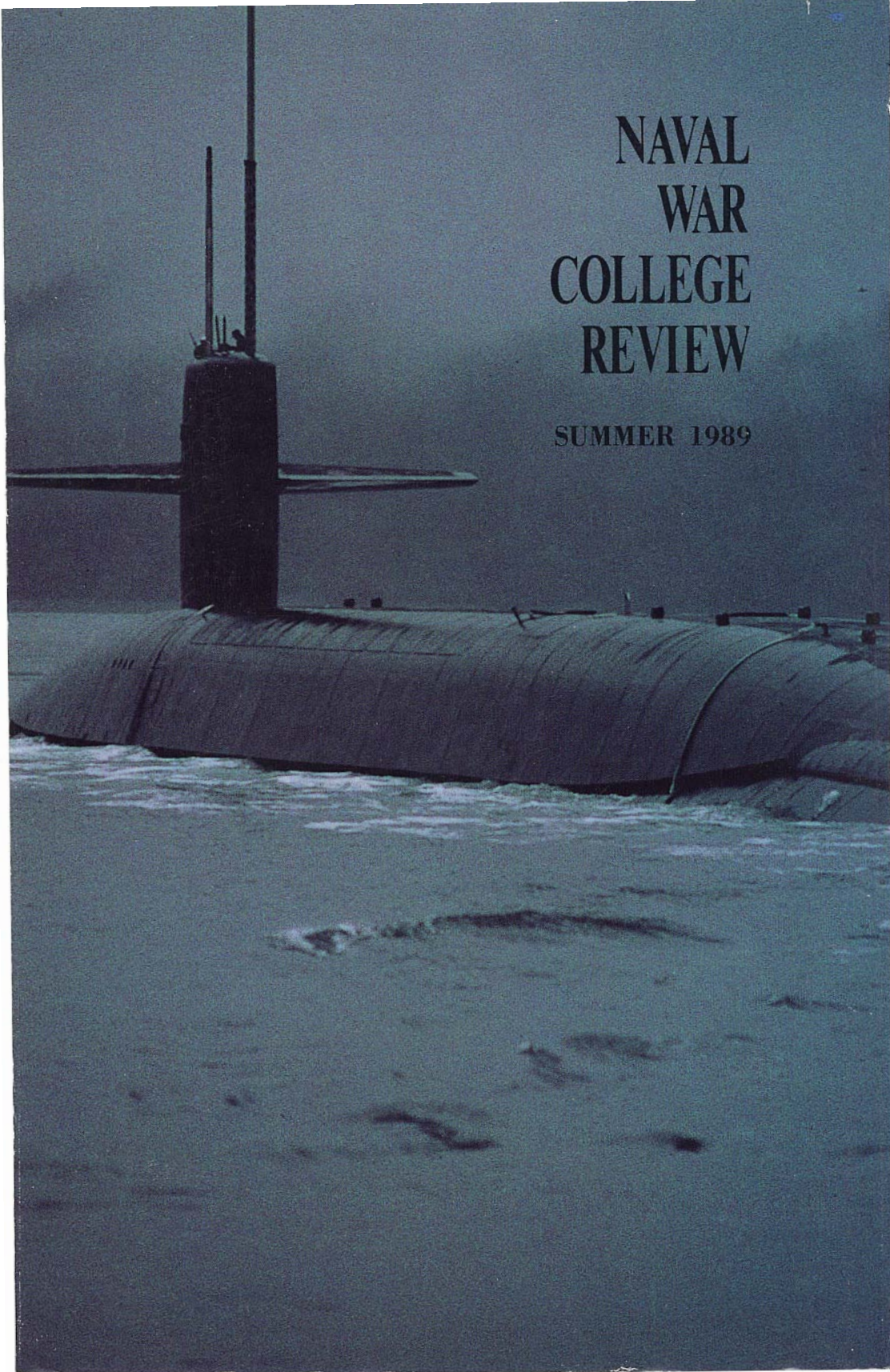

NAVAL WAR COLLEGE REVIEW

SUMMER 1989

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Our cover: A view of the ballistic missile submarine *Ohio* (SSBN 726) taken from the port quarter as she passes through the Hood Canal near the submarine base at Bangor, Washington. Official U.S. Navy photo by Harold Gerwein, PH1, U.S. Navy.

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President's Notes

It is my cherished belief that education deals with the accumulation of information, the encouragement of thoughtfulness and the growth of intellect to cope with the challenges of complexity and change.

At the conclusion of each academic year, we convene at the Naval War College a forum on Current Strategy which helps our graduating students assess their progress in pursuit of those three objectives. Sponsored by the Secretary of the Navy, this annual Current Strategy Forum brings together about 300 distinguished Americans to examine a topic of current importance. Prominent speakers focus attention on the full scope of the issue under examination. Usually, after each major speech in Spruance Auditorium, the visitors and our students retire to classrooms for seminar discussions on the issue, under the leadership of our faculty.

The fundamental goals of the Secretary's forum are two. The first is to anchor in the minds of our students the fact that they have achieved impressive intellectual growth. We do this by having them measure their articulation of their positions on a complex subject against the critical judgment of a difficult audience, the experienced and distinguished visitors who sit in the seminars with them. The second goal is to acquaint our visitors with what we achieve here in educating military officers who have proven

themselves as operators. An ancillary objective is to generate a milieu which gives busy executives who are interested in the Naval War College a chance to recharge their own intellectual batteries and reinvigorate their own thought on major issues of the day.

One year ago, the Current Strategy Forum focused on the "Sources of Soviet Conduct and the American Response." The examination of change in the U.S.-Soviet relationship could not have been more timely in the face of what appeared at the time to be some of the most momentous events seen in the world in decades. In the wake of the Moscow summit last year, we asked ourselves if that "Moscow Spriug" signalled the onset of a thaw which would prove to be the end of the cold war, or if it merely marked another phase of that struggle similar to the short-lived "Prague Spring."

This June at the Current Strategy Forum, as we met to consider "U.S. Strategy in a Changing Security Environment," the scope of last year's conference and the changes in the Soviet Union which led to our choice of theme for 1988 already seem dwarfed by the incredible events of the past year—especially those of the month just before the conference. In retrospect, we could well have concluded last year's conference with the old vaudevillian line: "You ain't seen nothin' yet!" Consider just a few of the events of the past year:

- Chinese leaders welcomed a smiling Mikhael Gorbachev to Beijing, apparently signalling an end to the 30-year-old Sino-Soviet split, but found they they had to bring him in by a side door, in effect, because the front door on Tiananmen Square was blocked by their own people hailing the Russian communist leader as a symbol of freedom. No sooner had Gorbachev returned home than a maelstrom of political aspirations threatened to engulf an aging Chinese leadership increasingly out of touch with the aspirations of the nation's one billion citizens.
- Back in Moscow, Gorbachev convened a somewhat freely elected Soviet Congress which included in its membership such diverse personalities as Andrei Sakharov and Boris Yeltsin—a Congress in which delegates openly criticized everything from the Soviet Army—withdrawn from Afghanistan earlier this year—to the KGB, Gorbachev himself, and even his wife, Raisa. Meanwhile, Soviet republics from Southwest Asia to the Baltic have been demanding more autonomy, if not outright self-determination.
- Reportedly on the verge of disintegration in the face of Gorbachev's shrewd diplomatic and military initiatives, NATO, in a dramatic turnaround, unexpectedly found itself unified and revitalized by President Bush's conventional arms reduction proposals.
- The Polish Communist Party conceded a landslide defeat in that country's first open elections since before 1926, and offered the once-outlawed Solidarity union a role in governing the nation. Next door, Hungary's leadership committed that nation to political pluralism.

- In Asia, a series of political crises in Japan ironically led investment back to the United States, while to the West, with the summer Olympics safely concluded, students of one of America's staunchest Asian allies—South Korea—marched in favor of reunification with the North and demanded an end to the U.S. presence on the Korean peninsula.
- In Latin America, Panama's Noriega resisted the will of his own people as well as all U.S. attempts to dislodge him; while to the South, Argentina's successful return to democracy has been threatened by runaway inflation leading to food riots.
- Having caused immeasurable misery in his own country through prosecution of an exhausting eight-year war of attrition with Iraq, and untold mischief around the world through sponsorship of terrorism, the Ayatollah Khomeini died, leaving behind a power vacuum and the possibility of further unrest.

This list could go on—for example, we have not even touched on the leadership changes in the U.S. Congress caused by questions of ethics or the arrival of environmental politics as a critical item on the agendas of nations from Brazil to Canada, from New Zealand to the Soviet Union. Almost forgotten, but no less important, are other simmering world hot spots temporarily on the back burner—South Africa, Lebanon and the Middle East, Cambodia, Nicaragua. As Bob Dylan used to sing, "The Times They Are a 'Changing." Some would argue that the current pace of change is the most dramatic since that benchmark year for democratic movement—1848. If so, we truly "ain't seen nothin' yet."

Many of our civilian guests at this year's Current Strategy Forum came from the West Coast, and I was reminded of Stanford University's motto, "the winds of freedom blow." That thought echoed among our students and guests. They discussed how those winds threaten to encircle the globe with hurricane force, cutting us loose from some of the moorings which have anchored U.S. foreign policy since the end of World War II.

To guide us through our discussions at the Current Strategy Forum, we chose two interrelated frameworks for examining changes.

Firstly, we tried to identify regional and national areas of potential crisis or conflict in the immediate years to come, not only in military terms, but more importantly in the areas of economics and technology.

Secondly, we sought to keep three issues in mind as we proceeded:

- What has changed? What has changed that makes a difference? And what has remained the same?
- What are the United States' national interests in this changing world?
- What *are* the possible responses we might employ to ensure our interests and adjust to the changes taking place?

Providing military officers with the principles and intellectual tools necessary to navigate uncertain, shifting strategic waters has been the

business of the Naval War College for over 100 years. Interacting with the distinguished Americans who were our guests, and responding to the suggestions and leadership provided by our speakers on the platform and our faculty in the seminars, the results were remarkable. Our students passed this practical examination of their growth with credit to themselves. I was approached on a personal basis to be told this by our distinguished guests at the conclusion of the forum. Since then, I have also received a sackful of letters attesting to this achievement, as well as to the extraordinary quality of the forum.

In the years in which Admiral Stephen B. Luce sought to establish the Naval War College, he wrote of what it was he wanted to correct through the education of naval officers. In 1877, seven years before he finally achieved his goal in Newport on Coaster's Harbor Island, he wrote to the Secretary of the Navy:

> Extraordinary as it may appear, the naval officer whose principal business is to fight is not taught the higher branches of his profession.

At the conclusion of the Current Strategy Forum, had he been there, Admiral Luce likely would have been pleased with the results of his long, diligent effort. I think we are meeting his goal.

Ronald J. Kurth
RONALD J. KURTH
Rear Admiral, U.S. Navy
President, Naval War College

The Coming Explosion of Silent Weapons

Commander Stephen Rose, JAGC, U.S. Navy

Twenty years ago the United States unilaterally disbanded its biological warfare program. According to the wisdom of that time, germs and toxins were crude, uncontrollable weapons of little military value.[1] In recent times, however, analysts have begun to warn that biological agents are now poised to become flexible weapons perhaps "even more dangerous" than nuclear arms.[2] What has led to this complete turnaround in analytical thinking within the span of two decades?

The answer lies in the revolution in biotechnology, especially in genetic engineering, that began during the 1970s. Recently developed techniques permit the manipulation of key biological processes with a precision and power not dreamed of 20 years ago. Gene-splicing allows the transfer of toxic features from one biological agent to another. Science can now reshuffle the genetic deck of micro-organisms to produce a theoretically unlimited number of combinations, each with its own unique blend of toxicity, hardiness, incubation period, etc. In short, it is becoming possible to synthesize biological agents to military specifications. Thus, the world lies on the threshold of a dangerous era of designer bugs as well as designer drugs.

As if this were not concern enough, two additional factors serve to amplify the impact of this revolution on the military. First, the new biochemical processes are relatively cheap, easy to master, and accessible to all. This allows many more players to enter the arena of biochemical warfare, ranging from superpowers to Third World states to terrorist groups.

Commander Rose was graduated with honors from Yale University and received his juris doctor degree from the University of Virginia Law School. A former naval aviator and, in 1989, a graduate of the Naval War College, Commander Rose is currently the Force Judge Advocate for Commander, Naval Air Force Atlantic.

This article (under another title) received both the Joint Chiefs of Staff and the Naval War College's Richard G. Colbert prize essay awards.

Second, the new technology inherently favors offense over defense. Although strengthened by a million years of evolution, the human organism remains vulnerable to biochemical assault. Several of the new supertoxins are ten thousand times more potent than nerve gases now held in military arsenals. One author estimates that "nerve gas, which has created a worldwide furor, is mere perfume compared to some agents on the drawing board."[3] Even more sobering is the emerging possibility for designing organisms which resist all known treatment and which might take years to counter. The potential scope of this problem is illustrated by the billions of dollars and years of effort already expended to discover a defense against a naturally occurring biological phenomenon—the AIDS virus.[4]

As novelists are fond of reminding us, biotechnology could conceivably unleash the equivalent of a homemade "Andromeda strain"—a pathogen so demonic that it would result in global catastrophe. In the judgment of most knowledgeable experts, however, the more realistic threat lies in gene-splicing's powerful ability to recombine bits and pieces of known organisms in a nearly limitless array. As one government official described the problem, "new [biological warfare] agents can be produced in hours; antidotes may take years."[5]

The Pressures and Perils of Proliferation

A key aspect of this emerging technology is that weapons of mass destruction threaten to become commonplace. We are crossing into an era when tiny nations and terrorist groups can arm themselves with biological and chemical weapons of great destructiveness—the equivalent of the "poor man's atomic bomb."

For example, Moammar Qadhafi has long sought a nuclear capability for Libya, but thus far without apparent success. Recent reports suggest, however, that Libya is now developing both biological and chemical weapons.[6] Should his nuclear quest continue to be thwarted, it is likely that Qadhafi's long-touted "Moslem bomb" will be a biochemical weapon rather than an atomic one.

An estimated 10-20 other nations have biochemical weapons, and this number is expected to double in the coming decade.[7] While current technology permits even backward countries to achieve a quasi-nuclear status at bargain basement cost, the technological infrastructure required to develop an atomic weapon is far more complex and expensive than the effort needed to produce sophisticated biochemical weapons. The same processes used to make fertilizers and pesticides can also churn out poison gases; similarly, bulk toxins can be manufactured at a gene-splicing facility, at modest cost, and based on techniques freely available in the scientific press. Poor, nonnuclear nations caught up in a regional arms race or believing

themselves menaced by heavily armed neighbors are beginning to invest in biochemical weapons as a "cheap" but potentially nasty deterrent.[8]

In the decades ahead, it is likely that many additional nations will opt to acquire such arms. Proliferation of biochemical weapons is part of a broader cycle of global diffusion of political, economic and military power. As the international alignment continues to shift from a bipolar to a multipolar world, weapons of mass destruction will also spread. It is conceivable that by the turn of the century 35 nations will possess a stockpile of nuclear, chemical and/or biological weapons. Aside from placing many new fingers on the triggers of mass destruction, such a development would also diminish superpower freedom of action. As time passes, conclude the authors of a landmark report on *Discriminate Deterrence*, "[t]he arsenals of the lesser powers will make it riskier and more difficult for the superpowers to intervene in regional wars."[9] With the spread of biological and chemical weapons, even small nations will gain the capacity to mete out punishing counterstrokes to an intermeddler.

The good news is that none of the Third World countries suspected of developing biological weapons has, thus far, turned to genetic engineering to create novel organisms.[10] The not-so-good news is that at least a dozen countries are hard at work on toxins and chemicals. The bad news is that many of them, particularly in the Middle East, are actively shopping for missiles and other delivery systems to extend the reach of their new biochemical arsenals. The worse news is that the 50-year tradition of not using biochemical weapons in battle has collapsed in the past decade during a series of regional conflicts. Worst of all, the lesson demonstrated to many by Iraq's use of poison gas against Iran is that the military benefit gained by Iraq substantially outweighed any price paid in terms of international censure or economic sanctions.

Widespread use of chemical poisons in the Iran-Iraq war may have lowered the threshold for future use of biological weapons as well. This erosion of ancient taboos is being accelerated by the new biotechnology, which not only blurs the distinction between biological and chemical processes, but also provides a framework for controlled biological warfare. Thus, the proliferation of biochemical weapons gathers momentum from three trends—a search for economical deterrence, the weakening of old taboos, and the advent of a new and powerful technology ripe for exploitation.[11] In short, some countries are beginning to view biochemical weapons as both useful and, under certain circumstances, usable.

Nations of the Middle East are a case in point. The current scramble for chemical armaments in this region adds a dangerous twist to an already volatile situation. In the estimate of CIA Director William Webster, "the spread of chemical weapons among the Arab states, principally Iraq, Libya

and Syria, could seriously alter the regional balance of power."[12] This threat will intensify as countries obtain quantities of missiles capable of delivering biochemical warheads throughout the region.

Thanks to Soviet largesse, the Syrians already have a supply of SS-21 missiles capable of sending warheads into neighboring states with considerable accuracy.[13] During the Gulf War, Iraq successfully managed to modify a number of short-range Scud-B missiles, tripling their reach to nearly 600 miles. With help from Iraq, Egypt is reported to be hard at work building the Badr-2000, which will have a range comparable to the modified Scud.[14] Finally, Israel served notice with the September 1988 launching of its first satellite that it too has the technology to deliver advanced ballistic payloads.[15]

For decades Israel and its Arab neighbors have circled each other like proverbial scorpions in a bottle. As biochemical warheads continue to spread through the Middle East, this analogy becomes increasingly apt. Virtually every city in the region will be exposed to the sting of a formidable and potentially lethal attack.

In the past, Israel has enjoyed a regional monopoly over weapons of mass destruction. The one direct challenge to its presumed nuclear stranglehold—Iraq's effort to build an atomic weapon in the late 1970s—ended in the bombing of the main Iraqi research reactor in 1981. Similar preemptive strikes would be less useful to curb the spread of biochemical weapons. "If a country is serious about acquiring chemical weapons, it is hard for another country to eliminate that capability the way Israel knocked out Iraq's atomic bomb program," concludes one analyst. "These weapons can be made and stored in small sites all over a country, and you can never be sure you got them all."[16]

This is equally true for biological and toxin weapons. Like their chemical cousins, these agents can be prepared and stored in a small facility at relatively little capital investment. A batch of anthrax capable of killing millions of people, for example, can be concocted in a "room the size of a broom closet."[17]

Although the present furor over the Middle East balance of power centers on chemical agents, in time the biological side of the spectrum will be viewed as even more insidious and destabilizing. Chemical weapons, in comparison, are crude. Despite their lethal effect, chemicals require bulk application to qualify as a true weapon of mass destruction. The nerve gases in modern arsenals are, essentially, refined versions of agents developed prior to World Wars I and II. While some additional refinements can be expected, pure chemical agents are approaching the end of their evolutionary path. The menace of the future lies in biologicals—pathogens and toxins—which, thanks to the advancing power of genetic engineering, have a far richer potential for harm. If the proliferation of poison gas in the 1990s creates

a decade of chemical concerns, the largely untapped, but nearly unlimited nature of this new biotechnology will threaten to turn the next century into a diabolic era of military biology.[18]

The Soviet Perspective

The Soviet Union has long treated the entire gamut of biochemical weapons as a valuable adjunct to their overall war-fighting capability. Military implications of the biotechnological revolution have not escaped their notice. The magnitude of the Soviet effort to tap the dark side of this new technology is demonstrated by the existence of at least seven highly secure biological warfare centers under military control in the U.S.S.R.[19]

The scope of this program is mirrored by the multiple uses for which their biological and chemical arsenal is intended. In general, the Soviets consider these weapons to be excellent tools for sabotage and interdiction. Their doctrine emphasizes the need to prevent an enemy from effectively marshalling his forces. If the Soviets were to use biochemical weapons during an attack on NATO, a likely target cluster would be rear-area chokepoints such as airfields, supply dumps, headquarters, and port facilities.[20] The vulnerability of these sites is presently amplified by NATO's inability to mount like-kind biochemical strikes against similarly valuable targets in the rear of the Warsaw Pact.[21]

Another Soviet scenario for biochemical use envisions an attempt to impair NATO's resolve to shift to a wartime posture. "As an opening salvo," suggests Joseph Douglass, "the Soviets might well initiate a massive covert C/B war that could confuse the leadership of the Western alliance and distract their attention away from even more critical events."[22] As Soviet writers have already noted, governments which are preoccupied with widespread civilian panic on the home front could suffer a crucial loss of time, will and coordination during the run-up period before conventional hostilities.[23]

On an even grander scale, the U.S.S.R. may view their biochemical capability as a strategic lever to offset American advances in other technologies. According to one recent report, there is some official indication that Moscow "might retaliate against an American Star Wars defense system not with new missiles, but with germs."[24] As early as 1987, Valentin Falin, then head of the Soviet Novosti Press Agency, let slip the following comments about Moscow's possible response to SDI: "We won't copy you anymore, making planes to catch up with your planes, missiles to catch up with your missiles. We'll take asymmetrical means with new scientific principles available to us. Genetic engineering could be a hypothetical example. Things can be done for which neither side could find

defenses or countermeasures. . . . These are not just words. I know what I'm saying."[25]

At the other end of the weapons spectrum, the Soviets have also begun to tailor biochemical weapons for purely tactical use on a limited scale. Several years ago the world was caught up in a heated controversy over "yellow rain"—ignited by U.S. charges that Soviet-supplied forces in Laos and Kampuchea were using fungal toxins as a weapon against rebellious tribespeople. In 1982 the State Department issued several reports marshalling the evidence for yellow rain and estimated that use of this bioweapon in Southeast Asia had already led to 7,500 deaths.[26] Although many reporters and scientists continue to voice skepticism,[27] to this day the State Department has not withdrawn or softened its charges. The yellow rain dispute demonstrates how easily bioweapons can fade into ambiguity. As Stuart Schwartzstein observed, "there are great advantages in using weapons that are either very subtle . . . or where verification and identification is so difficult that arguments continue to rage over whether or not allegations of use are true."[28]

Although the Soviets are also alleged to have used yellow rain during their occupation of Afghanistan, they seem to have experimented with a new kind of biochemical agent as well. Reports from the Mujahidin rebels referred to a toxin spray known as "black rain," which incapacitated people so quickly that they were frozen in place, unaware until regaining consciousness many hours later that they had in fact been attacked and immobilized.[29]

A common denominator of all these examples is the breadth and versatility of Soviet biochemical capability and doctrine. For them, it is a flexible and powerful tool—a frontline rapier as well as a global blunderbuss. As John Hemsley sizes up the situation, "it would appear that the Soviet High Command considers that current developments in novel CB agents . . . [are] leading to a quantum, rather than an incremental, change in the nature and practice of war."[30] In contrast, the NATO/U.S. approach to biochemical weapons continues to suffer from an inherently defensive and makeshift posture which treats these weapons as an abhorrent deterrent to be kept, as much as possible, out of sight and out of mind.

Military Utility of Biological Weapons

To what extent do these developments, especially those arising from the revolution in biotechnology, require a shift in American military preparations? Not surprisingly, reasonable minds differ as to the strategic and tactical implications of genetic engineering. A key issue is the "usability" of biological agents.

One school of thought suggests that there may be less to the new developments in life science than meets the eye. It judges that biotechnology "will not lead to the 'ideal' BW or routinize biological warfare. That would require a higher level of protection and predictability than is likely ever to be possible. Effective weapons will always pose deadly risks for their maker. And no realistic genetic transformation will yield biological weapons that are suitable for theater operations."[31] In other words, science might well make biological warfare more dangerous, but never sufficiently controllable. Thus, the very nature of bioweapons induces self-deterrence, both now and for a long time to come.

Other thinkers view the situation as more threatening. From their perspective, controllability may not be an insoluble problem. Already, "in the case of biological agents . . . it is now possible to eliminate undesirable side effeets . . . [to] preserve and package agents more effectively . . . to do more and do it safely."[32] In the future, the phenomenal versatility of genetic engineering could enable an attacker to retain control over its biological agent, for example, "by designing it to . . . die off after a previously determined number of cell divisions . . . [or] by designing the organism to be bound by a narrow set of environmental factors."[33]

The mysteries of biotechnology have just begun to be probed, and at their core lie the basic secrets of life. According to many scientists, the next major exploratory step will be to map the human genome—a ten-year, $3 billion effort to determine the exact location, function and molecular structure of the 50,000 genes that human cells have in common. Human genes are the memory bank for our species—the cell's floppy disk governing all life processes at the molecular level. Precise mapping of such genetic blueprints, whether for human beings or other organisms, would greatly enhance the reach and sophistication of genetic engineering. Thus, as science marches on, the potential for controllable biological warfare will also advance and should not be discarded out of hand as a dead issue.

In practical terms, this means that all dimensions of potential biological warfare—strategic and tactical, overt and covert—must be monitored with great care.

Overt Strategic Use of Biological Weapons. The traditional scenario for germ warfare envisions an attack resulting in massive civilian casualties—devastation on a scale similar to the destructive power of nuclear weapons. Biological weapons have been viewed as inherently strategic in nature, and U.S. policymakers have assumed that a biological attack on a nuclear-armed nation could be countered with (and thus deterred by) another available weapon of mass destruction, i.e., nuclear arms. Therefore, when President Nixon dismantled our biological warfare program in 1969, he did not worry

about the disappearance of a like-kind retaliatory capacity. Three years later, similar considerations led the United States to support a sweeping arms control ban on biological weapons, even though the agreement lacked any procedures for verification. At that time, overt biological warfare was correctly viewed as a clumsy, indiscriminate weapon, an all-or-nothing proposition allowing no tactical finesse or useful strategic advantage.

In part, the rationale of the Nixon era still makes sense. Nuclear deterrence continues to restrain superpower use of biological agents against another superpower.[34] In the words of a former director of a Defense Department laboratory responsible for identifying such agents: "one of the most awesome tasks I can think of [is] coming up with a definitive statement that we've been attacked with a biological weapon, knowing that that statement is probably equivalent to pushing the [nuclear] button. [The President] could always call the Kremlin and ask 'What the hell did you do that for?' My guess is he wouldn't. He'd tape that message to the front end of a Minuteman missile."[35]

Embedded in this scenario are the key assumptions that use of a biological agent would be both traceable and massive enough to qualify as a strategic threat. In times past, the relatively primitive nature of biological weapons made both assumptions nearly axiomatic. The new biotechnology complicates this old equation, however, by opening up novel possibilities for tactical and covert uses of biological agents.

Overt Tactical Use of Biological Weapons. One potential use of genetic engineering is the mass production of toxins, which are poisons made by organisms. Toxins occupy an interesting niche between biological and chemical weapons—more potent than most man-made poisons, but also more controllable than living agents. Until now, the availability of toxins has been limited by a production bottleneck. Large numbers of creatures and expensive, laborious processes were needed to yield even small quantities of toxin. For example, using refinement techniques available during the late 1960s, the U.S. government generated only 11 grams of shellfish toxin from several tons of mussels. Biotechnology changes all this.

With gene-splicing, micro-organisms can now be converted into miniature poison factories, permitting the production of militarily significant amounts of toxins at far less cost and effort. Soviet use of "black rain" in Afghanistan, believed to be a form of toxin causing one-breath anesthesia, illustrates the tactical potential of such agents. According to an official U.S. study, the Soviets are pursuing development of a broad spectrum of natural and synthetic toxin weapons, ranging from extraordinarily lethal agents to those which merely induce sudden panic, listlessness, or sleepiness.[36]

The obvious and chilling threat of lethal agents tends to divert our attention from problems posed by incapacitants. These nonlethal toxins

could have a disproportionate impact, however, due to the natural reaction of the people who are unaffected to assist the stricken. In Douglass' estimate, incapacitants "can be militarily more effective [than lethal agents] because sick or disabled soldiers and dependents tie up scarce resources, demand the energies of those still healthy, and have a very demoralizing effect."[37] The crucial point is that toxin weapons can theoretically be tailored to create a wide variety of effects, depending on the tactical need.

Covert Use of Biological Weapons. In the 1970s, Cuba charged that the CIA was clandestinely using biological agents to try to destabilize the island.[38] Allegedly, this campaign targeted vital crops such as tobacco (blue mold) and sugar cane (cane smut), livestock (African swine fever), and also the populace itself (hemorrhagic strain of dengue fever).[39] Whatever the source, these outbreaks cost Cuba several billion dollars and 300,000 cases of debilitating disease. The Cuban charges highlight several reasons why covert biological warfare is such a potential menace—the difficulty of proof, the range of potential targets, and the substantial damage that can be inflicted by relatively cheap and easily concealed agents.

None of these problems is new. Even before the advent of genetic engineering, nations had at their disposal some nasty means for biological sabotage. Nature is a veritable cornucopia of pathogens and maladies. The biological revolution, however, expands both the size of the chessboard and the power of the pieces available for such covert operations.

As previously discussed, the potential number and potency of these biological "chess pieces" has increased dramatically due to gene-splicing's capacity for reshuffling the genetic deck in a controlled way. Nature no longer sets the upper limit for either variety or virulence; and as genetic engineering increases in sophistication, so too will the subtlety and scope of covert biological weapons. If (when) a devastating new strain of wheat rust or pesticide-resistant fruit fly or AIDS-like virus pops up in America's future, will we be able to determine whether the source is a natural mutation or a genetic manipulation concocted by an adversary? Granted, these hypothetical examples seem more a product of science fiction than reality; however, judging from advances made in genetic engineering in just over a decade, science appears to be eclipsing fiction more rapidly than expected.

Quo Vadis?

As the preceding discussion suggests, a number of factors—including regional conflicts, Soviet capabilities and the revolution in biotechnology—are converging to usher in an era of soft but deadly weapons. This threat, which has grave implications for American security, is here now and will

grow progressively worse.[40] What can the United States do? There are three basic approaches: status quo; patchwork; and aggressive defense.

Status Quo. America's current biological warfare doctrine involves two tracks: a defensive posture (no stockpile of bioweapons) and deterrence (possible nuclear escalation in response to biological attack). The status quo approach would leave matters as they are. Unfortunately, recent advances in biotechnology seriously weaken both prongs of this doctrine.

As we have already seen, the traditional notion of treating military biology as a weapon of only strategic significance no longer seems to be valid. When such weapons were an instrument of relatively uncontrollable mass destruction, it may have been apropos to threaten nuclear retaliation in response to an outbreak of plague warfare. But now that the tactical possibilities of bioweapons are beginning to emerge, this deterrent linkage is not as seamless and credible as it once was.

Would we go nuclear, for example, in response to the use of "black rain" or a biological warfare campaign in Europe that sickened but did not kill the populace? Without the capacity for like-kind retaliation (as called for by U.S. chemical warfare doctrine), there is a policy/force mismatch that invites mischief and miscalculation. As former Senator John Tower wrote in 1982, when arguing the need for a robust U.S. chemical weapons capability, "the idea that we can credibly threaten to respond to a Soviet first-use of chemical weapons [during an attack on NATO] by resorting to nuclear retaliation should be as preposterous to the Soviets as it must be appalling to West Europeans."[41]

Similar pejoratives apply to the gap now opening up between American deterrence policy and the expanding world of bioweapons. Our nuclear umbrella cannot credibly deter tactical use of toxin or other limited biological agents any more than it can deter chemical strikes. As biological warfare techniques and agents continue to evolve, becoming more and more "discriminate" as well as harder to detect, the problem of finding a range of credible and proportional deterrents will also grow.

The other prong of the U.S. biological warfare posture—defense but no offense—is grounded on adherence to the 1972 Biological and Toxin Weapons Convention, which bans possession of all biological and toxin agents except for small stocks retained solely for defensive research. Prior to the biotechnological revolution, this made some sense as a useful firebreak, because the biological agents and processes then in existence were relatively unwieldy and unreliable.

The new technologies, however, have potentially converted biological warfare from a major undertaking into a cottage industry—simple, cheap, quick, precise. Distinctions between research and production, between defense and offense, are now essentially meaningless. Counting missiles in

their silos is child's play compared to tracking the thousands of facilities which could be used to produce biological warfare material.

By their very nature such facilities are quite difficult to detect using standard technical means of verification, i.e., surveillance satellites and ground monitoring stations. "Unlike high energy physics experiments or the construction and testing of weapons delivery vehicles," notes John Birkner, "new biotechnology research efforts devoted to military objectives would tend not to reveal themselves."[42] Also, advances in bioprocessing technology made during the past decade have magnified the detection problem by scaling down the size of facilities needed to produce militarily significant amounts of biological agents. A verification procedure designed to cope with these problems—the 1972 Convention having no such provisions whatever—would have to be extraordinarily intrusive. Since the step from research to production could be quite rapid, a comprehensive inspection regime might, as one director of a research institute glumly noted, "have to inspect the lab notebooks of every [biological] lab in the country."[43]

Summing up these concerns, the DoD official then in charge of negotiations policy, Douglas Feith, told Congress in 1986 that the 1972 Biological and Toxins Weapons Convention "must be recognized as critically deficient and unfixable."[44] Labeling the Convention a "false advertisement to the world," Feith went on to explain that the primary culprit was the revolution in biotechnology. "Because new technology makes possible a massive and rapid breakout, the treaty represents an insignificant impediment at best." He concluded by suggesting that this potential for a quick breakout made the notion of a biological warfare treaty fundamentally unworkable. "Its principal failing, therefore, is no longer the absence of verification provisions or lack of effective compliance mechanisms, the commonly acknowledged shortcomings, but its inability to accomplish its purpose." Feith ended his remarks with the following pessimistic appraisal: "It is not a pleasant task to deliver so dismal a report to the Congress. . . . But can one responsibly inflate hope for an escape from the military problems posed by the Soviet BW programs? There can be no *deus ex* arms control in this arena. In answer to those who crave a constructive suggestion under even the least promising circumstances, one can recommend only: Defense."[45]

Overall, then, the status quo approach rests on two flawed premises—that the biological warfare genie can be kept on a tight leash through arms control and that bioweapons can otherwise be held in check by strategic deterrence. Both prongs invite more risk than seems prudent under the circumstances.

A Patchwork Quilt. This approach seeks to contain the biochemical problem via the cumulative effect of several interlocking initiatives: economic sanctions, export controls, an augmented defensive capability, and participation in arms control negotiations.

Sanctions. During the Reagan administration, other aspects of American policy clearly took precedence over a perceived need to keep the biochemical genie bottled up. Between 1986-88, for example, when Iraq was using mustard and nerve gas to break up human-wave assaults during its touch-and-go war with Iran, the United States basically turned a blind eye to this breach of the biochemical taboo. Later, Iraq began to use similar agents to settle a long-standing feud with Kurdish rebels, and several nations called for tough trade sanctions. After some dithering, the Reagan administration came out in opposition to sanctions against Iraq,[46] and proponents eventually settled for diplomatic protests.

"The fundamental question," as John Kester sees it, "is whether . . . use [of biochemical weapons] by anyone will carry a real penalty—economic, political and perhaps military—even if enforcement injures Western economic or short-term political interests."[47] Thus far, developed nations have not been willing to stomach more than a taste of the required medicine, and during the past few years the United States has sadly been among the reluctant.

Export Controls. The U.S. track record regarding export controls is more favorable. In 1984 the Reagan administration began to clamp down on the transfer of equipment and materials directly contributing to biochemical weapon programs in other countries. In the long run, this is probably a futile effort, since many of the items in question have dual use in paints, plastics and pharmaceuticals or are found in breweries, hospitals and pesticide plants. The unwelcome truth is that even if the United States imposes stringent export controls, too many other countries are willing to let their business firms peddle biochemical technology to a world of eager customers.

Arms Control. Under a patchwork approach, however, the time gained by these delaying maneuvers can be put to good use in trying to fashion a workable arms control regime for biochemical weapons. The expert consensus is that effective worldwide control of biological and chemical agents is probably a chimera, but nonetheless an effort worth making. For nearly 20 years diplomats at the Geneva Disarmament Conference have been searching for an acceptable formula that would lead to a comprehensive, verifiable and global ban on chemical weapons. As with biological agents, the main stumbling block to an effective chemical warfare treaty has been the bugbear of verification. According to William Burns, Director of the U.S. Arms Control and Disarmament Agency, "no country in the world has offered a system which has a reasonable chance of verification."[48]

Part of the problem is that chemical weapons can be produced by the same types of factories which turn common chemicals into fertilizers, pesticides and pharmaceuticals. Even more ominous, these plants can be switched from one production line to the other—from agents of well-being to agents of death—within a 24 to 48-hour period. Accordingly, a ban on chemical weapons would require continuous monitoring of some of the world's most basic industries. Although the Soviet Union and the United States have agreed in principle on the need for short-notice challenge inspections as part of any chemical warfare treaty, negotiations have bogged down on the inevitable issues of how, what, when and where. In addition, several major countries, primarily China and India, have not yet accepted the principle of on-site challenge inspections.[49]

A further complication is the recent Arab call for linking any ban on chemical weapons to progress in nuclear disarmament.[50] The heavy Arab investment in biochemical weaponry is intended, in part, to offset Israel's possession of nuclear arms. From the Arab perspective, a ban on chemical weapons appears to be discriminatory so long as Israel retains *its* weapons of mass destruction. Without Arab participation, a chemical warfare treaty would be stillborn—even if the verification quagmire could eventually be navigated.

This having been said, some kind of a chemical warfare convention will likely emerge from Geneva during the next few years. There is a growing consensus that even an imperfect ban would be preferable to the galloping proliferation now under way. As Brad Roberts puts it, "[t]he choice, practically speaking, will be between a partially disarmed world and a wildly proliferating world."[51] To wait is to court increasing danger, especially in the Middle East cauldron; to move too quickly, however, without first resolving key issues of verification and linkage, would be to indulge in an illusion of progress.

Defense. Total defense against biochemical weapons is as elusive as a totally verifiable ban. Even so, several steps can be taken to strengthen deterrence by creating uncertainty in the minds of potential aggressors about U.S. capability to fend off a biochemical attack.

- Increase intelligence efforts to determine the scope and degree of current and emerging biochemical threats. Resources currently assigned to this area are miniscule compared to those directed at fathoming nuclear threats. To the extent that nuclear forces have settled into a kind of floating gridlock, whereas the biochemical threat is gaining momentum, it seems prudent to begin to shift some intelligence assets.

The confusion surrounding the yellow rain controversy in Southeast Asia a few years ago illustrates how ill-prepared this country was to sort out and substantiate allegations of biochemical warfare. Experts still argue about

the source of yellow rain—whether people were stricken by natural toxins from bee waste or by a biological weapon in the hands of Soviet allies.

Judging from recent reports, the American intelligence community scored a notable success this past year in tracing the commercial origins of Libya's new chemical plant. One hopes that the current attention paid to biochemical "economics" is a sign that extra care and resources are also going to be funneled into biochemical "diagnostics."

By definition, most covert operations depend on secrecy, or at least plausible deniability, to be useful. One way to reduce the threat of covert biological warfare is to increase the counterthreat that clandestine attacks will be exposed and traced to their origins. Two basic means are available to enhance detection capabilities: better intelligence gathering with regard to adversary capabilities and intentions; and a well-funded program of bio-sensing research. Only a small fraction of DoD's allotment for military chemistry and biology is spent on coping with the biological threat; and of the money allocated to biology, only a tiny percentage goes to advanced bio-sensing and diagnostic research.[52] This should be remedied immediately in order to minimize the risk of undetected and undetectable biological warfare.

- Based on the intelligence yield, intensify biochemical research and development programs to explore all options for antidotes and protective vaccines and to maintain a plausible capability for fashioning a like-kind retaliatory response if required. There is an urgent need to guard against biotechnological surprise. According to the authors of the 1988 report on *Discriminate Deterrence*, "the Soviets are sure to stay well ahead in their research on chemical and biological weapons, where they have practically no U.S. competition."[53] This gloomy forecast may overstate the problem a bit, but it does suggest the magnitude of the gap between Soviet and U.S. programs. In 1988 the United States spent more to buy a single F-14D fighter than on its entire biological research and defense program.

In summary, the patchwork approach is a combination of modest but mutually supporting improvements. The overarching goal is to slow down proliferation of biochemical agents and discourage their further use, while at the same time buttressing deterrence and defense. There is no single solution to the menace of biological and chemical weapons. Export controls, economic sanctions, and international conventions all play roles in limiting the threat, but the biochemical maze does not offer an easy exit, either nationally or internationally.

Aggressive Defense. A more forceful approach might involve preemptive strikes to prevent biochemical attacks on the United States or its allies. The controversy surrounding Libya's chemical plant at Rabta highlights the pros and cons of such action.[54] International law does not forbid the construction

of a chemical weapons facility. The 1925 Geneva Convention prohibits "use" of chemical weapons, but not their manufacture or possession. Realistically, the United States is concerned about Colonel Qadhafi's track record of extremism which makes his possession of chemical arms a threat *per se*.

The saber-rattling of the last days of the Reagan administration, during which Washington raised the prospect of a military strike against the Rabta plant, appears to have had three objectives: to put Qadhafi on final notice; to seize the lead and perhaps dampen any Israeli enthusiasm for an independent strike; and to impress on our allies the urgent need for export controls and vigilance to slow down biochemical proliferation. For now, the prevailing consensus within the U.S. government seems to be that, absent actual injury to our interests or at least hard intelligence that injury is imminently threatened, there is no clear legal justification for attacking the Libyan plant.[55]

One risk, of course, is that Qadhafi might opt to produce and stockpile large quantities of "pharmaceuticals" prior to distributing or employing them. Once such weapons are dispersed, a preemptive strike loses some of its value. This is especially true if biological agents are involved. In fact, a preemptive strike on a bioweapons workshop, if it broke open secure containment facilities without exterminating the pathogens inside, could precipitate, rather than prevent, a catastrophe.

By its very nature, military preemption is a weapon with limited reload capacity. Unless a nation cares little about its international reputation, preemptive attacks are usually reserved for situations posing clear, immediate and substantial danger. The Libyan plant at Rabta—capable of producing both medicine and military weapons; legal according to international norms but perceived to be a grave threat; built with Western connivance in pursuit of short-term profits at the risk of long-range perils—this one plant symbolizes the confusion and cross-currents that exacerbate the biochemical problem. Threats of a preemptive strike may help to keep Colonel Qadhafi in check, but preemption is obviously no solution to the larger issues posed by biochemical proliferation.

The Orphan Threat

Even if all the recommended steps were implemented, one more change would still be necessary. Our country's biochemical effort needs to become less an Army program and more of a national one. As the organization most likely to come face to face with a biochemical threat, the Army has had the lead for over 50 years. Now that the biochemical problem is snowballing, it is time for a multidisciplinary, multiagency effort. In the recent judgment of the Army's Science Board, "essentially little attention has been given

by the Army in its biological defense programs as to how modern biotechnology might be used by potential adversaries."[56]

This is a dangerous state of affairs, yet somewhat understandable. Biochemical agents do not have a natural constituency within the military. Service members are reluctant to become involved with "soft" weapons. The paradigm of a weapon seems to be a platform bristling with firepower—and tomorrow's version will be bigger, faster and more powerful. Bugs and drugs are headed in the opposite direction: smaller, more covert, and increasingly repugnant. More to the point, the services themselves are leery of diverting resources from the weapons systems they prefer to the dismal world of biochemical agents, especially since the ramifications of this threat extend well beyond traditional service functions and forces.

Accordingly, the real force structure needed to cope with this expanding problem is an infrastructure that incorporates elements from DoD, the FBI, the State Department, the National Institute of Health, and the Center for Disease Control. Possible formats might be a presidential advisory council, a National Security Council interagency group, or a joint agency patterned after the Defense Nuclear Agency. Paralleling the doctrine of combined arms, a multidisciplinary group of this sort would seek to counter the biochemical threat by force of combined brains.

A Glimpse of the Future

The outlook for biological weapons is grimly interesting. Weaponeers have only just begun to explore the potential of the biotechnological revolution. It is sobering to realize that far more development lies ahead than behind.

The modern battlefield is already, by design, an exceedingly dangerous place for human beings. Today's smart weapons will become the brilliant weapons of tomorrow; and future generations of "genius" weaponry lie below a not-so-distant horizon. The characteristics of such weapons will include a fire-and-forget mode, extended loiter capacity, micropropulsion, and enough true artificial intelligence to allow them to relentlessly hunt down individuals. Neural networks equivalent to the brain capacity of a bumblebee are already on the drawing board. Combine a refined version of this capability with advanced robotics, 10th-generation electronics and a shaped-charge or toxin "stinger," and there emerges the conceptual prototype of an "insect weapon" that could dominate the tactical battlefield of the next century. Today's RPV's could metamorphose into tomorrow's artificial killer bees.

Does this imply that the role of the human warrior is ultimately threatened? As a bearer of weapons, perhaps; as a director of weapons, no.[57] A human being in the loop will still be the key to battle, no matter how

lethal a battlefield becomes for living organisms. Despite predictable advances in robotics, artificial intelligence, and microminiaturization, a human being will long remain the most versatile, 100-gigabyte, mobile computer system that can be mass produced by unskilled labor.

So where does this leave bioweapons? Will they simply continue to be a wild card in the battlefield and force structure equation? The vision of an insect weapon described above arises from a view of the military future centered around hardware. Long before insect weapons become technically feasible, however, bioweapons may be able to achieve the same nasty results through gene-splicing and techniques yet to be developed. Even at the tactical level, precisely engineered microbes could turn out to be a more formidable threat than precision-guided munitions (PGMs).

Weaponizing the life sciences threatens to change a basic perspective of warfare. For centuries, the military's prime focus has been to marry its warriors to appropriate weapons. Conceptually, modern warriors still fight like their medieval counterparts—albeit with rifles instead of arrows, with tanks instead of horses, and with artillery and rockets instead of catapaults. The regime of soft weapons, bugs and drugs, weakens this bond and threatens to end-run the modern focus on weapons that rely on the application of brute force. The battlefield of today is, in essence, a high-explosive environment. The battlefield of the future may well end up being a hellish mix of high explosives (micro-nukes and PGMs), low explosives (beam weapons and rail guns) and no explosives (biochemical agents).[58]

Wars Hot and Cold

Soft weapons also circumvent current military operations in another fundamental way. An essential element of warfare is the ability to determine when one has been attacked. The use of a nuclear weapon, for example, is not likely to go unnoticed. This is not necessarily true of biological weapons.

An ominous new possibility is that attacks could be mounted which mimic natural phenomena so well that the onslaught may not be recognizable for what it is. Potentially, biological agents can be converted into the ultimate stealth weapons. The dark side of biotechnology enhances the opportunities for a kind of shadow war with no formal battlefronts and no detectable invasion.

One can analogize a nation's military forces to antibodies created by society to protect against, and deal with, external threats. But what if this protective "antibody" fails to recognize an invader or pinpoint the source? Invisible attacks of this sort represent the highest level of maneuver warfare. According to Jeremy Rivkin, "microbes are the foot-soldiers of the 21st

century."[59] More precisely, they threaten to become the elite saboteurs of the coming century. To the degree that hot wars grow increasingly impractical, the surreptitious and protean nature of soft weapons will unfortunately encourage their use as an extension of war by other means.[60]

The biotechnological revolution has unfolded dangerous new possibilities for converting the basic processes of life into weaponry. Still in its infancy, this revolution is likely to be a source of continuing surprises. From the standpoint of national security, the United States must track these developments closely to minimize the chance of a decisive trump card turning up in enemy hands. To paraphase Mao's well-known maxim, future power may come from the mouth of a test-tube as well as from the barrel of a gun.

Thus far, the national investment in biological defensive research has been a pittance compared to the expenditures made for traditional military systems. As discussed earlier, the deeper threat of biological agents lies not with formal use on a battlefield, but rather in their potential to become extraordinary weapons of stealth. Compared to the murky world of biological threats, nuclear weapons have an aura of refreshing clarity. Both types of weaponry pose grave dangers to U.S. security. Unfortunately, however, America's military ethos—centered around engineering, hardware, and firepower—makes it difficult for us to grasp the true strategic significance of soft weapons. Ironically, while the United States contemplates spending a sizeable part of its national treasure on SDI, comparatively few resources are being channeled to close a serious defensive gap now opening up along the biological frontier.

Our current international wrestling match over chemical weapons is only a forerunner of the far harder bout to come. A revolution in biology is liberating the life sciences and also unleashing the potential for bioweapons capable of nearly infinite refinement. Decisions made now, or evaded, about how to cope with the military implications of biotechnology, will cast a long shadow into the future. At present, the problem is comparatively small but it could easily cascade beyond control within a decade. Although the United States has begun to pay more attention to military biology in recent years, our overall stance still suggests a continuing inclination to whistle past the graveyard. If we fail to counter the expanding threat of biological warfare, someday this metaphor could take on a new and macabre meaning.

Notes

1. See Manfred Hamm, "Deterrence, Chemical Warfare, and Arms Control," *Orbis*, Spring 1985, p. 157.

2. Joseph Douglass, Jr., "The Challenges of Biochemical Warfare," *Global Affairs*, Winter 1988, p. 156.

3. Charles Piller and Keith Yamamoto, *Gene Wars* (New York: William Morrow, 1988), p. 113.

4. In 1987, the Soviets alleged that AIDS was created by an American biological weapon experiment gone haywire. Although no evidence has been offered to support this charge, some studies conclude that it would he possible to manipulate genes to interfere with the body's immune system. See Piller and Yamamoto, p. 97.

5. Douglas Feith, "Biological Weapons & the Limits of Arms Control," *The National Interest*, Winter 1986/87, p. 81. Feith served as deputy assistant secretary of defense for negotiations policy from March 1984 to September 1986.

6. Michael Gordon, "Libya Says It Can Make Chemical Arms If Others Do," *New York Times*, 10 January 1989, p. A12. Libya is reported to have a joint biological warfare program nnderway with Romania. See Joseph Douglass, Jr., "Soviets Surge in Biochemical Warfare; West Remains Drugged with Apathy," *Armed Forces Journal International* August 1988, p. 58.

7. John Fialka, "Chemical Weapons Spread in Third World, Pose Challenge to West," *Wall Street Journal*, 15 September 1988, p. 1; Lee Lescaze, "Qnest for Way to Block Biological Weapons Is Itself Called a Threat," *Wall Street Journal*, 19 September 1988, p. 1; Elisa Harris, "CBW Arms Control: A Regime Under Attack?" *Arms Control Today*, September 1986, p. 9. The following nations are reported to he either members of the chemical club or on the verge: United States, Soviet Union, France, Iraq, Iran, Egypt, Syria, Israel, Libya, North Korea, South Korea, Taiwan, China, South Africa, Romania, Czechoslovakia, Indonesia, Vietnam and Ethiopia. No nation admits to stockpiling biological weapons. Countries helieved to have the capacity for developing a bioweapon on short notice include the United States, Soviet Union, Iraq, Egypt, Iran, Israel, Syria, China and Romania.

8. Modern weapons and munitions are enormously costly, and very few countries have the resources to spend large sums developing and stockpiling arms. The more expensive war stays, the fewer the nations that can pose a conventional threat. Unfortunately, biological and chemical (B/C) weapons threaten a lot of destruction at relatively little cost. In the judgment of Robert Gates, the new Deputy National Security Advisor, "the most immediate threat to world peace may well come from the proliferatiou of chemical and biological warfare in the Third World." David Ottaway, "Middle East Weapons Proliferate," *Washington Post*, 19 December 1988, p. A11.

9. Fred Ikle, Albert Wohlstetter, eds., *Discriminate Deterrence: Report of the Commission on Integrated Long-Term Strategy* (Washington: U.S. Govt. Print. Off., 1988), p. 10.

10. John Cushman, "U.S. Cites Increase in Biological Arms," *New York Times*, 4 May 1988, p. A9.

11. A breakthrough in biology described as "the most significant technological event since the Industrial Revolution," Joseph Douglass, Jr. and Neil Livingstone, *America the Vulnerable* (Lexington, Mass.: Lexington Books, 1987), p. 3, will be difficult to ignore, either militarily or commercially. The genie of genetic engineering canuot be stuffed back into its bottle for two basic reasons. First, the logic of deterrence and counterdeterrence suggests that in a fearful world nations will teud to explore and, where practical, exploit new technology for military purposes—if only to forestall an adversary from gainiug an advantage.

Second, the commercial utility of genetic engineeriug continues to expand. As global oil supplies dwindle, the economics of production will gradually encourage chemical and pharmaceutical industries to use biotechnological methods in key production processes. As a result, even without overt military pressure, a vast reserviour of gene-cloniug expertise will build up. This commercial momentum means that "in the not-too-distant future, countries throughout the world will learn how to produce an enormous variety of large biological molecules, including toxins, on a scale that was previously inconceivable." Jonathan Tucker, "Gene Wars," *Foreign Policy*, Winter 1984-85, p. 65.

12. Ottaway, p. A4.

13. George Moffett, III, "Israel: Determined Not to be a Chemical Target," *Christian Science Monitor*, 13 December 1988, p. B15.

14. Ottaway, p. A4.

15. "Israeli Satellite Is 'Threat' Say Arabs," *Jane's Defense Weekly*, 1 October 1988, p. 753.

16. Fialka, p. 1, citing an uuidentified "U.S. government expert."

17. Dr. Robert Kupperman, quoted in William Rempel and Robin Wright, "How Spying, Analysis and Luck Provided Proof of Libyan Chemical Warfare Plant," *The Providence Sunday Journal*, 22 January 1989, p. A-8.

18. However, even if chemical weapons are just a harbinger of greater troubles to come, at present the main threat to Middle East stability appears to be chemical. With Israel holding an estimated 50-100 uuclear weapons and Arab adversaries beginuing to amass a significant number of deliverable chemical aud perhaps biological warheads, the region is entering a hair-trigger environment.

In essence, the Middle East is uudergoiug a shift from Israel's assured military superiority to a regime of reciprocal deterrence loosely equivalent to the U.S./Soviet notion of mutual assured destruction (MAD). Understandably, Israel views this turn of events with alarm and is currently mulling over whether to invest in an offensive or defensive strategy to deal with the new Arab threat.

The Middle East may simply he too volatile to permit transition to, much less maintenance of, a stable MAD equilibrium. Prime Minister Shamir and Defense Minister Rabin have already dropped strong hints that major chemical attacks against Israel would be met with a nuclear rather than chemical or conventional reply. (See Leonard Spector, "Nonproliferation After the Bomb Has Spread," *Arms Control Today*, December 1988, p. 10.) The proliferation of missiles and B/C weapons increases the chance of miscalculation by either side—and resurrects the possibility that Israel might take desperate retaliatory measures, such as using shaped nuclear charges to contaminate or even obliterate key oil fields upon which the wealth, and ultimately the military might, of the Arab bloc depends.

19. Feith, p. 82. See also Richard Wohl, "Biological Warfare: Advances Breed New Dangers," *Defense Science 2002+*, August 1984, p. 57. Another indicator of Soviet interest in B/C technology is that in recent years 70 percent of all Soviet requests for research papers made to American universities, research establishments and libraries have been on subjects involving chemical and biological engineering. See John Hemsley, *The Soviet Biochemical Threat to NATO* (New York: St. Martin's 1987), pp. 126-127.

20. The Soviets place a high priority on targeting an adversary's command and control apparatus. Although many of NATO's key C^3 sites have been hardened to offer some protection against conventional and even nuclear blasts, they remain relatively vulnerable to attack by B/C agents. As John Hemsley notes, "the problems associated with air-conditioning, limited capacities of closed-circuit systems, and staff shifts . . . [are] likely to become more acute with the introduction of 'novel' agents during the next decade." Hemsley, pp. 128-129. Hemsley is particularly concerned that the Soviets seem to be on the threshold of developing a new series of "penetrant and discipline breaker" agents which, in his judgment, will make "all hardened and static headquarters' sites especially vulnerable to CBW." *Ibid.*, p. 143.

21. Remedy of this deficiency will begin in 1990 when a new U.S. binary chemical bomb, the Bigeye, becomes available.

22. Douglass and Livingstone, p. 101.

23. Hemsley, p. 49.

24. See Lescaze.

25. Gary Thatcher, "Disease as an Agent of War," *Christian Science Monitor*, 15 December 1988, p. B10. It is also plausible, of course, that Falin's statement—far from being an unguarded comment—was a deliberate attempt to plant an idea intended to discourage SDI. Since then, there appear to have been no further open-source Soviet statements linking SDI and biotechnology. As John Hemsley points out, however, for reasons of economy "it could well prove that the Soviet Union sees biotechnologically derived 'designer' agents as the logical response to SDI." Hemsley, p. 48.

26. U.S. Dept. of State, *Chemical Warfare in Southeast Asia and Afghanistan*, Special Report no. 98 (Washington: March 1982) and U.S. Dept. of State, *Chemical Warfare in Southeast Asia and Afghanistan: An Update*, Special Report no. 104, November 1982. The government case was based on multiple information sources: testimony of victims and defectors, epidemiological data, analysis of medical samples, physical samples from attack sites, and intelligence data.

27. For criticism of the reliability of the government's evidence on yellow rain, see J. Robinson, "Chemical and Biological Warfare: Developments in 1983," in SIPRI, *World Armaments and Disarmament, SIPRI Yearbook 1983* (London: Taylor & Francis, 1984), pp. 336-338; S. Salaff, "Yellow Rain: Time for Re-evaluation," *Journal of Contemporary Asia*, v. 14, no. 3, 1984, pp. 380-395 and E. Guyot, "Yellow Rain: The Case is Not Proved," *The Nation*, 10 November 1984, pp. 465-484.

For alternative theories which explain yellow rain as a natural phenomenon, see M. Meselson, "The Search for Yellow Rain," *Arms Control Today*, September 1986, pp. 31-36; and L. Ember, "Yellow Rain," *Chemical and Engineering News*, 9 January 1984, p. 11.

28. S. Schwartzstein, "Statement," U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee on Arms Control, Oceans, International Operations and Environment, *Yellow Rain: The Arms Control Implications*, Hearing (Washington: U.S. Govt. Print. Off., 1983), p. 109.

29. Douglass, "The Challenges of Biochemical Warfare," p. 159. See also U.S. Dept. of State, *Chemical Warfare in Southeast Asia and Afghanistan*, Special Report no. 98, March 1982.

30. Hemsley, p. 63; see also p. 23, n. 17, in which Hemsley cites N. V. Ogarkov, *Istoriya uchit bditelnosti* (Moscow: Voenizdat, 1985) for the proposition that the Soviets consider "modern forms of CBW . . . a quantum leap forward in the method of waging war."

31. Piller and Yamamoto, pp. 113-114.

32. Douglass, "The Challenges of Biochemical Warfare," p. 160. See also Wohl.

33. Piller and Yamamoto, p. 98, citing Raymond Zilinskas, "Managing the International Consequences of Recombinant DNA Research," Ph.D. dissertation, Los Angeles: Univ. of Southern California, 1981.

34. An interesting feature of biological warfare is the absence of realistic options for counterforce targeting. Germs and toxins attack people (or livestock, crops, etc.), but not an enemy's retaliatory capacity, either nuclear or biological. By itself, a traceable bioweapons attack is a perilous gambit: It

would serve to provoke an adversary without immediately disarming him. In a struggle between superpowers, the only practical value of a massive biological warfare capability is to provide limited insurance for the possible neutralization of one's nuclear arsenal. In other words, at the level of strategic interaction among the superpowers, *overt* biological warfare serves primarily as a back-up deterrent, and not as a first-strike weapon.

35. Piller and Yamamoto, p. 129, quoting David Kingsbury when he was director of the Naval Biosciences Laboratory in Oakland, California in 1984.

36. U.S. Congress, Senate, Committee on Armed Services, *Chemical Warfare Review Commission*, Staff Report (Washington: U.S. Govt. Print. Off., 1985), p. 118.

37. Douglass and Livingstone, p. 74. The Soviets are also reported to be working on quick-acting diseases, with an incubation period of a few hours, that could serve a tactical function. See Douglass, "Soviets Surge in Biochemical Warfare," p. 58; and Douglass, *America The Vulnerable*, p. 77.

38. Piller and Yamamoto, p. 72.

39. Military planners tend to evaluate biological agents almost exclusively in terms of their threat as antipersonnel weapons. Just as important, however, is biological warfare's potential for harming other life. For example, plants lack an immune system and are therefore especially vulnerable to biological attack. This susceptibility is magnified by the widespread use of monocultivation, i.e., the planting of genetically identical strains to boost crop yield, as an agricultural standard in Western countries. Monocultivation provides ideal targets for biological warfare.

40. Another possible source of a B/C threat inside American borders might be terrorism. Although terrorists have targeted American citizens and interests throughout the world, thus far relatively little activity has been reported within the United States. In addition, up to this time nearly all terrorist groups have relied on conventional weaponry to carry out their attacks.

Many experts believe terrorists have not yet turned to B/C weapons because potential drawbacks continue to outweigh expected benefits. (See Elliot Horwitz, "Terrorists and Chemical/Biological Weapons," *Naval War College Review*, May-June 1982, pp. 36–40; L. Paul Bremer, III, "High Technology Terrorism," *Dept. of State Bulletin*, July 1988, pp. 65-67.) The likely gains from a B/C attack resulting in mass casualties would be spectacular visibility and perhaps short-term bargaining power; the probable disadvantages would include deep public revulsion, a high risk of alienating key support groups, and an unleashing of extremely vigorous countermeasures. As Dr. Robert Kupperman, terrorism expert at the Center for Strategic and International Studies in Washington points out, government pursuit of bioterrorists would probably be relentless: "If terrorists start to use [biologicals], there is no end to which a nation would go to stop them." (Jeanne McDermott, *The Killing Winds* (New York: Arbor House, 1987), pp. 254–255.)

To some degree, terrorism is theater—a kind of psychodrama played out on the world stage with real victims to gain public attention for desperate causes. As Brian Jenkins sees it, "[t]errorists want a lot of people watching and a lot of people listening, not a lot of people dead." (Augustus Norton, "Terrorists, Atoms and the Future," *Naval War College Review*, May-June 1979, p. 42.) Of course, this logic holds only so long as the death of a few continues to be newsworthy. Some observers worry that after a decade of being exposed to terrorism based on conventional explosives, people are becoming "desensitized." (See Harvey McGeorge, "Reversing the Trend on Terror," *Defense & Foreign Affairs*, April 1988, p. 16.) Accordingly, as existing techniques begin to lose their propaganda punch, the temptation for terrorists to turn to more exotic and deadly means will grow. For this school of thought, the question is not whether B/C weapons will be used by terrorists, but only *when*.

Whatever their stance on the psychodynamics of terrorism, analysts generally agree on at least one point: the means to construct chemical or biological weapons are now within the grasp of many nonstate groups and, as time passes, the killing potential of these means will only expand. As previously discussed, many experts rely on a benefit-burden analysis to support their conclusion that terrorists are unlikely to resort to B/C agents. Unavoidably, such an argument pivots around the notion of a "rational" terrorist. There may be some freedom fighters who are not so calculating—those who, in a spasm of retribution, might seek to destroy what they cannot realistically hope to control. A terrorist group determined to inflict mass casualties (rather than just engage in theatrics) could well turn to B/C agents. The capability exists already. It seems inevitable that the international political climate will at some point be ripe to spawn an unholy trinity of bugs, drugs and thugs.

41. John Tower, "The Politics of Chemical Deterrence," *Washington Quarterly*, Spring 1982, p. 36. See also Maufred Hamm, pp. 127-128. In Hamm's judgment, "NATO has long relied in practice on the threat of nuclear escalation to deter Moscow from initiating chemical combat. But a nuclear response has always lacked credibility. . . . It can be all but ruled out that NATO's political leaders would muster the courage to permit the use of nuclear weapons to retaliate against chemical attacks or to transfer this decision to their military commanders in order to make the nuclear response automatic."

42. Quoted in Jonathan Tucker, "Gene Wars," *Foreign Policy*, Winter 1984-85, p. 76.

43. Piller and Yamamoto, p. 175, quoting Richard Novick, director of the New York Public Health Research Institute.

44. Feith, p. 83. Feith's conclusions have been widely shared by government and private analysts. In 1986, H. Allen Holmes, an assistant secretary of state for politico-military affairs, opined that "the Convention, in our judgment, cannot be made effective through amendment or design." (Cited in David Dickson, "Gene Splicing Dominates Review of Weapons Pact," *Science*, 10 October 1986, p. 143.) In 1985 the Defense Science Board on Chemical Warfare and Biological Defense concluded that "technology has made obsolete much of the distinctions and language of the BW treaty." (Dept. of Defense, *Biological Defense Program*, Report to the Committee on Appropriations, House of Representatives, May 1986, chap. 1, p. 6.) For the past five years, in numerous articles and books, Joseph Douglass, Jr., has been arguing that the Biological Warfare Convention is a dangerous illusion lulling the United States to sleep. See, e.g., the Douglass sources cited in notes 2, 6, & 11 and Joseph Douglass, Jr. and H. Richard Lukens, "The Expanding Arena of Chemical-Biological Warfare," *Strategic Review*, Fall 1984, pp. 71-80. For a contrary view, that the Biological Warfare Convention is not hopelessly obsolescent and could perhaps be salvaged, see Piller and Yamamoto.

45. Feith, pp. 83-84.

46. Michael Gordon, "Senators Prepare Sanctions Laws For Supply and Use of Poison Gas," *New York Times*, 24 January 1989, p. A8.

47. John Kester, "Chemical Weapons, Cloudy Thinking," *New York Times*, 13 January 1989, p. A31.

48. Russell Watson, "The Winds of Death," *Newsweek*, 16 January 1989, p. 25. Other leading experts echo Burns' point. "It would be extremely difficult to detect a deliberate violation of a chemical warfare [CW] treaty—extremely difficult," observed Thomas Welch, deputy assistant to the secretary of defense for atomic energy and chemical matters. (Cited in Dan Boyle, "An End to Chemical Weapons—What are the Chances?" *International Defense Review*, September 1988, p. 1087.)

Brad Roberts, a CW expert at the Center for Strategic and International Studies in Washington, is quoted as concluding: "A realist would have to say that the prospects for a meaningful chemical disarmament regime are dim." (Russell Watson, "Letting a Genie Out of a Bottle," *Newsweek*, 19 September 1988, p. 31.)

49. Charles Flowerree, "Elimination of Chemical Weapons: Is Agreement In Sight?" *Arms Control Today*, April 1988, p. 9.

50. James Markham, "Arabs Link Curbs on Gas and A-Arms," *New York Times*, 9 January 1989, p. A8.

51. See Watson. Judging from pledges made during the election campaign, President Bush is keenly interested in keeping up the momentum for a CW treaty. "If I'm elected president," he said, "if I'm remembered for anything, it would be this: a complete and total ban on chemical weapons. Their destruction, forever. That is my solemn mission." Paul Taylor, "Bush: Ban Chemical Weapons," *Washington Post*, 22 October 1988, p. 7.

52. U.S. Army Dept., Committee on Chemical and Biological Sensor Technologies, *Assessment of Chemical and Biological Sensor Technologies* (Washington: June 1984), p. 50. Chemical and biological warfare agents are divided into three categories: chemical (synthetic compounds), biological (live organisms), and toxins (biologically derived chemical substances). To defend against these agents, sophisticated sensors are needed to detect and identify minute concentrations. At present, the U.S. military has a number of fielded systems, ranging from battlefield vans to personal dosimeters, capable of monitoring *chemical* threats. There is no comparable capability for detecting biological or toxin agents, which can now be diagnosed only with microbiologic and/or serologic testing procedures available in clinical laboratories. Some studies are beginning to explore the possibility of developing biomicrosensors, i.e., detection devices based on an interaction between the suspected agent and a sensitive membrane—to remedy this defect. In addition, new developments in immunoassay techniques and gene probes offer some promise for enhanced detection of biological agents. The ultimate goal is to develop a multi-function "biochip" (the biological equivalent of an integrated circuit) capable of serving as the building block for a portable sensor system for biological and toxin agents.

53. Ikle and Wohlstetter, p. 9.

54. Robert Tucker, "Using Force Against Libya," *New York Times*, 11 January 1989, p. A23.

55. David Ottaway, "U.S. Officials See Insufficient Grounds to Justify Attacking Libyan Plant Now," *Washington Post*, 8 January 1989, p. A24.

56. Tony Capaccio, "New Exotic Germs on the Way," *Defense Week*, 16 May 1988, p. 15.

57. See, generally, Steven Shaker and Alan Wise, *War Without Men—Robots on the Future Battlefield* (Oxford: Pergamon-Brassey's 1988). According to the authors: "the opportunities for weapon superiority afforded by [new] technologies, as well as the increasingly dangerous battlefield environment, may eventually relegate man to the role of behind-the-scenes strategist, leaving machines to perform the actual fighting. If current trends continue, it is not a question of whether this will happen, but rather

how long it will take" (p. 6). They estimate that fully autonomous robots will be deployed on the battlefield within 20-30 years and comprise the "preeminent" force within 50-60 years. *Ibid.*, pp. 10, 73. Ironically, the expanding threat of biochemical weapons will likely spur on the development of such robotic systems.

58. Of course, not all of society's important battles take place on a battleground in the formal sense. The continuum in which soft weapons can be used reaches beyond battlefields and the military's traditional capabilities for defense.

To cite a current example, one of the most damaging weapons systems presently being directed at the United States is chemical warfare in the guise of narcotics. According to some analysts, the growing trade in drugs involves more than just an unbridled quest for profits. In their judgment, the drug lords are being assisted by terrorists and certain governments hostile to the United States, for political reasons. Illicit drugs are not only a source of easy wealth but also a potent and expanding means to sap the vitality of American society. As explained by a high-ranking Nicaraguan defector, who claimed to have first-hand knowledge about Cuban and Sandinista strategy: "Yankee imperialism [is] armed to the teeth, believing that the Soviet Union [is] going to attack the U.S. as part of a nuclear war. But the Yankees [do] not realize that the Yankee imperialism [is] going to perish, eaten from within by . . . the drug traffic and the economic competition with Japan and the European Economic Community . . . ." (Testimony of Alvaro Aviles before the Senate Subcommittee on Security and Terrorism, quoted in Rachel Ehrenfeld, "Narco-Terrorism and the Cuban Connection," *Strategic Review*, Summer 1988, p. 60.)

Communist competition with the West is grounded on a belief in the inexorable and favorable march of history. Accordingly, patience becomes an essential element of the all-assets struggle. Nudge and chip and nibble away, but stop short of provoking a cataclysmic showdown. Given that frame of reference, why should adversaries engage in formal war if, at relatively little cost, they can stimulate efforts to eviscerate our society from within?

Several authors note that, historically, both the Soviet Union and the People's Republic of China have not been reluctant to use drugs as a weapon. (See Douglass, *America the Vulnerable*, pp. 119-126; and Alvin Buckelew, "The Secret World of Narcoterrorism," *Security Management*, September 1987, pp. 69-73.) In his article Alvin Buckelew, a former senior U.S. intelligence officer who served in East Asia and Latin America, traces narcotics "warfare" against the West over a 40-year period. Phase one began in 1949 when Mao Tse-tung directed a flow of narcotics to U.S. occupation troops in Japan and later to American forces in Korea. Phase two started in the early 1960s when, impressed by Chinese success in using what Mao referred to as "indigenous chemical warfare," the Soviets decided to mount a similar—but much broader—campaign against the West. In late 1962, following the rebuff of the Cuban Missile Crisis, Nikita Krushchev set into motion a large-scale operation to infiltrate narcotics into major Western nations. His declared intent was "to accelerate the process of demoralization of bourgeois society" by weakening American youth (Douglass, p. 121).

Also targeted, as an extension of the overall strategy, were members of the armed forces. The cheap and plentiful supply of drugs available to service members in Vietnam and Europe during the late 1960s and 1970s was no accident. As described by Buckelew: "in the late 1960s, the major drug [supplied by China to American troops in Vietnam] was exceptionally potent marijuana dipped in opium to create addiction. Later, nearly pure heroin arrived in the vicinity of US bases in Vietnam, at or below cost (eighty cents a gram), while the supply of marijuana and other drugs dried up. The objective was clearly to stimulate heroin use by American troops" (p. 71).

During the last decade the U.S. military has made substantial progress to bring its internal drug problem under control. The growing travail of American society as a whole, however, suggests that at least one prong of the original Sino-Soviet drug initiative continues to thrive as a self-sustaining weapon that pays for itself. And there may yet be worse to come. Douglass notes that the Soviet bloc has developed at least a half-dozen new "recreational" drugs which are deemed, on the basis of tests on prisoners, to be even more addictive and debilitating than cocaine. For now, the Soviets have decided not to "market" these new drugs but instead to hold them in reserve for the right opportunity (Douglass, p. 55).

59. Quoted in Gary Thatcher, "Disease as an Agent of War," *Christian Science Monitor*, 15 December 1988, p. B3.

60. Since 1945, nations possessing nuclear weapons have been careful not to engage in direct wars with each other. Most of the fighting has been done via proxies. But now that some of the proxy states are also beginning to acquire weapons of mass destruction, this technique might eventually become too risky as well. Twenty years from now, if current proliferation trends hold up, the world could easily have 50 nations with significant nuclear, chemical and/or biological capabilities. In such an environment, as weapons of mass destruction continue to disperse throughout the globe, hot wars will be a tricky

business; and even the euphemistically named low-intensity conflicts may become carefully modulated duels with more political than military content.

To follow this speculative path one step further, *if* the world becomes increasingly locked up militarily, then economic competition will be ascendant, and "warfare" might shift from overt to more covert forms. What could eventually emerge as a darker side to this economic struggle is an intensified campaign of "dirty tricks"—a stream of soft weapons designed to sap an adversary's vitality: computer viruses, designer drugs, insect pests and, tapping the new potential of bioweapons, an array of enfeebling agricultural, animal and human disorders.

To the extent possible, this cool war would be waged out of the public eye and off the military mapboard. During the past 45 years, it is likely that the first salvos in such a clandestine campaign have already been launched—silently and without fanfare. The concept of social sabotage is not new. What is disturbingly new, however, is the growing potential for biological and toxin agents to serve as weapons in such a struggle.

Don't Be Surprised

". . . And it is the quintessence of naiveté to expect that peoples with histories radically different from ours will necessarily accept our political, social, economic and ethical values."

Henry M. Wriston:
Foreign Affairs, April 1962
(p. 382)

The Constitution and Presidential War Making against Libya

Lieutenant David L. Hall, U.S. Naval Reserve

Since the Vietnam war, U.S. military operations have been followed by intensive but short-lived debates about the constitutionality of the unilateral use of military force by the President.[1] The tone of these debates became especially urgent during the development of what has been called a "compellent diplomacy"[2] under President Reagan. Opponents of presidential war making have argued that since Congress alone is empowered to declare war,[3] the President exceeds the scope of his constitutional authority by employing force abroad without a declaration of war. Proponents of the President's actions have claimed that his authority as the nation's chief executive and as commander in chief[4] of the armed forces justifies his actions. Superimposed over these constitutional debates have been statutory wrangles about the President's compliance with the requirements of the War Powers Resolution,[5] which was enacted in 1973. Some observers have found the legal issues to be either overwhelming or irrelevant; after the Grenada intervention, *The Wall Street Journal* wished the lawyers would "shut up."[6] Nevertheless, the stakes in these debates are quite high: at issue is not only the question of which branch of government is constitutionally empowered to make war, but also the broader question of how seriously the Constitution is to be treated in determining the distribution of war powers.

One source of confusion and incoherence in the post-Vietnam war powers debates has been the failure of many participants to distinguish the question of whether the President's actions were lawful from the question of whether they were wise.[7] This article is about the former; it seeks to determine whether the circumstances under which the Constitution permits the President to use military force, wisely or not, were present during the 14 April 1986 air strikes against Libya.

Lieutenant Hall serves as an air intelligence officer with Naval Reserve Patrol Wing 0593, NAS Willow Grove, Pennsylvania. He received an A.B. degree from Dartmouth College, an M.P.P.M. from Yale University and holds an M.A. and a J.D. from the University of Pennsylvania.

The Libya Mission as a Case Study

On more than a hundred occasions since the Constitutional Convention of 1787, Presidents have waged war without a congressional declaration.[8] During one such undeclared war in Vietnam, some commentators insisted that the President's use of force was not lawful.[9] Others, including several courts,[10] argued that the President's use of force in Vietnam was authorized by the Tonkin Gulf Resolution,[11] as well as numerous appropriations and draft enactments. Even those who contend that the Vietnam War was unconstitutional acknowledge that at least some aspects of the war, such as its financing, were authorized by Congress. For these critics, the argument that the Vietnam War was unconstitutional is based solely on the absence of a declaration of war.

In spite of this criticism, post-Vietnam presidential war making has been accompanied by less congressional authorization than was the Vietnam War. The introduction of U.S. Marines into Lebanon in 1982, for example, was only authorized by Congress in 1983 by the Multinational Force in Lebanon Resolution.[12] The 1983 intervention in Grenada[13] was also preceded by no express congressional authorization. Similarly, the only formal contact between the President and Congress on the question of the 1986 air strikes against Libya took place several hours before commencement of operations and did not result in any form of congressional approval, either express or implied. The Libya mission[14] thus provides an unambiguous factual situation against which to test the scope of the President's constitutional war-making authority. If some form of prestrike congressional authorization (whether or not a declaration of war) was required by the Constitution, then the President's conduct on 14 April 1986 was clearly unconstitutional. If not, then the President's action was undertaken within the bounds of his constitutional authority.

The Libya Mission[15]

On the morning of 27 December 1985, terrorists attacked and killed civilians, including five Americans, in the Vienna and Rome airports.[16] The Abu Nidal terrorist group was widely suspected of executing the attack. Abu Nidal was linked by a 31 December 1985 State Department study to the government of Libya.[17] Specifically, the study found a "likelihood" of support from Libya in the form of "financing, safehaven and logistical assistance."[18] Libya denied involvement in the Rome and Vienna attacks,[19] even as it praised them. On 29 December, the Libyan press agency, JANA, termed the Rome and Vienna attacks "heroic."[20] By contrast, Yasir Arafat, chairman of the Palestinian Liberation Organization, condemned the attacks.[21]

Despite Libya's denial, the United States accused Libya of participation.[22] A State Department report issued 8 January 1986, stated: "[Colonel Muammar el-] Qaddafi has used terrorism as one of the primary instruments of his foreign policy and supports radical groups which use terrorist tactics. . . . Qaddafi has provided safe haven, money and arms to these groups—including the notorious Abu Nidal group. . . . Libya's support has broadened to include logistical support for terrorist operations. For example, Libya provided passports to the Abu Nidal members responsible for the [27 December 1985] attack on the El Al counter in Vienna."[23] Although Qaddafi at first denied the State Department's allegations, he later proclaimed, "I declare that we shall train [certain groups] . . . for terrorist and suicide missions and . . . place all weapons needed for such missions at their disposal. . . . Libya is a base for the liberation of Palestine."[24]

The United States brought punitive measures against Libya, imposing trade restrictions and freezing Libyan government assets held by U.S. banks.[25] Rumors ran high about the possibility of military operations, Secretary of State George P. Shultz and Secretary of Defense Caspar W. Weinberger disagreeing over the advisability of such action. Secretary Weinberger disputed the suggestion of Secretary Shultz that military action against Libya should be undertaken in the absence of data absolutely confirming a direct connection between specific terrorist acts and Libya.[26] Secretary Shultz said that the United States "cannot wait for absolute certainty and clarity" as a precondition for military action.[27] He added, "A nation attacked by terrorists is permitted [by international law] to use force to prevent or preempt future attacks, to seize terrorists or to rescue its citizens when no other means is available."[28] Secretary Weinberger, on the other hand, criticized those pursuing "instant gratification from some kind of bombing attack without being too worried about the details."[29] He raised "the basic question of whether what we are doing will discourage and diminish terrorism in the future."[30]

By the end of March, three U.S. aircraft carriers, the *Coral Sea*, the *Saratoga*, and the *America*, and their battle groups were operating in the Mediterranean, and the Pentagon announced plans for naval air operations over the Gulf of Sidra.[31] Libya considered these activities to be provocative because it claimed the entire 150,000-square-mile Gulf as part of Libyan territorial waters. This territorial dispute had led, in August of 1981, to the downing of two Libyan SU-22 fighters by two U.S. Navy F-14 fighters. On 24 March 1986, during U.S. naval air operations over the Gulf of Sidra, Libyan shore batteries launched surface-to-air missiles (SAMs) against U.S. aircraft. The missiles missed, and U.S. naval forces retaliated by attacking the radar installation at the SAM site with HARM antiradiation missiles from naval aircraft. Later that day, naval aircraft launched Harpoon missiles

against a Libyan *La Combattante*-class fast-attack craft, sinking it. U.S. Navy aircraft also attacked a Libyan Nanuchka-class corvette proceeding toward the carrier task force.[32] In additiou, the guided missile cruiser U.S.S. *Yorktown* launched missiles against a second *La Combattante* fast-attack craft that had proceeded to within ten miles of the task force. On 25 March, Navy aircraft attacked a second Nanuchka-class corvette, leaving the vessel dead in the water and afire.[33] Former Secretary of the Navy John Lehman has reported that a total of three Libyan craft were destroyed.[34] On 27 March, President Reagan reported to Congress by letter that the naval exercises in the Gulf of Sidra had ended.[35] That same day, the Arab League's Council of Ministers denounced U.S. actions in the Gulf of Sidra.[36] Colonel Qaddafi claimed victory.[37]

On 5 April, terrorists bombed a West Berlin nightclub frequented by U.S. military personnel, killing a civilian woman and an American soldier, Army Sergeant Kenneth T. Ford, and wounding scores of other Americans.[38] American officials in West Berlin declared a "definite, clear connection" between the bombing and Libya.[39] Robert B. Oakley, head of the State Department's counterterrorism office, stated that the bombing "fit the pattern" of Libya-sponsored terrorism.[40] West German officials focused their investigation on reports that the Libyan People's Bureau in East Berlin had used its embassy status to provide logistical support to terrorists operating in West Berlin.[41] France expelled two Libyan diplomats accused of participating in the planning of terrorist attacks against Americans in Europe.[42] On 9 April, President Reagan held a press conference during which he announced that the United States had "considerable evidence" indicating Libyan support for terrorism against Americans.[43] The President announced his intention to act militarily if further intelligence established a direct connection between Libya and the terrorists. "We're going to defend ourselves," he said.[44]

Early on 14 April (15 April local) 1986, U.S. forces executed air strikes against Libyan targets. Air Force F-111 aircraft bombed targets in and around Tripoli: the military side of the Tripoli airport, the Libyan External Security building, the el-Azziziya military barracks (including the compound of Libyan leader Colonel Muammar el-Qaddafi), and the Libyan commando training center of Sidi Bilal.[45] Navy attack aircraft bombed military targets in and around Benghazi, including the Benina air base and the Jamahiriya barracks.[46] These targets had been selected to "stop Qaddafi's direction of and support of international terrorism."[47] U.S. aircraft encountered significant resistance from SAM batteries and antiaircraft artillery.[48] For undetermined reasons, one F-111 was lost, as were its two crewmen, Air Force Captains Paul F. Lorence and Fernando L. Ribas-Dominicci. Some residential neighborhoods in Tripoli were damaged in the attack,[49] although

accounts differed as to whether the damage was caused by U.S. bombs or Libyan SAMs returning to earth undetonated.[50]

Secretary Shultz stated at the press conference announcing the operation that the strikes had been ordered as the result of "irrefutable" evidence of Libyan involvement in the bombing of the West Berlin club.[51] He said that the strike was necessary to deter future Libyan support of terrorism.[52] "If you raise the costs [of terrorism]," he stated, "you do something that should eventually act as a deterrent. And that is the primary objective, to defend ourselves both in the immediate sense and prospectively."[53] President Reagan addressed the nation to confirm that Libya had played a "direct" role in the Berlin bombing; he said that "Libya's agents . . . planted the bomb."[54] President Reagan stated that the air strikes were conducted in retaliation for the Libyan role in the Berlin bombing and were "preemptive" in nature.[55] "Self-defense is not only our right, it is our duty," he said.[56]

The Libya Mission and the U.S. Constitution

The Constitution's Framers did not want the President to be the King.[57] Indeed, the Articles of Confederation, ratified just six years before the Constitutional Convention of 1787, did not provide for a national executive at all. It is clear, then, that the Framers did not mean to render the President omnipotent. It is equally clear, however, that they did not mean for the President to be an impotent, titular executive. The Framers did name the President commander in chief of all military forces, grant the President executive power, and designate him the primary agent for the conduct of foreign affairs. On the other hand, the Framers granted Congress the powers to declare war and to ratify or withhold ratification of the President's treaties, thus inviting a "struggle for power"[58] in the area of foreign relations.[59] The fact is that the record of the Framers' debate on war powers is so wide-ranging and inconclusive that proponents of each view can find significant support in the record. Supreme Court Justice Jackson noted in 1952: "Just what our forefathers did envision, or would have envisioned had they foreseen modern conditions, must be derived from materials almost as enigmatic as the dreams Joseph was called upon to interpret for Pharaoh. A century and a half of partisan debate and scholarly speculation yields no net result but only supplies more or less apt quotations from respected sources on each side of any question. They largely cancel each other."[60]

The spare record of the constitutional debate does not contain a definition of the powers of the commander in chief. This silence is consistent with the collective ambivalence expressed by the Framers about the war powers in general: the President, on the one hand, should not have unfettered war-making power and, on the other, should be able to respond to crises affecting

national security. Alexander Hamilton, who favored a strong executive, attempted to reconcile the tension in the Framers' ambivalent view by stating that the President was "to have the direction of war when authorized or begun."[61] This remark can be taken to mean that the President can direct a war "only after it has been commenced"[62] by congressional declaration. Indeed, James Madison emphasized the distinction between the President's power "to conduct a war" and Congress' power to decide "whether a war ought to be commenced, continued, or concluded."[63] But Hamilton's statement contemplates the possibility of congressionally unauthorized war by establishing the disjunction, "authorized" *or* otherwise "begun." Hamilton expressed his position more clearly when he wrote: "[I]t is the peculiar and exclusive province of Congress, *when the nation is at peace* to change that state into a state of war; whether from calculations of policy, or from provocations, or injuries received: in other words, it belongs to Congress only, *to go to War*. But when a foreign nation declares or openly and outwardly makes war upon the United States, they are then by the very fact *already at war*, and any declaration on the part of Congress is nugatory; it is at least unnecessary."[64]

Hamilton and the other Framers did not consider war to be unlawful in the absence of express legislative authorization; undeclared war was well known to the Framers. Indeed, between "1700 and 1870, declarations of war prior to hostilities only occurred in one case out of ten. . . ."[65] The issue of whether to wage undeclared war arose in the early years of the nation. In 1798, for example, President Adams embraced the suggestion of Secretary of War James McHenry to not seek a congressional declaration of war against France and instead to engage in a "qualified hostility," which, "while it secures the objects essential and preparatory to a state of open war, involves in it the fewest evils. . . ."[66]

So the Framers' collective point of view lies away from the extremes: war is not necessarily illegal when undeclared[67] and the President is neither omnipotent nor impotent. From this context emerges the rule that, regardless of whether the President may engage lawfully in offensive,[68] sustained war, he may act unilaterally in an emergency to defend the security of the United States without congressional approval.[69] The validity of this generalization is not subject to serious doubt. Indeed, it was James Madison, otherwise disinclined to grant the President war-making power, who moved the Constitutional Convention to delete language in the draft Constitution empowering Congress to "make" war and to replace it with language granting Congress the power to "declare" war. Such a change, said Madison, would leave "to the Executive the power to repel sudden attacks."[70] Madison's motion carried, indicating that even in withholding from the President the royal prerogative to declare war, the Framers granted the

President some measure of power to defend the national security without a congressional declaration of war.

Although this power to defend[71] was not conferred on the President by the express language of the Constitution, it has been recognized by the courts. In *Durand v. Hollis*,[72] the federal District Court ruled on the lawfulness of President Pierce's approval in 1854 of the naval bombardment of Greytown, Nicaragua, in response to the failure of the revolutionary government to make reparations to Americans harmed by recent violence. "The question whether it was the duty of the president to interpose for the protection of the citizens at Greytown against an irresponsible and marauding community that had established itself there, was a public political question, in which the government, as well as the citizens whose interests were involved, was concerned, and which belonged to the executive to determine; and his decision is final and conclusive, and justified the defendant [naval officer] in the execution of his orders given through the secretary of the navy."

In the *Prize Cases*, the Supreme Court found President Lincoln's naval blockade of Southern ports to be lawful and stated: "If a war be made by invasion of a foreign nation, the President is not only authorized but bound to resist force by force. He does not initiate the war, but is bound to accept the challenge without waiting for any special legislative authority."[73] The Supreme Court's interpretation in the *Prize Cases* is consistent with Hamilton's view of the President's war-making power. It is now axiomatic that another nation's initiation of hostilities against the United States (including U.S. citizens and their property) justifies unilateral defensive war making by the President. As a corollary, the President is constitutionally authorized to determine whether or not the United States is involved in a situation justifying the use of force for defensive purposes.[74]

One indication of how the Founding Fathers viewed presidential war making is the manner in which the early Presidents exercised their war-making power. President Washington was provoked in 1794 by the establishment by the British of a fort twenty miles inside the western boundary of the United States. Without consulting Congress, he caused the following order to be issued to General Wayne, Commander of the Western Department: "If, therefore, in the course of your operations against the Indian enemy, it should become necessary to dislodge the [British] party at the [fort located at the] rapids of the Miami [River], you are hereby authorized, in the name of the President of the United States, to do it."[75]

Early in his presidency, Thomas Jefferson, who viewed the congressional power to declare war as an "effectual check to the Dog of war,"[76] ordered the Navy to defend American commercial vessels in the Mediterranean against the Barbary pirates without congressional declaration of war.

Consequently, the 12-gun tender U.S.S. *Enterprise* engaged and captured a 14-gun corsair of the Bey of Tripoli. On 8 December 1801, President Jefferson reported to Congress in his First Annual Message: "I sent a small squadron of frigates into the Mediterranean, with assurances to that Power [the Bey of Tripoli] of our sincere desire to remain in peace, but with orders to protect our commerce against the threatened attack. . . . The Bey had already declared war. His cruisers were out. Two had arrived at Gibraltar. Our commerce in the Mediterranean was blockaded and that of the Atlantic in peril. The arrival of our squadron dispelled the danger. One of the Tripolitan cruisers, having fallen in with and engaged the small schooner *Enterprise*, commanded by Lieutenant Sterret, which had gone as a tender to our larger vessels, was captured, after a heavy slaughter of her men, without the loss of a single one on our part. . . . Unauthorized by the Constitution, without the sanction of Congress, to go beyond the line of defense, the [Tripolitan] vessel, being disabled from committing further hostilities, was liberated with its crew. The Legislature will doubtless consider whether, by authorizing measures of offense also, they will place our force on an equal footing with that of its adversaries. I communicate all material information on this subject, that in the exercise of this important function confided by the Constitution to the legislature exclusively their judgment may form itself on a knowledge and consideration of every circumstance of weight."[77]

This message suggests no doubt in President Jefferson's mind about his authority to commit naval forces to combat for defensive purposes in the face of *de facto* war without a congressional declaration of war. It also suggests that President Jefferson recognized a prohibition against presidential war making beyond the scope of tactical self-defense in an engagement commenced by the enemy. This latter appearance, however, is misleading. What President Jefferson did not report to Congress is that, without congressional authorization, he had ordered the squadron to which the *Enterprise* was attached to engage Barbary naval forces. On President Jefferson's behalf, General Samuel Smith, Acting Secretary of the Navy, wrote to Commodore Richard Dale on 30 May 1801: "Recent accounts received from the consnl of the United States, employed near the regencies of Algiers, Tunis and Tripoli, give cause to fear, that they will attack our commerce, if unprotected, within the Mediterranean; but particularly, such apprehension is justified by absolute threats on the part of the Dey* of Tripoli.

"Under such circumstances, it is thought probable, that a small squadron of well appointed frigates appearing before their ports, will have a tendency

*Bey and Dey are interchangeable.

to prevent their breaking the peace which has been made, and which has subsisted for some years, between them and the United States.

"It is also thought, that such a squadron, commanded by some of our most gallant officers, known to be stationed in the Mediterranean, will give confidence to our merchants, and tend greatly to increase the commerce of the country within those seas.

"I am therefore instructed by the President to direct, that you proceed with all possible expedition, with the squadron under your command, to the Mediterranean.

" . . . [S]hould you find on your arrival at Gibraltar, that all the Barbary powers have declared war against the United States, you will then distribute your force in such a manner, as your judgment shall direct, so as best to protect our commerce and chastise their insolence—by sinking, burning, or destroying their ships and vessels wherever you shall find them. The better to enable you to form a just determination, you are herewith furnished with a correct state of the strength and situation of each of the Barbary powers. The principal strength you will see, is that of Algiers. The force of Tunis and Tripoli is contemptible, and might be crushed with any one of the frigates under your command.

"Should Algiers alone have declared war against the United States, you will cruise off that port so as effectually to prevent anything from going in or coming out, and you will sink, burn, or otherwise destroy their ships and vessels wherever you find them.

"Should the Dey of Tripoli have declared war, (as he has threatened) against the United States, you will then proceed direct to that port, where you will lay your ship in such a position as effectually to prevent any of their vessels from going in or out."[78]

If anything is clear from the message from Secretary Smith to Commodore Dale, it is that President Jefferson viewed his authority as extending to preemptive war making against foreign powers that had displayed hostile intent. President Jefferson's view thus appears similar to President Reagan's. Neither President was required to obtain congressional authorization prior to the employment of armed force to defend U.S. citizens or property from imminent threat.

The rationale for this rule is that the exigency[79] of circumstances justifies the President's action. Interpreting the Militia Act of 1795, the Supreme Court stated in 1827: "We are all of opinion, that the authority to decide whether the exigency has arisen, belongs exclusively to the president, and that his decision is conclusive upon all other persons. We think that this construction necessarily results from the nature of the power itself. . . . The power itself is to be exercised upon sudden emergencies, upon great

occasions of state, and under circumstances which may be vital to the existence of the Union."[80]

The Court's reference to "power" is not free from ambiguity. On the one hand, the Court held that the Militia Act of 1795 conferred on the President statutory power to determine the existence of a national emergency. Thus the Court may have intended to limit its holding to the President's statutory powers, granted by Congress. On the other hand, the Court found that the President as chief executive and commander in chief "is necessarily constituted the judge of the existence of the exigency, in the first instance, and is bound to act according to his belief of the facts."[81] The most natural interpretation of the opinion is that the Court found the President so empowered under both the Militia Act of 1795 and the Constitution. The Supreme Court was more clear in 1863 when the same question arose in the context of the Civil War: "Whether the President in fulfilling his duties, as Commander-in-chief, in suppressing an insurrection, has met with such armed hostile resistance, and a civil war of such alarming proportions as will compel him to accord to them the character of belligerents, is a question to be decided *by him*. . . ."[82] Thus the President is constitutionally authorized not only to defend against an imminent threat to the lives or property of U.S. citizens, but also to determine whether a threat is sufficiently imminent to justify the use of force without a congressional declaration of war.[83]

The pronouncements of the courts do not suggest, however, that the President's power to wage defensive war unilaterally is without limit. Since Congress exercises the power of appropriation,[84] Congress can refuse to fund disapproved military activity undertaken by the President.[85] Moreover, Congress possesses the ultimate weapon: impeachment of the President for "high crimes and misdemeanors."[86] However, although a few commentators have read Congress' power to declare war as incorporating a veto-like power to "declare *against* a war,"[87] no authoritative source supports such a conclusion. Indeed, the Framers unanimously rejected a proposal to grant Congress the power to declare war "and peace."[88]

This balance of power is not altogether satisfying to those concerned about the practical effectiveness of congressional checks on the President. Professor Louis Henkin has remarked: "No one can disentangle the war powers of the two branches, including their powers to act towards the enemy . . . [But such an arrangement of] power often begets a race for initiative and the President will usually 'get there first.'"[89] A guileful President would experience little difficulty identifying or even creating a threatening incident abroad that would be sufficiently provocative to justify the use of force. Similarly, a cynical President might find it expedient to undertake an offensive military campaign and simply label it a defensive, preemptive action. Although Congress might have the power under such

circumstances to bar the use of federal funds for combat, it might also lack the political will to do so. The President's power to commit forces to combat in the name of national defense thus would present Congress with a *fait accompli*, a war to be terminated by congressional vote for withdrawal short of victory.[90] War would become, in such a situation, as Madison noted, "the true nurse of executive aggrandizement."[91]

The Supreme Court addressed this concern in *Martin v. Mott* by rejecting the presumption of presidential guile and emphasizing the penalties for abuse of power: "It is no answer, that such a power may be abused, for there is no power which is not susceptible of abuse. The remedy for this, as well as for all other official misconduct, if it should occur, is to be found in the Constitution itself. In a free government, the danger must be remote, since, in addition to the high qualities which the executive must be presumed to possess, of public virtue, and honest devotion to the public interests, the frequency of elections, and the watchfulness of the representatives of the nation, carry with them all the checks which can be useful to guard against usurpation of wanton tyranny."[92] In short, the *Mott* Court was not willing to assume an abuse of power by virtue of the exercise of power. To the contrary, the Court found that as a matter of law, as opposed to politics, the presumption worked in the President's favor.

The Constitution was not designed to predetermine a politically satisfying balance of power. Rather, the constitutional allocation was meant to establish the legal limits within which the political process might produce such an equilibrium. This is to say that the Constitution set boundaries beyond which the President and Congress may not stray during a political clash over the propriety of the use of force. The political questions raised by President Reagan's unilateral decision to use military force against Libya in 1986 included whether the decision was morally sound, whether it would enjoy domestic popular support, and whether it would serve the strategic and diplomatic interests of the United States. The constitutional issue was much more narrow: whether the President acted within the bounds of his authority to make war unilaterally, a question that can be answered without reference to whether the President's actions were politic or wise.[93]

By 1986, President Reagan had been advised that the government of Libya had supported terrorist attacks on Americans in Vienna, Rome, and West Berlin. This pattern of aggression by Libya against American citizens arguably established a state of *de facto* war between Libya and the United States. Whether or not a state of war existed, the President's information supported the inference that Libya had undertaken a course of action that had harmed Americans. This course of conduct suggested a continuing threat to Americans from Libya. The President could have presented this information to Congress, seeking a declaration of war. But he did not,

considering the threat to Americans sufficiently imminent to justify the use of force without a congressional declaration of war.

Critics of the President's decision to use force against Libya might argue that the President's determination of imminent threat was too tenuous to be entitled to constitutional sanctification. The President, they would claim, did not have in hand any indication of a specific terrorist attack to be executed against Americans on any specific future date. They would say that what the President had, at most, was a generalized indication that a terrorist attack against Americans might be executed sometime in the future. The critics would argue that for the President to characterize such a future attack as imminent because inevitable, would be hyperbolic justification; a standard of inevitability would grant the President carte blanche to use his defensive powers to initiate a military offense. The air strikes against Libya, they would conclude, were labelled defensive but were in fact offensive and therefore unconstitutional.

The answer to this criticism is that the Constitution does not assign a specific deadline or minimum probability level as the standard to determine when a threat is sufficiently imminent to justify presidential war making. The Constitution did not require the President to certify to Congress that Libya would have attacked Americans abroad in May of 1986, for example, but for his preemptive strike in April. If anything is clear from the Framers' debates and the courts' infrequent clarifications of the constitutional war-making powers, it is that the Constitution establishes no such fixed standard to mark the limit of presidential war-making authority. No authoritative source suggests that the President must resolve uncertainty in favor of a potentially hostile force by doing nothing. Rather, the Constitution allows the President wide latitude to decide if an imminent threat, however manifested, is too grave to await a congressional declaration of war and to determine whether the actions of a foreign state have created a situation requiring a military response.[94] What this means is that critics of President Reagan's actions against Libya in 1986 misdirect their criticism when they argue that the air strikes were unconstitutional; to the extent that they oppose the President's use of force, they should focus their objections on the wisdom of his actions.

Just as President Reagan was authorized to identify the threat posed by Libya in 1986 and to order a defensive action, so he was empowered to choose the tactics best suited to achieve his objectives. President Reagan chose to respond to Libya's support of terrorism by means of air strikes against command, control, and communication (C^3) facilities used by Libya to conduct terrorist operations. He sought to accomplish two stated purposes: deterrence, in the form of retaliation for past attacks, and preemption, in the form of neutralizing the terrorists' C^3 capability. Critics could argue that such purposes are actually offensive and therefore unauthorized. The

critics would have a point to the extent that a legally meaningful distinction between offensive and defensive force is not self-evident. Indeed, the Navy's Maritime Strategy[95] is itself a good example of how a defensive strategy can yield ostensibly offensive tactics. By taking the fight to the enemy to defend U.S. allies, pursuant to the Maritime Strategy, the Navy would engage in apparently offensive operations against Soviet targets. Thus might a defensive military operation appear, in isolation, to be offensive.

However, as the Supreme Court noted in the *Prize Cases*,[96] the Constitution resolves this ambiguity in the President's favor: it is the President who decides when the national security is jeopardized; it is the President who decides on the appropriate defensive reaction. The ability to make this sort of decision is the very essence of the constitutional power and duty to defend. President Reagan's decision to employ air power to the ends of deterrence and preemption of terrorism was a decision to use military force to address a threat to national security. His actions were therefore undertaken within the limits of his constitutional authority.

The Framers of the Constitution did not establish a clear boundary to mark the limits of presidential war-making authority. They did not foresee the Vietnam War, the deaths of 241 U.S. Marines in their Beirut barracks in 1983, or the deaths of 37 sailors aboard the U.S.S. *Stark* in the Persian Gulf in 1987. Lacking perfect foresight, they left the hard question of whether a war should be fought to the realm of political, as distinct from legal, debate. They knew that even in triumph, war is tragic. They did not seek to encumber with legal doctrine the political issue of whether to fight.

The Constitution does not tell Congress, the President, or the people when war should be waged. It reserves to the political process the question of whether the exercise of military force is good and right, addressing instead the question of how the legal power to wage war should be allocated. To say that the President may wage war under certain circumstances is not, therefore, to say that he should.

In the spring of 1986, the President believed that Libya would continue its campaign to harm U.S. citizens. He sought to defend against such attacks by means of a preemptive strike on 14 April 1986. As a defensive measure undertaken without a declaration of war by Congress, the strike against Libya was within the scope of the President's constitutional war-making authority.

Notes

1. Such a debate also took place, of course, during the Vietnam war. *See e.g.* Van Alstyne, "Congress, the President, and the Power to Declare War: A Requiem for Vietnam," 121 U. PA. L. REV. 1 (1972); Berger, "War-Making By The President," 121 U. PA. L. REV. 29 (1972); Rehnquist, "The Constitutional Issues—Administration Position," 45 N.Y.U. L. REV. 628 (1970). Note, "Congress, the President, and the Power to Commit Forces to Combat," 81 HARV. L. REV. 1771 (1968); Moore, "International Law

and the United States' Role in Viet Nam: A Reply," 76 YALE L. J. 1051 (1967); Falk, "International Law and the United States' Role in the Viet Nam War," 75 YALE L. J. 1122 (1966); Wright, "Legal Aspects of the Viet-Nam Situation," 60 AM. J. INT'L L. 750 (1966).

2. Huntington, "Coping with the Lippmann Gap," 66 *Foreign Affairs* 453, 463 (1988).

3. U.S. CONST., Art. I, Sec. 8, Cl. 11. *See, e.g.*, Chayes, "Grenada was Illegally Invaded," *N.Y. Times*, Nov. 15, 1983, at 35; Schlesinger, "Grenada Again: Living Within the Law," *Wall Street Journal*, Dec. 14, 1983, at 30.

4. U.S. CONST., Art. II, Sec. 2, Cl. 1. *See, e.g.*, Rostow, "Law Is Not a Suicide Pact," *N.Y. Times*, Nov. 15, 1983, at 35; J. MOORE, LAW AND THE GRENADA MISSION (1984).

5. 50 U.S.C. secs. 1541-1548. *See, e.g.*, R. TURNER, THE WAR POWERS RESOLUTION: ITS IMPLEMENTATION IN THEORY AND PRACTICE (1983); Torricelli, "The War Powers Resolution After the Libya Crisis," 7 PACE L. REV. 647 (1987); Comment, "Congressional Control of Presidential War-making under the War Powers Act: The Status of a Legislative Veto After *Chadha*," 132 U. PA. L. REV. 1217 (1984); Carter, "The Constitutionality of the War Powers Resolution," 70 U. VA. L. REV. 101 (1984); Note, "The Future of the War Powers Resolution," 36 STAN. L. REV. 1407 (1984).

6. "Harvard Decides Grenada," *Wall Street Journal*, Nov. 2, 1983, at 30.

7. This sort of confusion has been exhibited by such respected figures as former Secretary of State Cyrus R. Vance. Vance, "Striking the Balance: Congress and the President Under the War Powers Resolution," 133 U. PA. L. REV. 79 (1984).

8. *See, e.g.*, "War Without Declaration: A Chronological List of 199 Military Hostilities Abroad Without Declaration of War, 1798-1972," 119 CONG. REC. 25,066-25,076 (1973).

9. *See, e.g.*, A. SCHLESINGER, THE IMPERIAL PRESIDENCY (1973). For a vigorous debate on the question, *see* CONGRESS, THE PRESIDENT, & FOREIGN POLICY, (ABA Standing Committee on Law and National Security) (1984) (S. Soper, ed.).

10. *Commonwealth of Mass. v. Laird*, 451 F.2d 26, 34 (1st Cir. 1971); *DaCosta v. Laird*, 448 F.2d 1368, 1370 (2nd Cir. 1971) (per curiam), *cert. denied*, 405 U.S. 979 (1972); *Orlando v. Laird*, 443 F.2d 1039, 1042 (2nd Cir.), *cert. denied*, 404 U.S. 869 (1971); *Drinan v. Nixon*, 364 F. Supp. 854, 862 (D. Mass. 1973).

11. P.L. 88-408, 78 Stat. 384 (August 10, 1964). *See generally* J. MOORE, LAW AND THE INDOCHINA WAR 533-598 (1972).

12. P.L. 98-119, 97 Stat. 805 (October 12, 1983). *See also* Lebanon Emergency Assistance Act of 1983, P.L. 98-43, 97 Stat. 214 (June 27, 1983).

13. *See generally* J. MOORE, LAW AND THE GRENADA MISSION (1984).

14. For testimony on whether the air strikes were lawful, *see* WAR POWERS, LIBYA, AND STATE-SPONSORED TERRORISM: HEARINGS BEFORE THE SUBCOMMITTEE ON ARMS CONTROL, INTERNATIONAL SECURITY, AND SCIENCE OF THE HOUSE COMMITTEE ON FOREIGN AFFAIRS, 99th Cong., 2d Sess. (1986).

15. All facts presented are derived from unclassified, public, published sources.

16. *N.Y. Times*, Dec. 28, 1985, at 1, col. 5. The airport massacres followed the October 3, 1985 hijacking of the cruise ship *Achille Lauro*, during which an American, Leon Klinghoffer, was murdered, the November 23, 1985 hijacking of an Egyptian airliner, during which an American was murdered, and the November 24, 1985 bombing of a Frankfurt, West Germany shopping mall, which injured 23 Americans. J. LEHMAN, COMMAND OF THE SEAS 364-367 (1988).

17. *N.Y. Times*, Jan. 1, 1986, at 1, col. 3.

18. *Id.*, Jan. 1, 1986, at 4, col. 4 (Text of State Department Report).

19. *Id.*, Jan. 1, 1986, at 5, col. 1; *id.*, Jan. 6, 1986, at 1, col. 4.

20. *Id.*, Jan. 1, 1986, at 6, col. 1.

21. *Id.*, Jan. 1, 1986, at 6, col. 2.

22. *Id.*, Jan. 9, 1986, at 6 col. 1; Mar. 23, 1986, at 1, col. 5.

23. *Id.*, Jan. 9, 1986, at 6, col. 1 (Text of State Department Report).

24. *Id.*, Jan. 16, 1986, at 8, col. 1.

25. *Id.*, Jan. 9, 1986, at 1, col. 6.

26. *Id.*, Jan. 17, 1986, at 1, col. 4.

27. *Id.*, Jan. 16, 1986, at 1, col. 5.

28. *Id.*, Jan. 16, 1986, at 8, col. 2.

29. *Id.*, Jan. 17, 1986, at 1, col. 4.

30. *Id.*, Jan. 17, 1986, at 1, col. 4.

31. *Id.*, Mar. 19, 1986, at 1, col. 5; Mar. 20, 1986, at 7, col. 1; Mar. 22, 1986, at 3, col. 2.

32. *Id.*, Mar. 25, 1986, at 1, col. 6. *See* text of Secretary Weinberger's statement at *id.*, Mar. 25, 1986, at 10, col. 1.

33. *Id.*, Mar. 26, 1986, at 8, col. 1; Mar. 27, 1986, at 8, col. 1.

34. J. LEHMAN, COMMAND OF THE SEAS 370 (1988).

35. *N.Y. Times*, Mar. 28, 1986, at 1, col. 2.
36. *Id.*, Mar. 28, 1986, at 12, col. 4.
37. *Id.*, Mar. 29, 1986, at 3, col. 1.
38. *Id.*, Apr. 6, 1986, at 1, col. 5-6.
39. *Id.*, Apr. 6, 1986, at 1, col. 6.
40. *Id.*, Apr. 7, 1986, at 6, col. 2.
41. *Id.*, Apr. 6, 1986, at 1, col. 5-6.
42. *Id.*, Apr. 6, 1986, at 19, col. 1.
43. *Id.*, Apr. 10, 1986, at 1, col. 6; *id.*, Apr. 10, 1986, at 22, col. 1.
44. *Id.*, Apr. 10, 1986, at 1, col. 6.
45. *Id.*, Apr. 15, 1986, at 1, col. 5. *See* transcript of Weinberger/Shultz press conference, *id.*, Apr. 15, 1986, at 13, col. 1.
46. *Id.*, Apr. 15, 1986, at 1, col. 5; *id.*, Apr. 16, 1986, at 15, col. 3 (remarks of Vice Admiral Frank Kelso, Jr., USN); *id.*, Apr. 15, 1986, at 1, col. 3.
47. *Id.*, Apr. 16, 1986, at 20, col. 5 (remarks of State Department spokesman Bernard Kalb). *See also* J. LEHMAN, COMMAND OF THE SEAS 371-374 (1988).
48. *N.Y. Times*, Apr. 16, 1986, at 15, col. 3.
49. *Id.*, Apr. 16, 1986, at 1, col. 5.
50. *Id.*, Apr. 16, 1986, at 1, col. 6; Apr. 16, 1986, at 15, col. 3; April 17, 1986, at 22, col. 1 (report that SAMs supplied to Libya by Soviet Union auto-detonate in air, so unlikely to explode on ground impact).
51. *Id.*, Apr. 15, 1986, at 10, col. 1. *See also* transcript of Press Secretary Speakes' press conference, *id.*, Apr. 15, 1986, at 13, col. 1. *See also* President Reagan's Address to American Business Conference, *id.*, Apr. 16, 1986, at 20, col. 1.
52. *Id.*, Apr. 15, 1986, at 1, col. 3.
53. *Id.*
54. *Id.*, Apr. 15, 1986, at 10, col. 1.
55. *Id.*, Apr. 15, 1986, at 11, col. 3.
56. *Id.*
57. "Fear of a return of Executive authority like that exercised by the Royal Governors or by the King had been ever present in the States from the beginning of the Revolution." C. WARREN, THE MAKING OF THE CONSTITUTION 173 (1928).
58. E. CORWIN, THE PRESIDENT: OFFICE AND POWERS 1787-1984, 255 (1984).
59. *See U.S. v. Curtiss-Wright Export Corp.*, 299 U.S. 304 (1936).
60. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 634-635 (1952) (Jackson, J., concurring).
61. M. FARRAND, ed., I RECORDS OF THE FEDERAL CONVENTION OF 1787, 292 (1911) ("RECORDS").
62. Lofgren, "War-Making Under the Constitution: The Original Understanding," 81 YALE L. J. 672, 680 (1972).
63. "Helvidius" Number 1 (24 August 1793), 15 THE PAPERS OF JAMES MADISON 71 (1985) (T. Mason, R. Rutland, J. Sisson, ed.).
64. 7 WORKS OF ALEXANDER HAMILTON 746-747 (1857) (J. Hamilton, ed.) (emphasis original).
65. E. CASTREN, THE PRESENT LAW OF WAR AND NEUTRALITY 96 (1954).
66. ADAMS PAPERS, Massachusetts Historical Society microfilm (as quoted in Sofaer, "The Presidency, War and Foreign Affairs: Practice Under the Framers," 40 L. & CONT. PROB. 12, 19-20 (1976)). *See also* A. SOFAER, WAR, FOREIGN AFFAIRS AND CONSTITUTIONAL POWER: THE ORIGINS, 139-161 (1976).
67. *Talbot v. Seeman*, 5 U.S. (1 Cr.) 1 (1801); *Bas v. Tinghy*, 4 U.S. (4 Dall.) 37 (1800).
68. *See* E. KEYNES, UNDECLARED WAR: TWILIGHT ZONE OF CONSTITUTIONAL POWER (1982). *See also* Testimony of John Norton Moore, "Congress, the President, and the War Powers: Hearing Before the Committee on Foreign Affairs, House of Representatives," 91st Congress, 2d Session (June 25, 1970); Moore, "The National Executive and the Use of the Armed Forces Abroad," 21 NAVAL WAR COLLEGE REV. 28 (1969).
69. *See, e.g.*, Emerson, "The War Powers Resolution Tested: The President's Independent Defense Power," 51 NOTRE DAME LAWYER 187, 192 (1975).
70. II RECORDS at 318.
71. *See generally* C. BERDAHL, WAR POWERS OF THE EXECUTIVE IN THE UNITED STATES 58-77 (1921).
72. 8 F.Cas. 111 (No. 4186) (C.C.S.D.N.Y. 1860).
73. *The Prize Cases*, 67 U.S. 635, 668 (1863) (upholding President Lincoln's blockade of Confederate ports). *See also U.S. v. Curtiss-Wright Corp.*, 299 U.S. 304, 319-320 (1936); *Myers v. U.S.*, 272 U.S. 52 (1926).

74. *The Prize Cases*, 67 U.S. 635, 670 (1863). *See also In re Neagle*, 135 U.S. 1, 64 (1890).

75. C. BERDAHL, WAR POWERS OF THE EXECUTIVE IN THE UNITED STATES 62-63 (1921) (quoting FISH, AMERICAN DIPLOMACY 83-84). This action by President Washington exceeded the bounds of the Act of September 29, 1789, ch. 25, 1 Stat. 95, 96, granting the President authority to call forth the militia to protect frontier settlers from Indians.

76. Letter to James Madison, September 6, 1789, 15 THE PAPERS OF THOMAS JEFFERSON 392, 397 (1958) (J. Boyd, ed.).

77. 1 MESSAGES AND PAPERS OF THE PRESIDENTS 1789-1897, 326-327 (1899) (J. Richardson, ed.). *See* 2 Stat. 129 (1802).

78. W. GOLDSMITH, I GROWTH OF PRESIDENTIAL POWER: A DOCUMENTARY HISTORY 373-374 (1974) (citing I STATE PAPERS AND DOCUMENTS OF THE UNITED STATES 75-78 (1814)); Sofaer, "The Presidency, War and Foreign Affairs: Practice Under the Framers," 40 L. & CONT. PROB. 12, 25 (1976) (citing 1 NAVAL DOCUMENTS RELATED TO THE UNITED STATES WARS WITH THE BARBARY POWERS, 465-467 (1939)).

79. The Constitution expressly grants the individual states an analogous power to act militarily under exigent circumstances. U.S. CONST., Art. I, Sec. 10, cl. 3 ("No state shall, without the consent of Congress . . . engage in war, unless actually invaded, or in such imminent danger as will not admit of delay."). *See also* Articles of Confederation, Art. VI ("No state shall engage in any war without the consent of . . . Congress . . . , unless such state be actually invaded by enemies, or shall have received advice of a resolution being formed by some nation of Indians to invade such state, and the danger is so imminent as not to admit of a delay till the . . . Congress . . . can be consulted . . . ")

80. *Martin v. Mott*, 25 U.S. (12 Wheat.) 1, 28 (1827).

81. *Id.* at 31.

82. *The Prize Cases*, 67 U.S. 635, 670 (1863) (emphasis original).

83. *Id.*

84. U.S. CONST., Art. I, Sec. 8. *See* Glennon, "Strengthening the War Powers Resolution: The Case For Purse-Strings Restrictions," 60 MINN. L. REV. 1 (1975).

85. Congress did this on several occasions during the Vietnam war. *See, e.g.*, Defense Procurement Authorization Act, P.L. 91-121, 83 Stat. 204 (1969); Defense Appropriation Act 1970, P.L. 91-171, 83 Stat. 469 (1969); Defense Procurement Act, P.L. 91-441, 84 Stat. 905 (1970); Special Foreign Assistance Act., P.L. 91-652, 84 Stat. 1942 (1970); Foreign Military Sales Act Extension, P.L. 91-672, 84 Stat. 2053 (1970); Supplemental Appropriations Act of 1973, P.L. 93-50, 87 Stat. 99 (1973); Supplemental Appropriations Act, P.L. 93-52, 87 Stat. 130 (1973).

86. U.S. CONST., Art. 2, Sec. 4.

87. Van Alstyne, "Congress, the President, and the Power to Declare War: A Requiem for Vietnam," 121 U. PA. L. REV. 1, 5 (1972); L. HENKIN, FOREIGN AFFAIRS AND THE CONSTITUTION 81 (1972).

88. II RECORDS at 319.

89. L. HENKIN, FOREIGN AFFAIRS AND THE CONSTITUTION 105 (1972).

90. This is the problem the War Powers Resolution was intended to solve. However, the War Powers Resolution's only pre-conflict requirement on the President is "consultation" with Congress. *See* Hall, "War Powers By The Clock," 113 U.S. NAVAL INSTITUTE PROCEEDINGS 36 (September 1987).

91. "Helvidius" Number 4 (14 September 1793), 15 THE PAPERS OF JAMES MADISON 108 (1985) (T. Mason, R. Rutland, J. Sisson, ed.).

92. 25 U.S. at 32.

93. One commentator has suggested that the President "should obtain congressional support in advance for military action that will probably require congressional action, as by appropriations, before it is completed." Wright, "The Power of the Executive to Use Military Forces Abroad," 10 VA. J. INT. L. 1, 49 (1969). The political wisdom of this statement is self-evident. However, nothing in the Constitution suggests that such a step is legally necessary. Professor Wright has also argued that congressional approval is necessary if the President wishes to use force in violation of international law, that is, for political purposes such as "military pressure in aid of diplomacy, territorial acquisition, or intervention to influence the policy or ideology of a foreign government." *Id. See also* Lobel, "Covert War and Congressional Authority: Hidden War and Forgotten Power," 134 U. PA. L. REV. 1035, 1071 (1986).

94. *The Prize Cases*, 67 U.S. 635, 670 (1863).

95. Watkins, "The Maritime Strategy," U.S. NAVAL INSTITUTE PROCEEDINGS Supplement (January 1986).

96. 67 U.S. at 670.

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War Gaming at the Naval War College 1969-1989

Captain J. S. Hurlburt, U.S. Navy (Retired)

It has been said that war gaming as a means of examining defense issues is being used more today than at any time since the period between World Wars I and II. Whether this broad statement is true is difficult to determine, however, it is clear that in the 1980s we experienced a resurgence in the use of the war-gaming technique. Certainly we game more and better now than we did in the 1960s and 1970s.

The Naval War College began war gaming in 1887, and the students used it extensively thereafter until the end of World War II. In 1913, Captain W.S. Sims and Commander Dudley Knox introduced war games into the fleet. The navy, however, did not establish a formal, navy-wide war-gaming program until 1958, when the technique was in disfavor if not disrepute. The program established that year consisted of two parts—interactive gaming by the fleet and students at the Naval War College in Newport, and digital computer simulations and studies conducted in Washington. The gaming program at Newport reserved the period January through June for the students, and the remainder of the year was available for the fleet or other external users. But by the late 1960s, both in Washington and in various think-tanks around the country, most serious defense issues were being addressed through the use of computer simulations. Interactive gaming had been relegated largely to an education and training role, and even in this role its use was modest. For example, at Newport during the academic year 1969-70, there were only 29 days of curriculum gaming and 36 days of fleet gaming. An additional 66 days were scheduled for demonstration and reserve games.

Captain Hurlburt was assigned to the Naval War College on five occasions, commencing as a student in the Command and Staff course, 1969-70, and concluding as Director of the War Gaming Department, 1985-88. Other positions at the college included Director of Tactical Research at the Center for Advanced Research, member of the second CNO Strategic Studies Group, and Deputy Director, Center for Naval Warfare Studies. At sea he served in destroyers in both the Atlantic and Pacific Fleets, including command of the U.S.S. *Goldsborough* (DDG 20) and Destroyer Squadron 24.

Student gaming at the Naval War College was practiced primarily by members of the Naval Command and Staff course. A major portion of this course emphasized operational planning, and gaming was the technique used for "supervising the action" (testing plans). Assuming fairly equal opposing forces, the key to victory lay in how well we had estimated our opponents' courses of action. Captain William McCarty Little, who brought gaming to Newport, said: "Now the secret of its power lies in the existence of the enemy, a live, vigorous enemy in the next room waiting feverishly to take advantage of any of our mistakes, ever ready to puncture any visionary scheme, to haul us down to earth, and, above all, ready and anxious to 'carry the war into Africa'"; and he was right.

At the end of World War II, the U.S. Navy, with its powerful forces, ruled the world's oceans. But this condition was threatened as the navy moved into the 1970s. In 1967 we saw the first sinking of a surface combatant by surface-to-surface missiles when Egyptian patrol boats successfully attacked the Israeli destroyer *Eilat* with the Russian-built Styx. In the Indo-Pakistani War of 1971, the Styx sank another destroyer, although the unintentional sinking of a neutral merchant ship in Karachi harbor gave a hint of approaching over-the-horizon targeting problems. Meanwhile the Soviet navy was emerging from a coastal defense force into a true blue water navy, bringing with it new and impressive aircraft, ships and submarines, most of which were capable of launching improved antiship cruise missiles. During the Arab-Israeli War of 1973, two significant events occurred:

- The Soviet Mediterranean Squadron, heavily reinforced, was positioned to counterbalance, if not challenge, the U.S. Sixth Fleet;
- Antiship cruise missiles again played a major role in the naval engagements. This time, however, the Israelis demonstrated not only that missiles could work in naval warfare, but that incoming missiles could be defeated.

Analysts reduced these events into numbers that were fed into computers. The resulting output predicted that surface fleets would be driven from the seas. Not everyone agreed, but the role of computers in getting man to the moon in the 1960s led many to believe whatever came out of a computer. (Initially, even the gaming community believed in these outcomes, and it took years of discussion, "getting back to basics," and help from the intelligence community to really understand what was happening in missile warfare.)

In 1972 Admiral Stansfield Turner became president of the Naval War College. He shifted the emphasis from fleet use of the war gaming center to student use. Turner objected, in particular, to the large amount of staff work required in writing operation orders for fleet games and to the fact that few students were given the opportunity to play decision-making roles in such games. Turner encouraged Professor Jacques Naar, the first occupant

of the McCarty Little Chair of Gaming and Research, to develop tabletop games that gave as many students as possible the opportunity to play. It was during this period that the college helped to develop the Sea Control Tactical Analysis Game (SEATAG), a simple tabletop game that proved to have broad application for both teaching and research. These changes moved the emphasis in gaming from the war gaming center in Sims Hall to the classrooms of the college, where the academic departments used the tabletop versions.

SACLANT, CINCLANTFLT, the Chief of Naval Material and the reserves continued to use the computer gaming facilities in Sims Hall. If they had not, computer gaming in Newport probably would have ended. During academic year 1973-74, there were but 96 days of demonstration and reserve games, and only 20 days of fleet and NAVMAT games in Sims Hall. This low tempo did, however, provide great flexibility in scheduling external users, who began to use time formerly reserved for the students. This precedent would have an impact in the 1980s.

With more time on its hands than games to play, the War Gaming Department turned its attention to trausitioning from the already old Navy Electronic Warfare Simulator (NEWS), which had been installed in 1958, to the Warfare Analysis and Research System (WARS) as its principal gaming system. Although this was necessary, it resulted in some loss in war-gaming skills among the staff. This was perhaps the nadir of gaming at the Naval War College, although there is some evidence that it reached a similar low in the early to mid-1950s.

By 1975 important changes were taking place. Difficulties with WARS led to a new definition of requirements. Admiral Julian Le Bourgeois, Turner's successor as president of the Naval War College, wrote to each of the three and four-star officers on active duty, as well as to the two-star officers in command, requesting their input. The results of these efforts became the requirements for the Naval Warfare Gaming System (NWGS). Admiral Isaac Kidd, Jr., a firm believer in war gaming, was among those flag officers who submitted recommendations. While Chief of Naval Material in the early to mid-1970s, he sponsored a series of games at the War College both to explore new vehicles and systems and to educate his scientists. One of these games continues today under the name SEACON. When he moved on to become SACLANT/CINCLANT/CINCLANTFLT, he started the Atlantic Fleet Tactical Command Readiness Program series. Although these were fleet games, Admiral Kidd was able to use his CINCLANT hat to involve the other services and thus, over time, the games became both joint and strategic. Largely due to Admiral Kidd's advocacy, fleet gaming increased to 60 days during the 1977-78 academic year.

Meanwhile, the Naval War College regained research as part of its mission. The Center for Advanced Research was established with Captain Hugh Nott, U.S. Navy (Ret.) as its first director. Hugh, another firm believer in the value of war gaming, sought ways to use it in support of the research program. Thus, gradually, gaming became a part of the advanced research program. Students used the SEATAG game in support of a Harpoon employment project and in an Air ASW study. In 1979 Hugh and I used a spinoff of SEATAG in a war gaming elective course aimed at exploring new tactics. From this course emerged target dilution as a tactic for dealing with antiship cruise missiles and also the return of the submarine to employment against surface ships.

That same year the Global War Game series began at Newport as the result of two queries:

- Admiral Tom Hayward, chief of naval operations, asked Hugh Nott and F.J. "Bing" West (the center's director of strategic research) to examine the prospect of global war with the Soviets, including its associated sequential operations.
- Admiral Ed Welch, president of the Naval War College, asked what could be done for the first group of Navy phased-input students, who would be on board during the summer (when classes were not in session).

The Global War Game became the answer to both questions.

As the navy moved into the 1980s, it didn't mind being the instrument of choice in most real-world crises, but it was tired of being the object of the analytical Cassandras' predictions of disaster at sea in a general war unless the navy confined its operations to low-threat areas (wherever they might be). The more the operational navy scrutinized the analyses, the less satisfactory the answers appeared. War at sea is not a set piece of computer simulations, but a highly dynamic activity. An initiative to look at the dynamics began to burgeon. This drive was reinforced by the outcome of the Falkland/Malvinas war in 1982, where, in spite of early predictions of the cruise missile dominance over surface ships, the war at sea was won by the British fleet. This was accomplished by several factors:

- employment of British SSNs in an early antisurface ship role which drove the Argentine fleet into port;
- misuse of Argentine SSs;
- maneuver (forcing the Argentine strike aircraft to operate at maximum range) and target dilution (ECM and Chaff) to defeat the missile threat; and
- amphibious power projection, once sufficient sea control was attained.

Back in Newport, the research program at the Naval War College had been strengthened with the establishment in 1981 of the Center for Naval Warfare Studies under the leadership of former Under Secretary of the Navy

Robert Murray. The Center embraced the recently established CNO Strategic Studies Group, the existing Advanced Research Program and Global War Game project, the Naval War College Press and the War Gaming Department (then called the Center for War Gaming). This one center embodied the capability to develop strategic concepts, to test these concepts through gaming, and to publish the results. Mr. Murray was a firm supporter of war gaming, and the early gaming work of the Strategic Studies groups which he directed suggested that the proper employment of naval forces in an offensive campaign had the potential for significant payoff. The annual Global series tended to support this insight. Thus the navy began to regard gaming as a tool necessary for the consideration of the dynamics of maritime warfare in its strategic analyses.

In 1982 the new chief of naval operations, Admiral James Watkins, urged the fleet commanders in chief to use the War Gaming Department at Newport to develop and test their campaign plans. The newly installed Naval Warfare Gaming System was viewed as a major source of support for this effort. Though the fulfillment of that potential proved elusive, gaming techniques were used with increasing frequency in curriculum, fleet and OPNAV support. Perhaps as much as anything else, the tasking of the Naval Operational Intelligence Center Detachment Newport to play a constant and credible Red opposition enhanced the quality of the games. With success breeding success, the war gaming schedule expanded rapidly from about a dozen games annually at the beginning of the 1980s to about 50 games a year by mid-decade. In order to meet the increasing demand for games, the manning of the War Gaming Department was increased in both quantity and quality. The distribution of game sponsorship changed as well. Curriculum gaming returned to the War Gaming Department; Washington staffs began using interactive gaming to look at strategic issues; and unified as well as fleet commanders either came to Newport or the war-gaming staff went to them. Gaming insights gained visibility as Admiral Watkins and Secretary John Lehman cited them in testimony supporting the Maritime Strategy and the navy's budget requests. While perhaps inferring more than was actually warranted by the games, they succeeded in convincing Congress to fund the 600-ship navy. This in turn conferred a validity on the gaming process and increased the demand for, and popularity of, war gaming.

As this decade draws to a close, I sense another potential change ahead. The use of gaming has become excessive, and it has been applied to degrees that exceed its capacity to help. As proof of analysis, it has become sufficient to say that an issue was gamed. Consequently, the currency is being devalued. Before long, responsible people in the national security community will become uneasy with these answers to their questions, and they will demand

a more rigorous analysis of defense issues. The gaming community itself should begin this process now. Its members should insist on adequate time for game development (including player preparation), on detailed play of games by the players (rather than by the umpires), on a rigorous analysis of each game, and on the incorporation of game results into the design of the next game in that series. If we fail to do these things, gaming will again go into eclipse—a victim of its own success, but a victim nonetheless. We can do better than that.

War Gaming, 1930s Style

"Study was directed to the preparation for war at sea and of the consummation of any such war in swift and decisive fashion should war become necessary. The most penetrating examination of the personalities most likely to be involved was taken very, very seriously. In other words, know your enemy, the adage of today. Their analyses were entitled, 'estimates of the situation.' Computer modelling to predict outcomes was handled on one's hands and knees moving miniature models about on a large game room floor in reaction to rolls of recalcitrant dice. . . . Competition was at its keenest. Poor judgements, bum guesses, inadequate preparation and incompetence were rewarded appropriately. It was not an uncommon thing for some careers to change direction radically and even for some to end, following the rigors of the gaming floor which quickly separated the sheep from the goats and left no room for doubt as to which was which."

Admiral Isaac C. Kidd, Jr.
Newport, R.I.
14 August 1984

False Colors and Dummy Ships: The Use of Ruse in Naval Warfare

Lieutenant Commander Mary T. Hall, JAGC, U.S. Navy

"'Okay, we have an all-black hull with "Lykes Lines" on the side, mid-ships. White superstructure with black diamond, a block L inside the diamond.' He lifted his binoculars. 'Lookout mast forward of the superstructure. Check. Superstructure is nicely raked. Electronics mast is not. Proper ensign and house flag. Black funnels. Winches all by the barge elevator—doesn't say how many winches. Damn, she's carrying a full load of barges, isn't she? Paintwork looks a little shabby. Anyway, it all checks with the book; that's a friendly.'"[1]

This report, from Tom Clancy's *Red Storm Rising*, is being delivered by the copilot of a P-3 Orion conducting a visual inspection and recognition pass on a merchant ship in the North Atlantic as war with the Soviet Union is about to erupt. Little does the copilot realize that the ship, which he believes to be an American seagoing barge carrier, is in fact Soviet. Concealed within her barges and hull are over one thousand air assault troops preparing to strike Iceland. Little does the copilot know that the shabby paintwork is only a few hours old and is, along with false colors and altered superstructure, part of an intricate scheme to pass the Soviet ship off as a "friendly." The ruse works, right down to the Red Army major who speaks English with a Mississippi accent to the Orion crew over the VHF circuit.

The Commander's Dilemma

The use of disguise in naval warfare is not new. Rather, because it capitalizes on the traditional force multiplier of surprise, deception has long been one of the most valuable weapons in a commander's tactical arsenal.

Lieutenant Commander Hall received an LL.M. in Military Law from the Judge Advocate General's School, U.S. Army, in May 1988. In that same month, she graduated with distinction from the College of Continuing Education, Naval War College. She is currently serving as a military judge with the Northeast Judicial Circuit, Navy-Marine Corps Trial Judiciary, in Philadelphia.

However, under the laws of naval warfare, not all forms of deception are legal. Hence, a commander must be able to distinguish between legal and illegal applications of deception.[2] Since the line between what is legal and what is not is indistinct, the commander's task is difficult, and the heat of battle is hardly the ideal environment in which to make a detached, unemotional analysis of the law of naval warfare.

Deception has often been a major contributor—if not the most decisive factor—to success in naval and land warfare. In the tactical sense, deception may be defined as the deliberate misrepresentation of reality to gain an advantage over the enemy.[3] It can take as many forms as a fertile human mind can conjure, and it serves countless functions. It can be used to control the time and site of battle, to achieve surprise by misleading the enemy, to maximize tactical advantages or minimize disadvantages, or even to render attack unnecessary by inducing the enemy to surrender.[4] Sun Tzu tells us that "[a]ll warfare is deception. Therefore, when capable, feign incapacity; when active, inactivity. When near, make it appear that you are far away; when far away, that you are near. Offer the enemy a bait to lure him; feign disorder and strike him. . . . When he is strong, avoid him. Anger his general and confuse him. . . . Pretend inferiority and encourage his arrogance."[5]

One of the earliest recorded examples of the use of deception in naval warfare was in the Battle of Salamis in 480 B.C., when the vastly outnumbered Greeks feigned a withdrawal in order to lure Xerxes' Persian fleet into a narrow channel. This maneuver contributed to a Greek victory by preventing the Persians from simultaneously deploying their entire fleet.[6] Modern technology, such as electronic warfare, has added new twists to the art of deception in battle, but the underlying premise—surprise—remains the same. However, it is not enough for a commander to simply know the current techniques of deception; he must also know the current law. The lawful use of deception in battle may earn him accolades as an astute master of naval warfare, but its illegal use may make him a war criminal.

Deception: Ruse or Perfidy?

Those who write on the law of armed conflict generally classify the use of deception as either ruse, which is legal, or perfidy, which is not. Drawing a distinct line between these two is virtually impossible, since what is a permissible ruse in one situation may, with just a slight shift in circumstances, constitute perfidy in another.

Any commander, at sea, ashore, or aloft, must understand why international law is even concerned enough about the issue to distinguish between the two. It would seem to make more sense either to outlaw all

forms of deception or to permit them all, rather than place commanders in the position of possibly violating international law by using some novel form of trickery which has neither been blessed nor condemned by the international legal community. However, the rationale underlying the prohibition against perfidy is that combatants are expected to behave in absolute good faith toward each other. This notion may seem contradictory to those unfamiliar with the law of armed conflict. Nevertheless, in order to minimize human suffering as much as possible and to facilitate the restoration of peace, international law has placed limits on behavior during warfare.

Deception is not illegal *per se*,[7] but rather is permissible so long as it does not violate some rule or principle of international law. *NWP 9, The Commander's Handbook on the Law of Naval Operations*, provides the commander with a basic introduction to this concept: "The law of armed conflict permits deceiving the enemy through stratagems and ruses of war intended to mislead him, deter him from taking action, or to induce him to act recklessly, provided the ruses do not violate rules of international law applicable to armed conflict."[8] Obviously, a commander, especially one who operates without ready access to a judge advocate, must be familiar with the law of naval warfare in order to discern whether or not a proposed deception violates any principles of the law of armed conflict.

A Proposed Method for Analysis

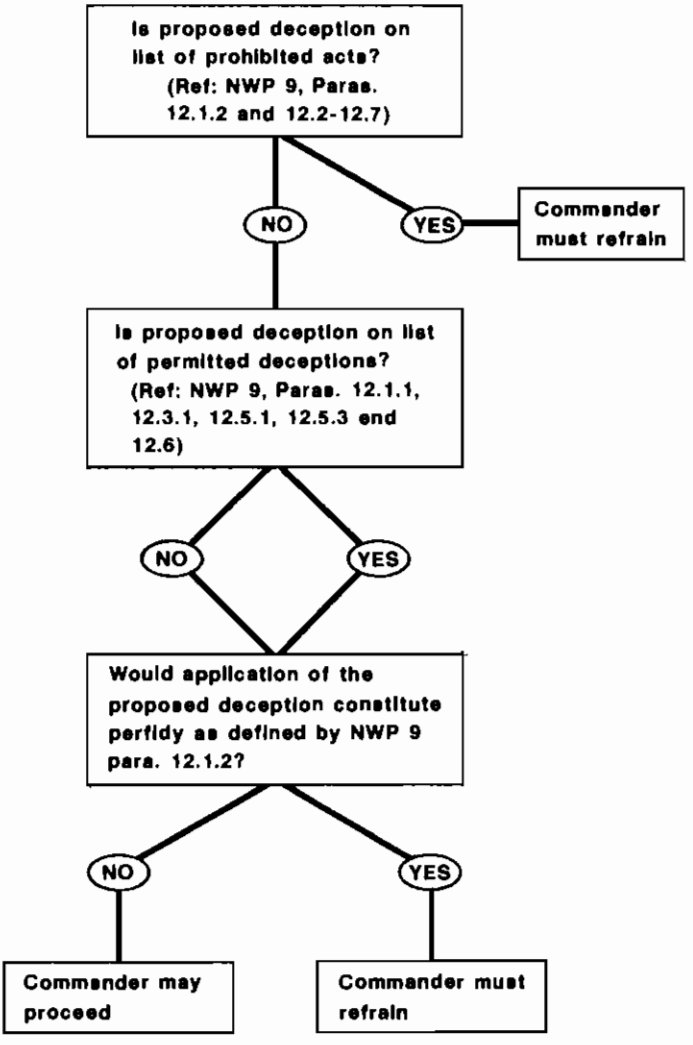
A commander intending to use a novel form of deception must be able to determine whether his proposed action is legal. In order to do this, he must be familiar with various elements of the law pertaining to deception. At a minimum, these elements include the following:

- The requirement for good faith between combatants;
- The definition of perfidy;
- The reason perfidy is prohibited;
- The list of permitted deceptions under *NWP 9*;
- The list of prohibited deceptions under *NWP 9*; and
- Historical applications of perfidy and ruse.

The flowchart provides a method by which the commander, using the elements described above, can analyze whether his proposed deception is lawful. The commander starts with the assumption that the deception is lawful (based on paragraph 12.1 of *NWP 9* cited above). Next, he must ascertain whether it is on the *NWP 9* list of prohibited deceptions. If it is, then the commander must not take the action. If it is not on the prohibited list, the commander must then determine whether it is on the list of permitted deceptions or if on this list it has a logically related counterpart. Even if

the proposed deception is on the list of permitted deceptions, it must still be examined for potential perfidy since, as was noted earlier, even permitted deceptions can, through a slight change in circumstances or events, become perfidy. Alternatively, if the proposed deception is not on the list of permitted ruses and does not have a logically related counterpart, the commander must examine it for potential perfidy. Thus, the mere presence of a proposed deception on the list of permissible ruses does not guarantee the absence of perfidy in a particular situation. Only after determining that the deception does not constitute perfidy may the commander take the action he proposes.

ANALYSIS OF PROPOSED DECEPTION



Other people's experience in the application of deception is extremely useful for the commander's analysis. Although commanders ashore have traditionally employed a wider variety of deception than naval commanders,[9] naval history provides ample precedent. A commander should not dismiss a 17th-century application of deception as unworthy of his attention. Even if the technique used in an old situation is no longer viable, the method for determining whether the antecedent constituted perfidy or ruse will almost always apply to modern naval warfare.

Perfidy Defined

By far the most complicated step in the method is determining whether a proposed deception falls within the *NWP 9* definition of perfidy. Although *NWP 9* is not the only source which defines perfidy, it is the best starting point for the naval commander. It states that acts of perfidy are "deceptions designed to invite the confidence of the enemy to lead him to believe that he is entitled to, or is obliged to accord, protected status under the law of armed conflict, with the intent to betray that confidence."[10] The requirement for absolute good faith is obvious from this definition. Furthermore, this definition appears to require a specific intent to betray the enemy's confidence in order for a violation to have occurred, which would seem to excuse the commander for accidental violations.

Many commentators have attempted to delineate where ruse ends and perfidy begins. One of the most noteworthy was Henry W. Halleck, who in 1861 stated the following: "Whenever we have expressly or tacitly engaged to speak truth to an enemy, it would be perfidy in us to deceive his confidence in our sincerity. But if the occasion imposes upon us no moral obligation to disclose to him the truth, we are justifiable in leading him into error, either by words or actions. . . . It is the breach of good faith, express or implied, which constitutes the perfidy, and gives to such acts the character of lies."[11]

Halleck's definition of perfidy, however, has been criticized for emphasizing too much of one particular kind of deceit, that being false communications.[12] However, it is useful to read Halleck's definition in conjunction with that proposed by William E. Hall in 1908: "As a general rule deceit is permitted against an enemy; and it is employed either to prepare the means of doing violent acts under favorable conditions, by misleading him before an attack, or to render attack unnecessary, by inducing him to surrender, or to come to terms, or to evacuate a place held by him. But under the customs of war it has been agreed that particular acts and signs shall have a specific meaning, in order that belligerents may carry on certain necessary intercourse; and it has been seen that persons and things associated

with an army are sometimes exempted from liability to attack for special reasons. In these cases an understanding evidently exists that particular acts shall be done, or signs used, or characters assumed, for the appropriate purposes only, and it is consequently forbidden to employ them in deceiving an enemy."[13]

Three examples will serve to demonstrate the breach of good faith required for an act to be considered perfidious. The first is the misuse of an internationally protected sign, such as the Red Cross emblem. *NWP 9* states that "misuse of protective signs, signals, and symbols in order to injure, kill, or capture the enemy constitutes an act of perfidy."[14] Misuse of the Red Cross emblem constitutes a breach of good faith because it undermines the effectiveness of this emblem during combat and jeopardizes the safety of noncombatants and the traditional immunity of protected medical activities, structures, and modes of medical transportation, such as hospital ships, ambulances, and medical aircraft. Thus, it would constitute an act of perfidy for a commander to use a hospital ship to transport troops, weapons, or ammunition with the intent to elude or attack enemy forces.[15]

The second example is the feigning of distress through the false use of internationally recognized distress signals such as MAYDAY and SOS,[16] which evoke the traditional requirement for mariners to aid those in distress at sea. As with misuse of the Red Cross emblem, the misuse of a distress signal would undermine its effectiveness and would jeopardize the safety of neutral vessels.

A third breach of good faith is the misuse of a flag of truce. "The white flag has traditionally indicated a desire to communicate with the enemy and may indicate more particularly, depending upon the situation, a willingness to surrender. It raises expectations that the particular struggle is at an end or close to an end since the only proper use of the flag of truce or white flag in international law is to communicate to the enemy a desire to negotiate. Thus, the use of a flag of truce or white flag in order to deceive or mislead the enemy, or for any purpose other than to negotiate or surrender, has long been recognized as an act of treachery."[17]

These three examples demonstrate that perfidy, in its broadest sense, is the intentional and wrongful use against the enemy of his adherence to the law of war.

Permissible Ruses

Just as it is impossible to compile a list of all possible acts of deception which would constitute perfidy, it is also impossible to compile a list of every permissible ruse. *NWP 9* lists camouflage, deceptive lighting, dummy ships, dummy armament, decoys, simulated forces, feigned attacks and withdrawals, ambushes, false intelligence information, electronic

deceptions, and utilization of enemy codes, passwords, and countersigns;[18] but this list is hardly exhaustive. The Army's list contains several additional ruses which merit examination by naval commanders, including pretending to communicate with imaginary reinforcements, laying dummy mines, and carrying out deceptive supply movements.[19] As noted earlier, even though a deception is cited as a permitted ruse by *NWP 9*, that fact alone does not guarantee its legality. The use of a ruse is still limited by the requirement for absolute good faith. Camouflage provides an example of how an otherwise lawful ruse can become an act of perfidy. Ordinarily a lawful ruse, the use of camouflage is limited by the restriction that a commander cannot use a protected sign to falsely identify his warship as a hospital ship.[20] Similarly, an aircraft cannot conceal its national markings as an act of camouflage.[21]

False Colors and Dummy Ships

The use of false colors and dummy ships are two traditional naval ruses which continue to have merit in modern warfare, but which, under certain circumstances, could constitute perfidy. Although often used in tandem, each has proven invaluable in battle when used alone.[22] Under the law of naval warfare, a belligerent warship not in combat may fly false colors, either those of the enemy or those of a neutral country; but there is an absolute prohibition against flying false colors while actually fighting. Thus, commanders are required to hoist their true colors upon going into action.[23] Failure to do so constitutes perfidy. For example, in 1783, the French frigate *Sybille* deceived the British man-of-war *Hussar* by flying the British flag and pretending to be a prize in distress. When the *Hussar* approached to lend assistance, the *Sybille* opened fire without first hoisting French colors. Despite this disadvantage, the *Hussar* overpowered and captured the French ship. The victorious British captain then accused the *Sybille*'s captain of perfidy and publicly broke his sword.[24] A more recent example of perfidy by failure to hoist true colors occurred during World War I when the British ship *Baralong*, while flying U.S. colors (the United States then being at peace with Germany), fired on a surfaced German U-boat.[25]

One might wonder whether the use of false colors continues to have validity as a tactic long after the age of sail has passed. This issue was discussed quite extensively at the Naval War College in the early 1900s. The conclusion drawn was that due to developments in tactics and technology, the risk of being lured by false colors was even greater in modern times than in the day of sail: "The war vessel of early days was also very different from that of to-day. The approach of the slow sailing vessel of the seventeenth century would allow time to determine its identity in most

instances and to provide for action in case of mistake. A single shot from a gun of the early type into a vessel of its day would not, in general, have an effect corresponding to a shot sent into the complicated mechanism of a modern war vessel. The fighting in the period before the middle of the nineteenth century played a very different part in determining the issue of the conflict. Surprise was not, in early conditions, a matter of gravest importance. In the old days the contests were relatively long. In modern battles the first shot or those following soon after seem to have been very often the decisive one."[26]

During World War II, when a warship might have found herself in action at any moment while at sea, U.S. warships always flew their colors while underway.

While the significance of the "first shot" is certainly greater today than it was 80 years ago, or even 40 years ago, the importance of visual contact with a target has diminished in modern naval warfare. In this era of over-the-horizon targeting, it is commonly assumed that ships will open fire without ever sighting the opponent's colors. Although the heyday of false colors may have passed, the ruse still has some validity in naval engagements where distance is not a factor, or where visual identification is needed before actual engagement. In the Persian Gulf, for example, visual identification is a practical necessity because numerous navies sail in close waters with small "generic" gunboats of the same or similar class. Furthermore, since other means of identification continue to present difficulties in implementing over-the-horizon targeting, visual identification remains the most reliable means of distinguishing friend from foe.

The law of naval warfare also sanctions the disguising of a ship as a neutral or friendly vessel,[27] but there are limits on the extent to which this can lawfully be done. For instance, as already noted, disguising a warship as a hospital ship or some other protected vessel is not permitted.[28] Probably the most famous use of disguise occurred during World War I when the legendary German cruiser *Emden* sailed into Penang harbor in Malaya under cover of darkness, outfitted with a fake fourth funnel to disguise her as a British cruiser which regularly made port at Penang. Although there is some question as to whether she was flying British, Japanese, or no colors at all when she entered the harbor, it is generally agreed that she did, in fact, hoist her true German colors before firing a torpedo into the Russian cruiser *Zhemchug*, which was at anchor in the harbor.[29]

Although disguising ships is hardly a 20th-century innovation, certainly its most ingenious applications occurred during World War I. In addition to the exploits of the *Emden*, a remarkable use of disguised ships was Great Britain's Q-ship program, which was established to combat the phenomenal success of the German U-boats in the early stages of the war.[30] These Q-ships (also known as "mystery ships") were former merchant vessels

outfitted with concealed armament and manned by Royal Navy officers and enlisted personnel disguised as merchant mariners. The disguises given to the ships themselves were ingenious. In addition to superficial changes such as civilian paint jobs and false names, the Q-ships used creative devices such as dummy funnels and false housings over guns.[31]

The Q-ship's crew carried this ruse to full measure. When spotted by a surfaced U-boat, the Q-ship would allow herself to be shelled. Some of the crew played the part of the "panic party" by pretending to abandon ship. The remainder lay on the deck near their guns until the submarine closed, which sometimes did not happen for hours. Once the submarine was within range, the Q-ship's gun crews sprang into action, raised the British battle ensign, and opened fire. Although the Q-ships sank only twelve U-boats, the major impact of the program was a shift in German submarine tactics from surface gun attack to submerged torpedo attack.[32] One of the actions of the Q-ship's panic party raises an interesting point: the panic party would often throw into the lowered boat a packet of what appeared to be the ship's papers. The intention was to lead the U-boat's commanding officer into approaching his "abandoned victim" so closely that the "victim's" gunners could overwhelm him quickly. This practice of feigning surrender may have been one of the reasons why the Germans decried the Q-ship program as barbarous and contrary to the rules of civilized warfare.

Does disguising a ship still have validity as a modern ruse? Certainly Tom Clancy appears to think so, and he is not alone. The concept of disguising merchant ships during war continues to receive attention from commentators.[33] But, regardless of the technical merits of a particular form of deception, the commander must know under what circumstances the deception is lawful. Otherwise, he may face the same shame as the captain of the *Sybille*, but with far more serious consequences than having his sword broken by a successful enemy. Under U.S. law, which is designed to fulfill the letter and spirit of the law of armed conflict, he must answer to his own countrymen as well. With a minimal degree of familiarization, however, a commander can both gain victory and avoid potential criminal liability long after the battle through the thoughtful application of deception within the parameters of the law.

Notes

1. Tom Clancy, *Red Storm Rising* (New York: G.P. Putnam's Sons, 1986), p. 150.

2. Article 0605 of U.S. Navy Regulations, 1973, states that "At all times a commander shall observe, and require his command to observe, the principles of international law. Where necessary to the fulfillment of this responsibility, a departure from other provisions of Navy Regulations is authorized." For a discussion of the naval commander's duties under international law, see Paul M. Regan, "International Law and the Naval Commander," Naval Institute *Proceedings*, August 1981, pp. 51-56.

3. Wayne P. Hughes, *Fleet Tactics: Theory and Practice* (Annapolis: Naval Institute Press, 1986), p. 287. Since strategic deception is generally conducted on a much wider scale, it can be even more effective

than tactical deception. "The term 'strategic deception' refers to instances during war or intense international competition when countries attempt to mask their diplomatic and military strategy either by confusing or misleading their opponents. The deceiver's overriding objective is to gain a strategic advantage by encouraging an opponent to respond inappropriately to the real state of affairs." Ronald G. Sherwin, "The Organization Approach to Strategic Deception: Implications for Theory and Policy," in *Strategic Military Deception*, eds. Donald C. Daniel and Katherine L. Herbig (New York: Pergamon Press, 1981), p. 70.

4. Myres S. McDougal and Florentino P. Feliciano, *Law and Minimum World Public Order* (New Haven: Yale Univ. Press, 1961), p. 668.

5. Sun Tzu, *The Art of War*, trans. Samuel Griffith (Oxford: Oxford Univ. Press, 1963), p. 66, quoted in Douglas T. Stuart and William T. Tow, "The Theory and Practice of Chinese Military Deception," in *Strategic Military Deception*.

6. E.B. Potter, ed., *Sea Power: A Naval History*, 2nd ed. (Annapolis: Naval Institute Press, 1981), p. 3.

7. Article 24 of the Hague Regulations states that "Ruses of war and the employment of measures necessary for obtaining information about the enemy and the country are considered permissible."

8. U.S. Navy Dept., *NWP 9, The Commander's Handbook on the Law of Naval Operations*, (Washington), para. 12.1.

9. See generally, J.M. Spaight, *War Rights on Land* (London: MacMillan, 1911), pp. 152-156, 229, 241-242, 404, 433-434, and 453-454; Morris Greenspan, *The Modern Law of Land Warfare* (Berkeley: Univ. of California Press, 1959), pp. 319-320; and Majorie M. Whiteman, ed., *Digest of International Law*, v. 10, Department of State Pub. 8367 (Washington: 1968), pp. 378-400.

10. *NWP 9*, para. 12.1.2. The growing emphasis on joint operations means that a naval commander must be familiar with not only the law of naval warfare, but the law of land warfare and the law of aerial warfare, as well. An example situation would be a naval officer as commander of a Joint Task Force such as JTF 120 during Operation Urgent Fury in Grenada in 1983. It is useful, therefore, to examine how the other armed forces define perfidy; with few exceptions, the law of naval warfare parallels both the law of land warfare and the law of aerial warfare on this issue, but the definitions vary slightly. The Air Force states that "like ruses, perfidy involves simulation, but it aims at falsely creating a situation in which the adversary, under international law, feels obliged [emphasis provided in original source] to take action or abstain from taking action, or because of protection under international law neglects to take precautions which are otherwise necessary." *AFP 110-31*, para. 8-3. The Army states that "in general, a belligerent may resort to those measures for mystifying or misleading the enemy against which the enemy ought to take measures to protect himself," and that "it would be an improper practice to secure an advantage over the enemy by deliberate lying or misleading conduct which involves a breach of faith, or when there is a moral obligation to speak the truth." *FM 20-10*, paras. 49-50.

11. H.W. Halleck, *International Law; or, Rules Regulating the Intercourse of States in Peace and War* (New York: D. Van Nostrand, 1861), p. 402.

12. J.M. Spaight, *Air Power and War Rights*, 3rd ed. (London: Longmans, Green), p. 169.

13. William E. Hall, *A Treatise on International Law*, 6th ed. (Oxford, England: Oxford Univ. Press, 1909), p. 533.

14. *NWP 9*, para. 12.2. Article 23(f) of the Hague Regulations expressly prohibits improper use of the "distinctive badges of the Geneva Convention."

15. *NWP 9*, para. 12.2.

16. *Ibid.*, para. 12.6.

17. *AFP 110-31*, para. 8-6. *NWP 9*, para. 11.10.4 states that customary international law recognizes the white flag as "symbolizing a request to ceasefire, negotiate, or surrender." Article 23(f) of the Hague Regulations states that "it is especially forbidden to make improper use of a flag of truce. . . . "

18. *NWP 9*, para. 12.1.1.

19. *FM 27-10*, para. 51.

20. *NWP 9*, para. 12.2.

21. *NWP 9*, para. 12.3.2.

22. One of the first commentaries on the use of false colors appeared in France in 1696. U.S. Naval War College, *International Law Topics and Discussions, 1906* (Washington: U.S. Govt. Print. Off., 1907), p. 9. One of the earliest recorded incidents of ship disguise was in 1672 when British Captain Knevet, in command of *Argier*, disguised his ship "by housing his guns, showing no colours, striking even his flagstaff, and working his ship with much apparent awkwardness," and thus deceived a Dutch privateer. The practice was apparently very widespread during the Napoleonic era. Gordon Campbell, *My Mystery Ships* (Garden City, N.Y.: Doubleday, Doran & Company, Inc., 1929), pp. 8-9.

23. *NWP 9*, para. 12.3.1.

24. C. John Colombos, ed., *The International Law of the Sea* (London: David McKay Company, Inc., 1962), p. 454.

25. The *Baralong* incident prompted great controversy in 1915, not only because of the reputed improper use of neutral colors in action, but also because of allegations that *Baralong*'s captain ordered the massacre of the survivors of the U-boat. See Alan Coles, *Slaughter at Sea*, (London: Robert Hale, 1986).

26. U.S. Naval War College, pp. 7-8.

27. *NWP 9*, para. 12.3.

28. *Ibid.*, para. 12.2.

29. See generally, Dan van der Vat, *Gentlemen of War: The Amazing Story of Captain Karl von Muller and the SMS Emden* (New York: Morrow 1983), p. 86, wherein it is reported that *Emden* was flying British colors prior to action; Colombos, p. 455, wherein it is reported that *Emden* was flying Japanese colors; and *Review of Reviews, Two Thousand Questions and Answers about the War* (New York: The Review of Reviews Co., 1918), p. 133, wherein it is reported that *Emden* was flying no colors whatsoever.

30. Despite the countless historical precedents for disguising a ship in combat, one commentator has credited a trip to the London Zoo as the source of inspiration for the Q-ship program. Artist Sir John Lavery was working on shades of camouflage when, on a trip to the zoo, he noticed that from a distance in the evening light, he could not distinguish between a donkey and a zebra. He then concentrated on altering the shape of a warship so that it would appear to be an unarmed merchant ship. Coles, pp. 41-42.

31. Campbell, pp. 46-51.

32. William S. Sims, *The Victory at Sea* (Garden City, N. Y. Doubleday, Page & Co., 1930), p. 195. The Q-ship program was repeated in World War II, but with generally dismal results. For a description of the U.S. program in World War II, see Samuel Eliot Morison, *The Two-Ocean War* (Boston: Little, Brown, 1963), p. 132. For the British program, see S.W. Roskill, *The War at Sea, 1939-1945*, v. 1 (London: Her Majesty's Stationery Office, 1954), pp. 136-137. The Japanese also used Q-ships to lure American submarines. Clay Blair, Jr., *Silent Victory*, v. 1 (Philadelphia: J.B. Lippincott, 1975), p. 505.

33. Regan states on p. 55 of his article: "In the opening stages of a major conflict, the legal use of ruses may have great importance. For example, high-value naval auxiliaries at sea at the outbreak of hostilities may show neutral colors and slap on a quick coat of paint. Such ships might escape immediate first-strike destruction and be available for logistic support." Also, see generally Roger L. Crossland, "Unconventional Warfare Afloat," Naval Institute *Proceedings*, November 1981, pp. 39-40.

"Diversions, in truth, are feints, in which the utmost smoke with the least fire is the object. Carried further, they entail disaster; for they rest on no solid basis of adequate force, but upon successful deception."

Alfred Thayer Mahan
Types of Naval Officers
(Boston, 1901, pp. 115-116)

The Superpowers on the Way to a Settlement of Regional Conflicts: A German Perspective

Captain Ulrich Weisser, Federal German Navy

I

The political developments of the past year indicate that there is much to be said for considering the question of whether the superpowers are well on their way toward a peaceful solution of their regional conflicts.

As we pose this question we are already giving expression to our hope that the world is coming closer to peace. However, as Henry Kissinger has rightly said, "Securing peace is not as easy as wishing for it." Because of our particular historical experiences, we Germans have a tendency to subordinate the realities of this world to our pronounced desire for universal peace. At times we seem to forget that realistic statesmen, both past and present, have always been well advised to heed Max Weber's demand for developing "an educated ruthlessness in looking at the realities of life."

The realities of the relations between the two superpowers are primarily characterized by power and national interests. An answer to the question with which we are concerned will therefore require us to think in these categories, that is, in the categories of power politics and the security of national interests.

I consider it necessary to make these preliminary remarks to my deliberations because we Germans do not have a sufficient strategic foundation for our foreign policy. Nevertheless, we are concerned with the global strategic behavior of the superpowers. Anyone among us who

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Captain Weisser is the Branch Chief for Force Planning on the Armed Forces Staff of the West German Ministry of Defense. He has served as the German National Liaison Representative to SACLANT; as the Military Assistant to the German Chancellor; and as the Director of Policy and Strategy at the German General Staff and Command College. He has published numerous articles on strategy and security policy and is the author of the book *Europe's Security and the Super Powers*.

condemns the temptations of power politics is sure to be greeted with applause, but we must make an effort to apply a minimum degree of soberminded understanding to the power-political behavior of our most important ally, the United States of America, and its competing world power. After all, power politics can be an important instrument for securing peace.

Starting with their first summit meeting at Geneva, and based upon such an understanding of their respective politics and interests, President Reagan and General Secretary Gorbachev talked again and again about whether and how the potential for conflict in all parts of the world might be reduced to mutual advantage.

The Americans can rightly claim that from the beginning they have always insisted that these issues be addressed, and that the political dialogue between the two superpowers not be limited to problems of disarmament. A disarmament-only approach would have meant that the dialogue between the world powers would have been conducted without any reference to the essential causes of the political tensions, that is, the open and smoldering regional conflicts.

II

This makes clear that the politics of dialogue between the United States of America and the Soviet Union is designed to strengthen the political and strategic stability between the two world powers. We should, therefore, at this point take a look at the four essential determining factors of this stability and, at the same time, draw a rough outline of the present status and future trends in superpower relations:

- Despite their continuing antagonisms, both superpowers increasingly look for possibilities to get the conflict potential under control and, even more, to avoid armed conflicts. Their intention is to prevent nuclear war between themselves, and to silently respect the sanctity of each other's territory.
- For the present, the two superpowers still determine world security policy. However, the rise of the regional hegemonic powers—particularly in the Pacific area—indicates that within the foreseeable future there will be a multipolar power structure. The United States and the Soviet Union are, therefore, increasingly shifting their interests from Europe to the Pacific region, where they are exerting their influence in a mutual competition.
- Both world powers seek to display worldwide strategic flexibility, and they wish to loosen those ties that are detrimental to this approach without, however, giving up their zones of influence. In this time of rapidly changing conditions, they seek to secure their objectives by a grand strategy that includes not only the achievement of versatile political solutions,

economic potential, and the attractiveness of their state concepts, but also their status as a world nuclear power, world naval power, and power in outer space; and by an arms control policy which is in consonance with all of the above.

- While the Soviet Union and the United States have largely congruent global-strategic objectives, their relations are nevertheless characterized by insoluble tensions. These tensions are caused by the antagonism of their value systems; by the fact that the United States had a better starting position, so that the Soviet Union will never be able to catch up; by the great domestic stability of the United States and its allies, as compared with the Soviet Union and the increasing unrest in the relations between the countries within the Warsaw Pact; by the contrast between the insular geopolitical situation of the United States, on the one hand, and the continental position of the Soviet Union on the other. There is also their different geostrategic situation, which makes the United States less vulnerable but also forces it to split up its forces. In this situation, the Soviet Union not only has the advantage of having a closed inner perimeter, but it is also geographically close to regions of the world which are both potentially unstable and important in the world-political context, so that interventions are not only possible but are sometimes considered necessary.

Against this background we can now ask ourselves the question of how the two superpowers are securing their worldwide interests—both today and tomorrow—in a political climate which on the one hand is characterized by increasing cooperation but on the other hand could revert to confrontation. We cannot rule out such a change in the international climate, particularly if traditional reservations become more prominent again, or if one of the superpowers violates the rules of mutual relations in the nuclear age, which include keeping a careful eye on what seem to be controllable regional conflicts. Certainly it is possible for a conflict with a regional origin to develop into a global one, and thus to fall back onto its originator.

In order to better understand this complex mechanism of congruence and antagonism between the two superpowers, and then to project this relationship onto the current regional conflicts, let us take a close look at the foreign policies of the United States and the Soviet Union.

III

The national security and foreign policy of the United States has three components: moral-political, economic and power-political. The aim of the moral-political component is to convince the world that it should take America as a model. The economic component's aim is to secure raw materials, energy, and markets. And the power-political component

provides support for the role of the United States as a world power, by securing strategic positions on a global scale and extending American influence throughout the world.

Depending on the situation, either one or the other of these three components enters into the foreground of American policy to influence both strategic and tactical decision making.

On the one hand, U.S. national security and foreign policy is characterized by a high degree of continuity; it is determined by immutable objectives, by constant political and geostrategic factors, and by a clearly defined constellation of interests. In this context, in which we have made use of the term "continuity," we are reminded of what Thomas Jefferson said: "We act not just for ourselves but for all mankind." And it was Jefferson who wrote, at the time that Napoleon marched into Russia, "Surely none of us wish to see Bonaparte conquer Russia and thus lay at his feet the whole continent of Europe."

Ever since that time, the United States has adhered to a principle which follows from this position—that a potential opponent must never become too strong. The United States has fought two wars in and around Europe to keep us Germans from achieving such a powerful position. The United States has also conducted several wars in Asia to prevent the rise of a single hegemonic power in the Pacific Basin. And it is still true today that the United States will not tolerate the dominance of a single power on the Eurasian continent; because if the Soviet Union were to gain a dominant influence over almost 300 million West Europeans and their resources, China and Japan would have to assume that the global balance of power would definitely change to the detriment of the United States, and this would then have far-reaching consequences for their relations with the United States.

It is not least for this reason that for four decades the United States has made use of all three components of its national security and foreign policy in order to limit the influence of the Soviet Union by political, ideological, military and economic means. However, this containment policy has experienced a great deal of fluctuation, particularly during the seventies and eighties. President Carter started out on a soft tack and in the beginning curtailed defense expenditures and exercised reserve in regional conflicts; the result was that the Soviet Union accelerated its armaments programs and conducted an aggressive Third World policy—among the Arabs, in Central America, in Africa, and in Southwest Asia. President Reagan then shoved the pendulum back to the other extreme at the beginning of his term of office. He increased armaments substantially, and he sought to isolate the Soviet Union and to push it into a corner politically.

Now it is all the more important that in the future the United States not swing back and forth between sabre rattling and unrealistic new expectations, and thus in the end become a factor of uncertainty in world

politics. In his new book entitled *1999*, Richard Nixon has reached the conclusion: "Containment is outdated. Détente has lost its meaning." And he urgently recommends that the new U.S. administration place its relations with the other superpower on a new basis, shaped by a steady long-term policy that combines three elements: deterrence, competition, and dialogue.

Whoever analyzes the mood of America today, including the foreign policy ideas not only of President Bush, but also of his opponent last year for the U.S. presidency, Governor Michael Dukakis, will reach the conclusion that there is now a remarkable consensus in the United States—a consensus jointly articulated in June 1988 by Mr. Nixon, an elder statesman experienced in foreign policy, and Mr. Cyrus Vance and Mr. Kissinger, two former secretaries of state, and confirmed by General Colin Powell, President Reagan's National Security Adviser, in a speech given before the World Affairs Council in San Francisco on 19 July 1988.

It is definitely clear that in the future the United States will continue to protect, with its umbrella of nuclear deterrence, the three regions of the world that are of vital political and strategic importance for America, namely Europe, Japan, and the borders of the Persian Gulf. These areas differ from those of the Third World in which the Americans see themselves competing with the Soviet Union. Now, finally, it is the Third World which the United States in particular will have to consider as the real challenge.

In the United States there is now an increasing awareness of having long been prepared for the most dangerous situation, i.e., a major aggressive act by the Warsaw Pact, while at the same time having paid insufficient attention to the most likely development, namely, crises and conflicts in other parts of the world.

Until now, the United States has not had a particularly imaginative or creative Third World policy. However, there are more and more indications that there is an increasing sense of moral responsibility toward the underdeveloped nations and that the economic opportunities and security risks are being subjected to a new evaluation. This is so for several obvious reasons:

- In the Third World, there are an unbelievable wealth of resources and promising possibilities for giving world trade a new impulse. In this context I would point out that the European Community has estimated that by the end of this century China will have a per capita income of $1,000, and twice that amount by the year 2010. What this development means in economic terms is quite obvious when taking into consideration the size of the Chinese population.
- There is incredible poverty in the Third World. About 600 to 800 million people live in such a state of misery that their despair results in unrest and revolution, encouraging the possibility of radical change.

- Countries of the Third World carry out their contradictions and conflicts with such vehemence that, so far, 20 million people have become victims of such conflicts.
- In our time, no wealthy industrial nation that is to any extent guided by moral standards can afford to ignore the poverty suffered by large segments of mankind.

The United States can no longer afford to treat the Third World as an object of rivalry between the two superpowers, unless the Americans wish to lose credibility with those peoples of the world who are struggling for their mere survival. The United States simply cannot afford to create the impression that, in effect, its only interest is to maintain the upper hand in the global competition with the Soviet Union. After all, the leaders of Communist subversion are displaying an understanding of the distress of the poor, and they are talking about it. Until now, the United States has talked more about the Communists than about the poor.

The United States will not relent from giving its support to friendly states in the form of money and arms if these states are defending their freedom against Communist subversion or overt attack. And the United States will continue to secure its national interests by maintaining a fleet capable of taking action worldwide. However, today, more than ever, U.S. world policy requires a constructive attitude on the issue of debts, and it requires drastic increases in U.S. development assistance, an area in which Europe is presently far ahead of the United States

IV

During the Reagan era there were significant changes in the concept of U.S. global maritime strategy. Due to its insular geopolitical position and its worldwide interests, the United States more clearly than ever before gave notice of its claim to maritime supremacy.

From the beginning, the Reagan administration supported this claim with a high degree of priority and gave it the following political definition: "Maritime superiority must first be reestablished and then strengthened. The trend in the U.S.-Soviet sea power balance has been running strongly the wrong way for over 15 years. Reversing the trend and restoring U.S. naval forces to their necessary dominance will require a sustained national commitment of considerable magnitude."

As the Americans understand it, this objective requires naval forces having a quality and strength that will permit the fulfillment of three tasks:

- A worldwide peacetime strength and readiness, with main efforts in those regions that are of particular strategic interest;
- Flexible and effective task fulfillment as a factor for stabilizing regional conflicts; and

- The capability of engaging the enemy in a global war at a time and place which seem most likely to bring about success, while at the same time denying the enemy the same opportunity. This is to enable the United States not only to defend North America far away from its own shores, but also to secure the sea lines of communication for the United States and its allies.

The formulation of such a mission for the U.S. Navy resulted in the development of a gigantic armaments program, the objective of which was the establishment of a 600-ship navy. While it is clear now that the size of the fleet will not reach 600 ships—in fact it is receding from its crest—it will still be, by far, the world's most powerful fleet.

In conducting this program for reestablishing the maritime superiority of the U.S. fleet, the American leadership was primarily guided by two basic ideas: On the one hand, the United States requires sufficient naval forces to be able to maintain a durable peacetime naval presence in all areas of the world that are of vital significance to the United States, without causing an overload on personnel and materiel; on the other hand, in case of war the U.S. fleet requires combat capabilities sufficient for translating this claim to naval superiority into victory.

The political and strategic significance of such a peacetime strength for the U.S. Navy is perhaps due more to the historical experience of the United States as a naval power than to political rationality. This must be kept in mind if we wish to understand the reasons for the increase in recent decades in the ability of the Soviet Union to behave as a naval world power with global capabilities. What was important to the Soviets was not that their fleet should be militarily coequal with the U.S. Navy, either as a whole or in part; rather, what was important to them was the capability to make their presence felt with naval means on every ocean and in each region of the world in which the United States had a naval presence, so that they could protect their interests with military means or intervene in a crisis.

For the United States, this meant that in each situation in which it was thinking about military intervention, it had to keep in mind that intervention could at any time lead to a conflict with the other world power that would be difficult to keep under control.

V

It is not least this condition that has recently influenced the Soviet deliberations on global strategy. It is generally true that for years the Soviet Union made unmistakably clear that its self-image as a nuclear and naval world power did not permit parity in only one of these two attributes of a world power, while accepting the superiority of the United States in the other. Admiral Gorshkov, the creator of the Soviet fleet, emphatically

pursued this political objective with a concept of worldwide operations. He was primarily supported in the pursuit of this program by Leonid Brezhnev.

During the Gorshkov era, the peacetime mission of the Soviet fleet included three primary elements:

- Balancing the influence gained by the United States with its globally active navy;
- Improving the Soviet Union's image as a global naval power and as a power with worldwide interests;
- Supporting political and strategic objectives in areas of the world in which the Soviet Union had important interests.

Since General Secretary Gorbachev has assumed power, there are distinct signs that changes are taking place in Soviet naval policy. While it is true that Gorbachev also regards the element of equality as an essential and determining factor in the superpower relationship, he nevertheless considers it less and less meaningful to pursue political goals in the Third World with military means. Moreover, he is becoming more and more aware of the economic consequences of an expensive naval arms buildup and a worldwide naval presence. According to American sources, Gorbachev therefore seems to have reduced the Soviet fleet activities for the time being from their political and strategic dimension to the operational and tactical level. This has been accompanied by a drastic reduction in the funds devoted to readiness (5 percent of the 1986-90 budgets, compared with 29 percent of the U.S. Navy budget), and by changes in the Soviet naval presence and naval exercises, which will now be concentrated mainly in waters close to home and on the wartime mission.

The expense of naval armaments and the global presence of the Soviet navy is not the only burden on the course of Soviet reforms. In addition, there are the large sums of money with which the Soviet Union supports its proxies, both directly and indirectly. Each year, these sums amount to $3.5 billion for Vietnam, almost $5 billion for Cuba, around $3 billion for Angola, Mozambique and Ethiopia, and almost $1 billion for Nicaragua. In other words, each and every day the Soviet Union pumps out about $35 million to support the regional conflicts of this world.

Certainly, this is one important motive for Mikhail Gorbachev's effort to redirect Soviet policy and to develop a new policy toward the Third World. It is evident that Leonid Brezhnev's approach no longer suffices. Brezhnev's only aim was expansion; his intent was to widen Soviet influence and weaken the U.S. position by means of a combination of the well-aimed application of military assistance, state-sponsored trade, diplomatic support for his clientele, and a worldwide naval presence. And all of this was to take place particularly in those areas where Soviet economic and security interests complement each other: in the Soviet Eurasian glacis as well as on the shores of the Pacific, the Indian Ocean, and the South Atlantic. In

this context it is of interest that in 1987 alone, the Soviet Union increased its arms exports to the Third World by about 30 percent as compared to the previous year. The points of main effort were the Near and Middle East and India.

VI

This outline description of the global-strategic behavior of the two superpowers already provides a good basis for evaluating their behavior in the individual regional conflicts, be it in Afghanistan, Cambodia, Angola, or southern Africa. We can therefore keep our observations on specific regions short.

Not until the last summit meeting in Moscow in May 1988 was it possible to achieve a real breakthrough on the issue of regional conflicts, and this occurred only after the Afghanistan agreement had provided a historical prerequisite. While the main interest of the German media was focused on the solemn inauguration of the Washington INF Treaty, the fact that in Moscow it was possible for the first time to talk constructively about the whole gamut of regional conflicts was the item of real political significance. In these talks, however, each side clearly and emphatically stated its interests. Although it was not possible to overcome the differences in these interests, it was possible to overcome the inability to reach compromises. The Soviet Union's ability to achieve compromises was evident particularly in those areas where Moscow would not gain anything by continuing to exacerbate the conflict, and would thereby lose more than it would gain. At the same time, we must not overlook the fact that Moscow is by no means the master of events in all of the regions concerned.

In Southeast Asia, the primary bones of contention are Cambodia and the Philippines.

The aim of the United States in Cambodia has been to help a subjugated nation that was being bled to death, even though America might have only a limited influence on the formation of Cambodia's ultimate government. Moscow has been interested in a solution corresponding to China's expectations. This is because Vietnam's occupation of Cambodia was one of the three obstacles to a Sino-Soviet rapprochement. At the same time, the Soviets were not in a position to apply pressure on Vietnam at will, since they wished to retain their influence there as well as their naval bases. Vietnam's withdrawal of 50,000 military personnel from Cambodia, for a start, has begun a process which is to return home all Vietnamese invasion troops by 1990. However, in view of the total political, social and economic collapse of Cambodia, the situation will require particular massive outside aid. Only in this way will it be possible to overcome the present Cambodian

infant mortality of 21 percent, the life expectancy of 41 years, and the annual individual income of only $70 to $80.

In the Philippines, U.S. and Soviet interests are far apart. For the United States, these Islands constitute a first-class strategic position, not least due to the optimal location of Clark Air Force Base and the U.S. naval base at Subic Bay. The United States will continue to need these positions for its naval presence in the Pacific Ocean and as a basis for any power projection in the Indian Ocean and the Persian Gulf. Being well aware of this, in May 1988 the Soviet Union urged President Aquino to close the U.S. bases. And this was done at a time when the president of the Philippines was conducting two battles, one against economic disaster and the other against the New Communist People's Army. On 16 September 1988 the Soviet General Secretary added a remarkable new variant to this initiative: As a *quid pro quo* he offered to relinquish the base at Cam Ran Bay in Vietnam.

In Africa, the regional conflicts are primarily in Angola/Namibia and in Ethiopia.

The Moscow summit prepared the ground for the skeleton agreement, reached on 21 July 1988, to give Namibia its sovereignty and its right to self-determination, to liberate Angola of Cuban troops, and to terminate the intervention of South Africa. With a view toward the tenth anniversary of U.N. Resolution 435, which was passed on 29 September 1978, and which had thus far been unsuccessful, the two superpowers agreed that there should be some movement. At last, U.N. Resolution 435-78, which points in this direction, is coming to its realization. The United States has both economic and strategic interests in Angola and in all of southern Africa, primarily with respect to the wealth of resources there, such as platinum, manganese, and chromium, as well as with regard to the foreign-policy problems besetting South Africa, which is having difficulty in mastering its domestic social conditions. Together with the four other permanent members of the United Nations Security Council—France, Great Britain, China and the Soviet Union—the United States is one of the powers providing the guarantees for the peace process.

For many years the Soviet Union made use of the social problems, the apartheid policy, and the problems caused by the rapid process of decolonization in southern Africa to establish Communist governments and to exercise its subversive influence. Now, the United States has successfully mediated in this complex regional conflict, and the Soviet Union has helped to find a solution through its constructive influence on Cuba and Angola. It remains to be seen whether the Soviet Union will now also cease to train members of the African National Congress in guerrilla warfare and terrorism in order to fight against the regime of South Africa, and whether it will cease to give massive financial aid to that Congress.

The Soviet Union is also the main supplier of arms to Ethiopia; neither at the last summit nor thereafter did it indicate that it might be interested in changing this. The Ethiopian Communist regime uses hunger and a scorched earth policy as a method for suppression, and it is systematically maneuvering the country into a massive catastrophe. The Soviets are in a position to stop this development; however, so far they have not done so, even though at the Washington summit they took upon themselves the obligation "to support the parties involved in regional conflicts in their search for peaceful solutions designed to promote their independence, freedom and security."

While the Soviet Union, as a member of the United Nations Security Council, helped make possible the acceptance of the U.N. armistice resolution for the war between Iran and Iraq, it did so with some reluctance. In the end, Iran accepted negotiations and the armistice because it had reached the end of the road, both politically and materially. However, later, it has been reported, the Soviet Union informed the United States why Moscow had been so reluctant: In view of the Soviets' problems with the Islamic population in the southern Soviet Union, particularly in Azerbaijan, they had been afraid of further complications that might result from the reactions to be expected from the fundamentalist ayatollahs in Tehran. The United States was also concerned about a possible spread of Iranian fundamentalism; in this respect both superpowers were in agreement with the Arabic countries adjoining the Gulf. And finally, the United States and the Soviet Union were in agreement concerning their estimate of the great dangers emanating from this region in the proliferation of hazardous weapons such as ballistic missiles and chemical arms.

The end of the war between Iraq and Iran has changed the strategic situation in the Near and Middle East, that is, in the region between Afghanistan and the eastern Mediterranean and between the southern border of the Soviet Union and the Arabian Sea, which has for so long been explosively charged. However, the end of this war did not at all change the interests of the two world powers.

Of particular significance for the political-strategic stability of this region will be Iraq's behavior toward Israel and Turkey's behavior in the conflict with the Kurds: both Israel and Turkey are protégés of the United States. The Iraqi army, which is battle-tested and highly armed, is the most important military factor on the Arabian peninsula. Today, Iraq has seven army corps with 40 divisions; and it has 4,000 tanks, 3,000 artillery pieces, and about 500 combat aircraft. However, only eight divisions have a state of mechanization that would qualify them for far-ranging operations. This limited mobility, and the necessity of having to continue to secure its borders against Iran, diminish the threat to Israel, which surpasses Iraq in combat

effectiveness. However, much will depend on whether and to what extent Iraq will continue receiving war supplies from its main supplier, the Soviet Union, which in 1987 alone delivered weapons with a value of $3.5 billion.

The Soviet Union, which is contractually bound to both Iraq and Syria, has a particular responsibility for peace and stability in the Near East. It is in a position to both provoke and resolve conflicts. Apparently, the Soviet Union considers it to be in its interest to establish itself for the future as a power that is as a matter of course involved in the developments in the Gulf area—be it in a conference on Palestine, in the protection of shipping, or in better relations with Iran.

The United States has a vital political, economic and strategic interest in the Persian Gulf area owing both to the Gulf's large resources in oil, and to the U.S. obligations to Israel. In view of the diverging interests of the two superpowers, the continuing mistrust between them, and particularly the unpredictable behavior of the Arab and Islamic world, there is little room for taking joint action.

However, in this explosive political environment, both superpowers have come to realize the risks that would result if they were to deploy their troops in the pursuit of their political objectives. This realization moved Gorbachev to do away with the political inheritance he had assumed in Afghanistan. There, the Soviet Union lost a great deal of money and almost 50,000 dead and wounded. Nevertheless, the Soviet retreat from Afghanistan turned out to be difficult. At the summit meeting in May 1988, General Secretary Gorbachev energetically and emphatically issued a warning against any further involvement in this process by U.S.-supported Pakistan. The United States rejected Gorbachev's warnings and threats with equal emphasis, and clearly assumed a protective posture over its client.

Finally, it is impossible to say how the Soviet Union will behave in the area which is of particular interest to the United States: Central America. Here, the United States is determined that the Communist superpower will not gain a beachhead on the North American continent. The problem for the United States is that Nicaragua has a Communist regime which both sharply limits freedoms within the country and attempts to export its ideology outside its borders. The United States expects the Soviet Union to stop the supply of weapons. It is very probable that the Soviet reaction will determine future U.S. behavior in the solution of regional conflicts. Washington would surely be glad to come to an agreement with the Soviet Union that would neutralize Nicaragua for the time being as a destabilizing factor in this part of the world. However, it is not yet possible to say whether the situation will develop in this direction. For the Soviet Union and even for Gorbachev himself, there may be quite a temptation to make use of the lack of a consistent U.S. policy toward Central America and of the permanent quarrel between the Congress and the administration, while at

the same time retaining important political positions and levers for exercising future influence.

VII

It is apparent that particularly during the past year the two superpowers have been unexpectedly successful in the peaceful solution of some regional conflicts. However, it is equally obvious that their rivalry has not yet become a matter of history.

This view is supported by both the continuing antagonism between the systems of values and the diverse interests of the two superpowers—even if the admirers of Gorbachev would prefer to hear something else. So far, important quarters in the United States still regard Soviet foreign policy as a dangerous mixture of traditional Russian expansionism and an ideologically supported drive to achieve a world revolution. The pessimistic view is: It is an imperialism with a dual thrust.

Forty years of U.S. experience in dealing with the Soviet Union have resulted in this evaluation. These experiences concern the Soviets' aggressive use of military power in the service of expansionism—be it in Eastern Europe, in Greece, in Iran and Turkey, or in Berlin, Korea and Southeast Asia, or even in the Middle East and further in the Caribbean and in Africa. The United States has again and again concluded agreements, treaties and understandings with the Soviet Union, particularly with regard to the difficult situations in Israel and Vietnam. The Soviet Union has not adhered to these agreements.

At the 24th Congress of the Communist Party of the Soviet Union in 1971, Andrei Gromyko declared, with a view toward the Third World, that there were no issues worth mentioning in international politics which could be decided without or against the Soviet Union. And in 1978, Leonid Brezhnev declared at the 25th Congress of the Soviet Communist Party that the socialist countries' influence on history was growing ever greater, and that détente was related to changes in the international constellation of forces. In 1979 it seemed to Brezhnev that the risks of intervention in Afghanistan were bearable

But now, even skeptical Americans have come to realize that General Secretary Gorbachev has made a new and different evaluation of the situation, and that he has made some changes in the Soviet political and strategic priorities. This is because the relationship between investment and gain in the Soviet Third World policy has changed. There is no longer any political profit in positional gains; they have simply become too expensive.

However, there is still a great deal of uncertainty concerning the effects which "perestroika" and the "new thinking" in the Soviet Union will have

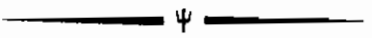
on the United States. Thus, Under Secretary of State Rozanne Ridgeway stated at a hearing of the U.S. Congress in June 1988: "On things that matter to the United States and our allies and how to deal with the changing Soviet Union, it is a confused picture." The picture is very confused indeed. It is confused because we evaluate the Soviet Union almost exclusively by using the person of the General Secretary as our yardstick, and not by what the Soviet Union wants or can do. On the occasion of the 70th anniversary of the Russian October Revolution, the General Secretary unmistakably stated: "In October 1917 we severed our ties with the old world. . . . We are marching into a new world, the world of Communism."

We are quite aware of what the Soviet Union can do politically and economically, and what its strategic options are. That is why we know that the Soviet Union will need economic reforms. However, what we do not know is what the Soviet Union will do once these reforms have been crowned with success. Despite this uncertainty, these words of Baron Richard von Weizsacker, the German Federal President, retain their validity: "Power politics will remain with us, but its methods will change. The destructive power of modern weapons technology, which is inimical to mankind, forces the major powers to exercise their influence by means other than purely military ones. With their weapons the superpowers are able to deter each other, as well as threaten other powers; however, they are not able to conduct a war against each other, nor are they able to employ their sophisticated weapon systems to bring about decisions in regional conflicts. This is the lesson we have learned from Vietnam and Afghanistan, from Nicaragua and Angola. Power politics now requires other capabilities."

In these changed surroundings, and under these new political-strategic conditions, it is not only the superpowers that will have to think about new ways and means of solving regional conflicts. The Europeans are also affected, both directly and indirectly, be it in the Middle East, in southern Africa, or in Latin America. However, Western Europe has not developed its own strategic identity and is now hardly present as an actor in world politics. The role of Europe is to an excessive extent restricted to that of an observer of international developments. This contradiction between worldwide obligations and interdependencies on the one hand, and an attitude of celibacy in world politics on the other, is particularly evident in Germany. At a time of increasing security-policy stability in Europe and an equally increasing probability of new conflicts in other parts of the world, we Germans should be aware that we are no longer in a position to limit our security-policy thinking to the narrow confines of the Nato Treaty area and to the East-West antagonism. However, because of the political status and the historical burdens of our country, we would certainly be overextending ourselves if we should try to go it alone in living up to the

expectations held by many countries of the Third World, or to try to play an independent role in the management of international crises.

Nevertheless, there is a clear need for a significant European contribution in the stabilization and economic growth of underdeveloped regions. From the perspective of the Third World countries, Europe is in many ways preferred over the two world powers. Therefore, two things will be necessary: On the one hand it will be important to accelerate the integration of Europe and to give a European foreign policy a sharper profile, so that Europe can appear on the scene as an equal partner of the two superpowers; and on the other hand the Europeans will have to give their security policy a global dimension by including their North-South policy within its framework.



". . . The irony of survival can be expressed this way: men, being mortal, aren't going to survive anyhow; what might survive are values, principles; by concentrating on survival we bury the values and principles which alone have a chance to survive; the absence from policy making of these values and principles weakens our practical action, thereby probably reducing our life expectancy."

Max Ways, *Beyond Survival*
New York, Harper & Brothers, 1959
(p. 79)

Strategic Nuclear Planning After START

Ensign Douglas J. Hanson, U.S. Navy

Discussion of American-Soviet relations in recent months has focused increasingly on arms control. The Intermediate-range Nuclear Forces (INF) agreement, for example, has been heralded as a milestone in superpower cooperation and has paved the way for extensive reductions in strategic nuclear weapons. Such reductions are politically popular and the Strategic Arms Reduction Talks (START) negotiations have received a great deal of attention in the press. The implications of such reductions, which have not been adequately addressed, are highly important and require greater attention than we have given them, especially from strategic planners.

Arms control agreements will heighten restraints on strategic planners in the future. For example, a strategic arms reduction treaty will necessitate approximately 50 percent cuts in the strategic nuclear arsenals of the United States and the U.S.S.R. Such an agreement would limit the size of our strategic nuclear arsenal but would not change the goal of deterrence, creating more difficult challenges for American nuclear force planners.

Obviously, a strategic arms reduction agreement would have a significant impact on the status of the U.S. nuclear triad. Not only would the triad have to be appreciably reduced, but it would also have to be redesigned to maximize its effectiveness with regard to U.S. nuclear doctrine. Additionally, it would have to fulfill the requirements of the relevant treaties. This would not be an easy task and would require careful advance planning. For this reason we cannot wait until a treaty is on the books to develop the plans to fulfill its requirements. Such planning must begin today.

START Provisions

Throughout the ongoing Strategic Arms Reduction Talks with the Soviet Union, the United States has sought an agreement "leading to deep,

Ensign Hanson, a distinguished graduate of the U.S. Naval Academy, received his B.S. degree in political science in 1987 and an M.A. in political science from Syracuse University in 1988. He is a graduate of Naval Nuclear Power School and currently assigned to Nuclear Power Training Unit, Idaho Falls, Idaho.

equitable, and effectively verifiable reductions in the number of strategic nuclear arms held by both sides."[1] The Soviet Union, under the leadership of General Secretary Gorbachev, has been receptive to three American START overtures. In fact, at the Reykjavik summit in October 1986, President Reagan and General Secretary Gorbachev agreed to a series of general START provisions. The tentative agreement would limit each side to 6,000 warheads deployed on 1,600 strategic nuclear delivery vehicles (SNDVs), including ICBMs, SLBMs, and heavy bombers. Subsequent negotiations in Washington and Geneva have led to further agreements. Ballistic missile (ICBM and SLBM) warheads, for example, would be limited to a quantity of 4,900, while heavy ICBM warheads would have a ceiling of 1,540 warheads.[2] The Trident II D-5 SLBM, furthermore, would be counted as carrying eight warheads, and air-launched cruise missiles (ALCMs) would be counted at a fixed, though as yet undetermined, rate per ALCM-equipped heavy bomber. Finally, agreement in principle was obtained regarding nuclear-armed sea-launched cruise missiles (SLCMs). These weapons, with range greater than 600 kilometers, would be limited separately from the 6,000-warhead START ceiling.[3]

Details of other developments have yet to be either completed or released. Certain assumptions can and must be made, however, regarding logical treaty outcomes in order to assess its impact and plan accordingly, but in general, many of the provisions of the SALT II agreement will be retained. Warhead counts, for example, which were determined by SALT II, for various U.S. and Soviet SNDVs, will be retained as well as the practice of excluding forward-based systems such as carrier aircraft and FB-111s from the strategic force totals. These forces, however, would continue to supplement our strategic forces. Assumptions such as these will facilitate force planning efforts without the benefit of complete treaty details.

The provisions listed above provide extremely important guidelines for the post-START triad, but additional information is required to successfully plan for a nuclear force structure that will continue to deter the Soviets. First, we need a set of mission fulfillment criteria based on U.S. nuclear doctrine. Additionally, an assessment of current capabilities must be available to determine the degree of change necessary in the triad and the systems available for future allocation. These three sets of information—START provisions, mission fulfillment criteria, and current capabilities—will provide the necessary framework for our future planning efforts.

Mission Fulfillment Criteria

U.S. nuclear strategy is guided by the policy of flexible response. Developed in the 1960s, flexible response calls for the U.S. National Command Authority (NCA), normally the President, to retain sufficient

nuclear forces and control of those forces, even in the event of a Soviet first strike, to respond to any extent necessary to counter any degree of Soviet aggression. In other words, U.S. forces "are designed to maximize the uncertainties that a Soviet attack planner would face, and to confront the Soviet leadership with an unfavorable outcome in *any* contingency in which they may contemplate the use of nuclear weapons against the United States or its allies."[4] Maintaining a credible deterrent force and the possibility of rapid war termination at a low level of escalation are the primary goals.

Flexible response in this case does not mean merely the escalation of a European conflict between Nato and the Warsaw Pact to global nuclear exchanges as some critics have suggested. It is a broader policy that allows for several U.S. nuclear response options, depending on the nature of the aggression against the United States. For example, in the case of a very limited Soviet nuclear strike against the U.S. mainland, the NCA would have the option to launch a similar retaliatory strike and would not be limited to a "massive retaliation or nothing" decision. In the event of a massive first strike, moreover, the NCA could order just such a massive retaliation. In the latter case, a situation of mutually assured destruction (MAD) would exist, providing the most credible deterrent to a Soviet first strike against the United States.

During the Reagan administration this policy was generally interpreted as a counterforce targeting scheme,[5] but flexible response does not preclude countervalue as well. Whether it employs a counterforce or a countervalue targeting scheme, or a combination thereof, flexible response is the best possible nuclear doctrine for the United States now and in the post-START world. By providing the NCA with a broad selection of response options, this doctrine makes deterrence credible in a wide variety of circumstances. Flexible response, however, requires nuclear forces with unique qualifications. These qualifications, or mission fulfillment criteria, include survivability, responsiveness, and lethality, among others.

Survivability. The most important criteria is survivability. Enough U.S. strategic nuclear forces must be able to survive a Soviet preemptive nuclear strike to ensure retaliation and cause accompanying enemy losses such that the Soviet leadership would judge the costs of the first strike to be much greater than the benefits. This criteria also includes the ability to successfully penetrate Soviet defenses. Command, control and communications (C^3) assets must also be survivable.

Responsiveness. Strategic forces must be responsive to NCA release orders, should be able to reach their targets expeditiously, and must have the ability

to rapidly reprogram their guidance systems to respond to changing target scenarios. Responsiveness requires reliable C^3 assets and dependable systems. Responsiveness also entails endurance, which is the capability to maintain high alert rates for long periods of time, even during nuclear exchanges.

Lethality. Strategic forces must have a sufficient combination of accuracy and yield to destroy a wide variety of Soviet targets, both hard and soft.

Variety. Strategic forces should present a variety of unique targeting and defense complications to Soviet strategic planners to enhance survivability of U.S. forces, to prevent vulnerability arising from a catastrophic failure of a particular nuclear delivery system, and to maximize Soviet expenditure on non-threatening defensive systems.

Efficiency. Strategic forces should be cost-effective both in terms of procurement costs and operations and maintenance costs.

Finally, but by no means last in priority, safety is a prominent concern for any nuclear doctrine, not just flexible response. Risk of accidental or unauthorized launch of nuclear weapons must be minimized. Effective negative control features are required. Of course, a singular weapon system cannot satisfy all of these criteria completely. The complete triad, however, must fulfill as many of these as possible and obtain the best possible compromise, using a variety of nuclear systems to support the doctrine of flexible response.

Current Capabilities

As a final step before undertaking the reallocation process, it is necessary to assess the capabilities and magnitude of the current U.S. strategic nuclear arsenal. In this way we can establish to what degree revision of the triad is necessary to most effectively satisfy the criteria listed above, while simultaneously fulfilling the obligations of the START Treaty.

For purposes of discussion here, 1989 is considered "current," because this is the year in which the START Treaty is likely to be signed and ratified. It will be those forces in existence at the time of ratification that will be most relevant to our force planning efforts.

From the data presented in table 1, it is clear that not only is the current U.S. strategic triad well over the limits prescribed by the START Treaty, but it is also comprised largely of aged systems. In fact, over two-thirds of the warheads are deployed on launchers that are at least 15 years old, and many are much older than that. These older systems remain despite a major strategic modernization program initiated in 1981. It is also apparent that over half of the triad's launchers consist of silo-based ICBMs which

are vulnerable to modern Soviet ICBMs. These and other limitations of the current U.S. strategic nuclear triad will be addressed.

U.S. STRATEGIC NUCLEAR FORCES, 1989[1]

System	Year Deployed	Launchers	Warheads/ Launcher	Total Warheads
ICBM				
Minuteman II	1966	450	1	450
Minuteman III	1970	500	3	1500
Peacekeeper/MX	1986	50	10	500
Midgetman/SICBM	1994?	0	1	0
Total (ICBM)		**1000**		**2450**
		(52.4%)		**(17.7%)**
SLBM				
Poseidon C-3	1971		14	
Lafayette SSBN[2]		15x16[3]		3360
Trident I C-4	1979		8	
Lafayette SSBN[2]		12x16[3]		1536
Ohio SSBN		8x24[3]		1536
Trident II D-5	1989	0	8	0
Total (SLBM)		**624**		**6432**
		(32.7%)		**(46.5%)**
Total (ICBM+SLBM)		**1624**		**8882**
BOMBERS				
B-52G[4]	1958	98	20	1960
B-52H[4]	1961	96	20	1920
B-1B	1986			
ALCM		0	20	0
Non-ALCM		90	12	1080
ATB/B-2	1992?	0	12	0
Total (Bombers)		**284**		**4960**
		(14.9%)		**(35.8%)**
Total (ICBM+SLBM +Bombers)		**1908**		**13842**

Table 1

1 Deployed Systems. Excludes forces designated for testing and training.
2 Includes both *Lafayette* and *Franklin*-class SSBNs.
3 First number is quantity of submarines; second is quantity of SLBMs per submarine.
4 Equipped as ALCM carriers.

Sources: International Institute of Strategic Studies, *The Military Balance 1987-1988*, (London: IISS, 1987); U.S. Dept. of Defense, *Annual Report to the Congress, Fiscal Year 1989*, (Washington: U.S. Govt. Print. Off., 1988); Author's estimates.

The U.S. ICBM force is not only comprised predominantly of old missiles, but is highly vulnerable to Soviet ICBMs, especially the extremely accurate, high-payload SS-18. The bulk of the force is comprised of Minuteman II and III missiles which were first deployed in the late 1960s and early 1970s. Although they have been modernized to a large extent, they are not survivable against modern Soviet ICBMs and have only a limited hard-target capability. Additionally, their age brings into question their reliability. Problems have been located in the bonding of Minuteman solid-fuel systems, for example, as the missiles age.[6] Modern Peacekeeper missiles make up the remainder of the force. These systems are time-urgent hard-target capable but are vulnerable when deployed in their current configuration, which is in Minuteman silos. The warhead counts for all these systems do not exceed those set forth in the SALT II Treaty.

In the submarine leg of the triad, aged systems make up roughly half of the warheads, but 27 of the 35 submarines will have reached their design life expectancy of 20 years and the oldest of these *Lafayette* and *Franklin*-class boats will be 26 years old. These submarines currently have an expected service life of 30 years, therefore, many are nearing retirement.[7] Additionally, as they age, these SSBNs will wear out and require more repairs and down time. The other eight deployed submarines are of the *Ohio* class, which is larger, quieter, and more capable than the *Lafayette/Franklin* class. The *Ohio* and 12 of the *Lafayette/Franklin* class carry the Trident C-4 SLBM which has a longer range and greater accuracy than the Poseidon C-3 SLBM it replaces. The Poseidon, for example, has a range of approximately 2,500 nautical miles, while the C-4 has a range of approximately 4,000 nautical miles.[8] Age is the major factor affecting the submarine leg of the triad. Like ICBMs, warhead counts for the C-3 and C-4 were derived from SALT II provisions.

The bomber wing is the most antiquated of the triad legs. Over two-thirds of the aircraft are near or have exceeded 30 years of age. The B-52s, which are the backbone of the wing, are incapable of penetrating Soviet air defenses and are very expensive to maintain and fly. All these aircraft have been modernized and converted to carry ALCMs. Most, however, will have to be retired or assigned to a less-demanding conventional role in the 1990s as their offensive capabilities continue to be surpassed by enemy defenses. B-1Bs make up the rest of the bomber leg. These aircraft are far superior to the B-52 in terms of speed and penetration ability. They are currently fitted for a penetration bombing function.[9] Some early problems, such as fuel leaks and faulty ECM (electronic counter measures) arose during B-1 development, but these have been largely corrected and will be eliminated entirely as upgrading continues.[10]

The bomber wing is the most difficult leg to classify in terms of warhead and launcher strengths. The SALT II provisions help somewhat by setting

an ALCM limit of 20 per ALCM-equipped B-52 and B-1. This limit was utilized in table 1. SALT II, however, does not limit bombs. Therefore, non-ALCM aircraft are assumed to carry 12 bombs internally, which is the payload of the B-52. This is a very important assumption. START seeks to reduce warheads, not just launchers as in the SALT accords. Consequently, START must contain provisions for counting warheads on heavy bombers.[11] Additionally, forward-based systems such as the FB-111 and heavy bombers in the conventional role are not included in the strategic forces tables or START, but will continue to play a role in flexible response.

Currently, the U.S. triad meets the requirements for flexible response because of the large number of deployed warheads and Soviet inability to destroy American SSBNs. However, as American systems near their life expectancies and the Soviets deploy more capable nuclear forces, U.S. ability to carry out the doctrine will be reduced, especially in terms of survivability and lethality. START will compound this trend unless corrective action is taken.

Overall, it is clear that in a post-START world the United States must reduce the vulnerability of its strategic forces and reduce the total number of launchers and warheads in its arsenal. These two actions will be major themes guiding the transition to a post-START nuclear triad.

The SNAPS Plan

Assuming a START ratification date of late 1989 or early 1990 and a five-year transition period in which to comply with the provisions of the treaty, we require a realistic plan to transform the large, aged U.S. triad of the 1980s into a modern, highly effective strategic force by 1995. This plan, or SNAPS (Strategic Nuclear Arsenal, Post-START), will seek to optimize fulfillment of the mission criteria listed above with a combination of new and old systems, based on the constraints of available nuclear assets and procurement schedules. However, planning should not cease after START fulfillment in 1995. Consideration also should be given to longer range goals through the year 2000. SNAPS takes this into account. The resulting strategic force allocations for 1995 and 2000 are listed in tables 2 and 3, respectively. As illustrated, these force designs require significant changes in the three legs of the triad, each of which will be assessed.

ICBMs. The ICBM leg is both the most accurate and the most responsive of the triad due to extremely high alert rates and very reliable communications.[12] Unfortunately, in its current state it lacks survivability. Two methods exist for improving ICBM survivability, either hardening the silos or making the missiles mobile. The latter is preferred since, in the words

U.S. STRATEGIC NUCLEAR FORCES, 1995[1]

System	Year Deployed	Launchers	Warheads/ Launcher	Total Warheads
ICBM				
Minuteman II	1966	0	1	0
Minuteman III	1970	0	3	0
Peacekeeper/MX	1986	100	10	1000
Midgetman/SICBM	1994?	24	0	24
Total (ICBM)		**124**		**1024**
		(19.5%)		**(17.1%)**
SLBM				
Poseidon C-3	1971		14	
Lafayette SSBN[2]		0		0
Trident I C-4	1979		8	
Lafayette SSBN[2]		5x16[3]		640
Ohio SSBN		3x24[3]		576
Trident II D-5	1989		8	
Ohio SSBN[5]		10x24[3]		1920
Total (SLBM)		**392**		**3136**
		(61.6%)		**(52.3%)**
Total (ICBM+SLBM)		**516**		**4160**
BOMBERS				
B-52G[4]	1958	0	20	0
B-52H[4]	1961	0	20	0
B-1B	1986			
ALCM		50	20	1000
Non-ALCM		30	12	360
ATB/B-2	1992?	40	12	480
Total (Bombers)		**120**		**1840**
		(18.9%)		**(30.7%)**
Total (ICBM+SLBM +Bombers)		**636**		**6000**

Table 2

1 Deployed Systems. Excludes forces designated for testing and training.
2 Includes both *Lafayette* and *Franklin*-class SSBNs.
3 First number is quantity of submarines; second is quantity of SLBMs per submarine.
4 Equipped as ALCM carriers.
5 Assumes continued production of one *Ohio* per year and refit of original eight beginning in 1991 and continuing until 1999.

of General Brent Scowcroft, "In the race between accuracy and hardening, eventually hardening has to lose.[13] To offset these weaknesses, SNAPS relies heavily on the prescriptions released in 1983 by the President's Commission on Strategic Forces (Scowcroft Commission). Briefly, the Commission recommended: that 100 Peacekeeper ICBMs be promptly deployed in

U.S. STRATEGIC NUCLEAR FORCES, 2000[1]

System	Year Deployed	Launchers	Warheads/ Launcher	Total Warheads
ICBM				
Minuteman II	1966	0	1	0
Minuteman III	1970	0	3	0
Peacekeeper/MX	1986	100	10	1000
Midgetman/SICBM	1994?	408	1	408
Total (ICBM)		**508**		**1408**
		(51.2%)		**(23.5%)**
SLBM				
Poseidon C-3	1971		14	
Lafayette SSBN[2]		0		0
Trident I C-4	1979		8	
Lafayette SSBN[2]		0		0
Ohio SSBN		0		0
Trident II D-5	1989		8	
Ohio SSBN[5]		16x24[3]		3072
Total (SLBM)		**384**		**3072**
		(38.7%)		**(51.2%)**
Total (ICBM+SLBM)		**892**		**4480**
BOMBERS				
B-52G[4]	1958	0	20	0
B-52H[4]	1961	0	20	0
B-1B	1986			
ALCM		40	20	800
Non-ALCM		0	12	0
ATB/B-2	1992?	60	12	720
Total (Bombers)		**100**		**1520**
		(10.1%)		**(25.3%)**
Total (ICBM+SLBM +Bombers)		**992**		**6000**

Table 3

1 Deployed Systems. Excludes forces designated for testing and training.
2 Includes both *Lafayette* and *Franklin*-class SSBNs.
3 First number is quantity of submarines; second is qnantity of SLBMs per submarine.
4 Equipped as ALCM carriers.
5 Assnmes eontinued production of one *Ohio* per year and refit of original eight beginning in 1991 and continuing until 1999.

Minuteman silos; that a small, single warhead ICBM (SICBM) be developed and deployed; and that advanced ICBM basing technologies be explored.[14]

In the transition phase of SNAPS (1989-1995), Minuteman IIs and IIIs would be retired in favor of the Scowcroft-recommended Peacekeeper and Midgetman (SICBM) systems. The Peacekeeper is a modern, highly

accurate, ten-warhead missile. Moreover, it possesses the requisite accuracy and yield to destroy every type of hardened target.[15] The existing force of 50 Peacekeepers would be retained in fixed silos during the transition phase, while an additional 50 will be based in a rail-garrison mode. In this deployment system, small trains, each carrying two missiles, would be based at Air Force installations scattered throughout the country. During periods of increased international tension they would be dispersed on the U.S. railroad system.[16] The initial 50 would then be backfitted to a rail-mobile mode before the year 2000. Rail-garrison basing will dramatically increase both the survivability and endurance of the Peacekeeper missile system and the ICBM leg of the triad. It also will be relatively efficient, considering that the ICBM has been proven to be effective and 50 have already been procured. The Peacekeeper will be supplemented by the Midgetman.

To enhance survivability and variety in the ICBM leg, as well as continued modernization, SNAPS requires deployment of the Midgetman ICBM. With a hard-target capability, the single warhead missile will utilize the technological advantages of the Peacekeeper, yet will be small enough to be based in hardened mobile launchers. These launchers would be based on existing DoD and DoE (Department of Energy) installations and randomly moved throughout a designated deployment area. During crises this area would increase, and during attack dispersal the Midgetman could be deployed on the American highway system.[17] Besides survivability and accuracy, this system would also improve strategic stability. With only one warhead, it would "present a relatively low-value target and require a high exchange ratio from the attacker."[18] In fact, based on a 500-missile deployment, former Secretary of Defense Harold Brown estimated it would take "something like 3,000 1-megaton warheads to destroy it."[19] Under START, such an attack would require half of the Soviet strategic force to destroy about 400 warheads. Deterrence would obviously be enhanced with such a system. During transition, development and initial procurement of Midgetman would occur with deployment of 24 by 1995. A total of 408 would be deployed by the year 2000.

In the words of former Defense Secretary Caspar Weinberger, "A strong and modern triad must have a strong ICBM leg. And a strong ICBM leg must include 100 Peacekeepers."[20] With the addition of the Midgetman, the ICBM leg will be both survivable and hard-target capable well into the 21st century.

SLBMs. Strategic submarines and their SLBMs comprise the backbone of the U.S. triad. They are the most survivable of all U.S. nuclear systems and have the highest endurance. SLBMs, additionally, will attain a hard-target capability with the introduction of the Trident II D-5 missile at the end

of 1989. SNAPS retains an emphasis on SLBMs from the current triad configuration.

During the transition phase, the entire fleet of remaining Poseidon missile submarines will be rendered obsolete due to the age and limited capabilities of that particular missile system. A few of the older *Lafayette* and *Franklin* class, which carry the Trident C-4 missile, will be retained until replaced by D-5 capable *Ohio*-class submarines in the late 1990s. The remainder of the force will be made up of *Ohio*-class submarines carrying the C-4 and D-5 missiles.

New D-5 capable *Ohios* will be procured until approximately 1998, while the original eight C-4 versions will be backfitted to carry the D-5. Eventually, by 2000, the entire force will be made up of modern *Ohio*-class SSBNs equipped with the Trident II D-5 missile.

It is important to transition to the D-5 for several reasons. Although the C-4 SLBM is an extremely reliable, accurate, and long-range weapon, it lacks the combination of yield and accuracy to have a true hard-target capability. The D-5, on the other hand, will have twice the accuracy, twice the throw weight, and four times the warhead yield of the C-4, without sacrificing range.[21] This will give it the capability to destroy hardened Soviet targets.[22] In one configuration, the D-5 will also have greater range, providing greater effective patrolling area and enhanced survivability for our SSBNs. The D-5, moreover, by having a time-urgent hard-target capability, will have the ability to place the most valuable Soviet hardened targets at risk, even after a devastating first strike against U.S. land-based strategic forces. Knowledge of this capability and its damage potential should have an even greater deterrent effect on the Soviets than our present force structure, thereby contributing to strategic stability.

Efficiency also will be an asset of the SNAPS SLBM leg. Currently, the submarine leg contains nearly half of the triad's warheads, yet takes up only 25 percent of the DoD strategic budget.[23] This cost effectiveness should be at least equal if not greater under SNAPS. Additionally, nearly all of the *Ohio*-class submarines have already been authorized and funded, which will reduce SNAPS procurement costs.[24]

An important aspect of the plan would require increased readiness of the submarine force with at least 70 percent of SSBNs at sea, on average. To facilitate maximum alert rates, at least two additional SSBNs would be retained without missiles. An SSBN coming off patrol or going into refit could transfer its missiles to the reserve SSBN, which would then go on patrol. This would maximize underway time for our limited SLBMs during periodic SSBN maintenance and refit. Of course, careful verification procedures would have to be worked out to make this feasible.

Finally, communications should be addressed. A recurrent criticism of SSBNs, in fact the only one of major consequence, is that they are not responsive and that submarine C^3 assets are the most vulnerable to a first strike. These criticisms have some merit, but weaknesses in C^3 are a liability to the entire triad. ICBM and bomber communications are equally vulnerable to those with SSBNs.[25] Submarines on patrol also are equally if not more responsive to NCA launch orders than ICBMs or bombers. In the words of Rear Admiral W.J. Holland, a 32-year submarine veteran and past director of Strategic and Theater Nuclear Warfare in OPNAV, "The submarine begins to receive the [launch authorization] message before it arrives at the ICBM launch control centers."[26]

Most experts agree that American SSBNs are currently invulnerable and will remain so well into the next century. As a result of their stealth, and more than 40-million square miles of ocean in which to patrol, they are extremely survivable and have long endurance.[27] Incorporation of these capable systems, especially the D-5, into SNAPS assures the United States of the triad's maximum performance well past the year 2000. House Armed Services Committee Chairman Les Aspin (D-Wis.) summed up the system, saying, "Of all the strategic weapons systems we've looked at, we've given this one the highest marks."[28]

Bombers. Unlike ICBMs and SLBMs, bombers are recallable after launch and are reusable, assuming they survive Soviet defenses and have functional bases to return to. Furthermore, they are much more flexible in terms of their ability to selectively choose targets during a mission and the variety of weapons they can carry. For example, U.S. strategic bombers can currently deliver nuclear bombs, ALCMs, and defense suppression SRAMs (short-range attack missiles). Conversely, bombers are vulnerable to a preemptive strike if not on alert, have limited endurance, and lack time-urgent capability. They also are currently vulnerable to massive Soviet air defenses. The time urgency and endurance problems are currently insurmountable. Therefore, SNAPS will seek to reduce first-strike vulnerabiliry and improve penetration capability.

During the SNAPS transition phase, all the remaining U.S. B-52 bombers will be either retired or transferred to the less demanding conventional role. In their places we will deploy a combination of the existing B-1B and the B-2 Advanced Technology (ATB) or "stealth" bombers. As the B-2 reaches IOC (initial operating capability), the B-1 fleet will be gradually converted to a primary ALCM role with a slightly reduced number of aircraft. This mix will continue through 2000, but in a slightly different ratio.

The B-1B is a significant improvement over the B-52. With one-100th the radar cross-section of the B-52, greater range, greater speed, and a much better low-altitude capability, the B-1 can not only outperform it, but has

a significantly improved penetration ability.[29] It also has a greater pre-launch survivability rate.[30] In the initial stages of SNAPS, the B-1 will be primarily a penetration bomber. As it is equipped with ALCMs, the B-1 will then perform a "shoot-penetrate" mission with ALCMs and bombs, and SRAMs will be deployed to knock out Soviet air defenses ahead of penetrating B-1s and B-2s. Finally, the follow-on SRAM II and advanced cruise missile (ACM) will be deployed when available, further increasing bomber capability.[31]

The B-2 is, as yet, largely a mystery in terms of capability, but its "stealth" features will give it an enhanced penetration ability. Payload is not yet known, so for evaluation purposes we assume that the B-2 can carry 12 nuclear bombs. SNAPS procurement of the B-2 will fall considerably short of the 132 currently planned by DoD.[32]

Like SSBNs, bombers must also maintain increased alert rates in the post-START world. Additionally, they should be dispersed to the maximum degree allowable by logistics constraints.

Bomber forces, finally, with their multiple weapons loads and their on-site targeting ability provide "the best potential for dealing with the growing threat posed by Soviet relocatable weapon systems."[33] This advantage is especially relevant considering Soviet deployment of their SS-24 and SS-25 mobile ICBMs.

Bombers, it can be seen, have several clear advantages. SNAPS would help optimize this important leg of the triad by making it more capable and survivable.

Warhead Allocation

SNAPS makes great qualitative improvements in each leg of the U.S. strategic nuclear triad in response to the quantitative limits imposed by START. This is not enough, however. A coherent plan must also maintain the capabilities of the entire force in addition to the individual legs. The force must be able to function as a system. For this reason, SNAPS allocates American strategic forces very carefully, based on mission criteria, cost, political considerations, and the principle of a triad.

The U.S. strategic arsenal need not be divided into a triad of air, sea and land systems. The forces could be concentrated into one branch, for example, or could be divided between two. For several important reasons, however, the triad has and will continue to prevail as the best overall arrangement of U.S. strategic forces. First, the triad complicates Soviet targeting and defense efforts by deploying an assortment of systems. This prevents concentration of Soviet resources and efforts on the defeat of any particular system. It also necessitates heavy Soviet spending on a complicated array

of defenses, including ASW, continental air defense, and BMD. These are resources which could otherwise be spent on offensive nuclear or conventional systems upgrades. The triad also prevents a system-wide technical malfunction from nullifying our entire deterrent force. The events surrounding the space shuttle *Challenger* disaster illustrate this type of possibility. Finally, the triad gives the President a great deal of options should deterrence fail.

Overall, SNAPS retains the general force mix which exists in the current triad (table 1). The backbone of the force is the submarine leg, which is allocated roughly 50 percent of U.S. strategic warheads at any one time. This mix ensures survivability and high endurance of the triad, without losing variety. Many experts, including Stansfield Turner and William W. Kaufmann, advocate a dramatic increase in the percentage of the triad allocated to submarines.[34] While this policy undoubtedly would increase survivability in the short term, it would also encourage Soviet ASW efforts. Moreover, it would create the possibility for the crippling of the triad if either a system-wide technical failure in SLBMs or a Soviet ASW breakthrough occurred. Finally, such a policy lacks political feasibility because it would receive neither Air Force nor Navy support.[35] A balanced 50-50 split between the Navy and Air Force optimizes interservice cooperation in this area.

Additionally, a balanced allocation is very cost-effective, since most of the SSBNs have already been procured or authorized. Allocating less than 50 percent to SSBNs would require more new ICBMs and bombers, which would be more costly in the long run. Also, SSBNs are very popular in Congress. In fact, the House of Representatives passed a resolution on 3 May 1988 which urged the Reagan administration to retain at least 20 Trident SSBNs after a START agreement.[36] This is slightly greater than SNAPS allows, but indicates a large amount of Congressional support for SSBNs.

The Air Force share of the triad, finally, would vary in composition as new systems were introduced. ICBM numbers, for example, would increase as they became more survivable. Overall, the SNAPS allocation of warheads between the triad legs ensures optimal survivability, variety, and efficiency of the strategic nuclear arsenal within the constraints of Pentagon and Congressional politics. Moreover, it actually encourages interservice cooperation and Congressional support by utilizing a wide variety of nuclear systems and military bases while maintaining an even balance between the Navy and Air Force. Political factors such as these comprise a vital component of strategic planning.

Vulnerability and Strategic Stability

A prevalent criticism of START is that it will increase the vulnerability

of the American triad to such a large degree that the Soviets will be tempted to launch a first strike. On the surface this would seem to be a logical assumption, especially if our vulnerable systems are retained. SNAPS, however, greatly reduces this likelihood by introducing significant numbers of survivable warheads.

Under the terms of START, both the United States and the U.S.S.R. will have 6,000 warheads and 1,600 launchers. Yet, in actuality, the United States would only have 636 launchers in 1995 and 992 launchers in 2000 under SNAPS. By casual inspection of table 2, one might easily conclude that 6,000 warheads could destroy these launchers in a first strike, especially considering their concentration at bomber and submarine bases. This conclusion, however, would not be justified.

For example, even assuming the worst case scenario in which the entire bomber and ICBM legs were completely destroyed and the submarine leg was 50 percent eliminated, the United States would still retain a retaliatory force of 1,568 warheads, enough to easily destroy the 200 largest cities in the U.S.S.R., the bulk of the Soviet oil industry, all Soviet submarine and strategic bomber bases, and many other military and industrial targets.[37] The retaliatory force would also be bolstered by U.S. forward-based nuclear systems, including several hundred nuclear SLCMs, and by the French and British nuclear forces. Overall, this retaliatory capability would present the Soviet leadership with an unacceptable amount of damage with respect to any gain they might achieve. By 2000, the situation would improve because of the full-scale deployment of our mobile and survivable ICBMs. Clearly, SNAPS would not provoke a first strike, but would deter it.

The other major criticism which might be forwarded is that an extensive time-urgent hard-target capability would decrease crisis stability by threatening all of the Soviet triad if the United States chose to launch a first strike. The logic goes that in a crisis the Soviet leadership, fearing an imminent attack, would launch a preemptive strike against the United States. However, the argument applied above is applicable in this case as well, except in the reverse order. Like the United States, the Soviet Union maintains a mixed force balance and it is deploying survivable nuclear forces such as the mobile SS-24 and SS-25 ICBMs, the Typhoon and Delta IV SSBNs, and the Blackjack intercontinental bomber.[38] These forces will give the U.S.S.R. a survivable retaliatory force. Both the Soviet and American leadership know this. They also know that no U.S. President would risk American civilian lives by launching a strategic first strike against the U.S.S.R. In short, reductions in the strategic nuclear arsenals of the superpowers will inevitably lead to qualitative improvements in existing forces. These improvements have been initiated already by the Soviet Union and will include survivability. The result will be greater, not reduced,

strategic stability if the United States follows through with its improvement programs. These programs make up an integral part of SNAPS.

The preceding pages have presented a plan for reconfiguring the U.S. nuclear arsenal to comply with the provisions of a START agreement. SNAPS, or Strategic Nuclear Arsenal Post-START, details the weapons, the allocations, and the time frame for deploying a practical, obtainable system that not only fulfills all the criteria necessary for flexible response and a secure deterrent force through the year 2000, but also is acceptable to Congress, the Navy and the Air Force. In this way, SNAPS serves as a vehicle for achieving significant force reductions without sacrificing our security.

SNAPS, however, is far more than a nuclear force blueprint based on rigid START guidelines. More importantly, it is a concept: a long-range planning model for strategic procurement and deployment. It is not the numbers that are of primary importance, for they will require periodic adjustment as a treaty is finalized, but the idea of a coherent, practical, and flexible strategy for strategic planning which is paramount. Such a strategy, based on an intelligent assessment of the relevant criteria and capabilities, will be useful primarily as a unifying point for the military services with regard to strategic planning and an instrument for presenting a coherent and consistent program before Congress. For SNAPS to be effective, however, several steps should be followed.

Begin Planning Efforts Now. The key decisions concerning the vital Peacekeeper and Midgetman systems are being made today in the Congress and the Administration. Because of long lead times necessary for the defense acquisition process, it is necessary to begin formulating and promoting SNAPS now.

Insist on Treaty Provisions Favorable to SNAPS. To facilitate incorporation of the SNAPS plan, military strategic planners and the JCS must present a list of requirements to the treaty negotiators. First, heavy bombers configured for the conventional role must not be included in the START totals. Second, provisions must be included which will allow deployment of standby SSBNs without missiles to facilitate heightened readiness. Finally, mobile ICBMs should not be banned.[39]

Obtain Unified Interservice Support. In each step of the planning process, especially in presentation to Congress, Navy and Air Force leaders must reach agreement. Compromise and cooperation are required. A uniformly supported program will stand a much higher chance of Congressional acceptance.

Promote the Concept Internally. Career military officers in DoD have much longer institutional longevity than Presidential appointees. To maintain continuity and long-term support, SNAPS should be promoted within the strategic planning subspecialties.

Seek Congressional Allies. Congress is the crucial body for defense procurement. Any successful program must have widespread Congressional support. Fortunately, with strategic systems Congress is generally supportive. According to Representative Les Aspin, "Congress has balked at almost no strategic major systems."[40] However, attitudes can change, so it is important to recruit support among our legislators. Congressmen and Senators also tend to have greater institutional longevity than Presidential administrations, making them all the more important as allies.

Seek Administration and Popular Support. Again, the greater the base of support, the greater the likelihood that Congress will pass the program.

Deemphasize Cost. Congress should be constantly reminded of the small percentage of the defense budget that strategic systems actually comprise, as well as the immense value the United States receives from this strategic investment—namely, avoidance of nuclear war.

Improve C^3 Assets. Finally, it is necessary to continue improvements in the C^3 system to limit its vulnerabilities and improve the deterrence capabilities of SNAPS.

An old adage says that it is dangerous to separate the planners of policy from those who carry it out. The SNAPS plan embraces this concept and places primary responsibility for strategic planning on military officers within DoD. Using START as a vehicle, we can create practical, flexible, and workable plans for procurement and deployment of our strategic nuclear arsenal, which will maintain a credible deterrent against Soviet attack while avoiding either a violation of treaty limitations or a retreat from our flexible response doctrine. By developing a military and Congressional consensus, we can minimize planning and procurement problems and pave the way for a stronger and more capable deterrent arsenal in the wake of START.

Notes

1. U.S. Dept. of Defense, *DoD Annual Report to the Congress, Fiscal Year 1989.* (Washington: U.S. Govt. Print. Off., 1987), p. 108.

2. *DoD Annual Report FY 89*, pp. 108-109; Heavy ICBMs are classified in the SALT II Treaty. For the United States these would include the MX, for the Soviet Union the SS-18. SALT II Agreement, Article II.7.

3. Leon V. Sigal, "START Nears the Finish Line." *Bulletin of Atomic Scientists*, April 1988, pp. 14-15.

4. *DoD Annual Report FY 89*, p. 53.

5. For a discussion of current American counterforce doctrine see: Bruce G. Blair, *Strategic Command and Control*, (Washington, D.C.: Brookings, 1985), chapters 2 and 7.

6. U.S. Congress, House, Committee on Armed Services, Arms Control and Disarmament Panel of Procurement and Subcommittee on Military Nuclear Systems, *Arms Control and Disarmament Activities*, Hearings, Testimony of Kenneth L. Adelman, Dir., U.S. Arms Control and Disarmament Agency and Rep. Richard Ray (D-Ga.) (Washington: U.S. Govt. Print. Off., March 1983-June 1984), p. 122.

7. Norman Polmar, *Ships and Aircraft of the U.S. Fleet*, (Annapolis, Md.: Naval Institute Press, 1984), pp. 47, 50.

8. *Ibid.*, pp. 442, 454.

9. U.S. Congress, House, Committee on Armed Services, Subcommittees on Research and Development, and Procurement and Military Nuclear Systems, National Defense Authorization Act for FY 1988/1989. *Review of the Air Force B-1B Program*, Hearings, Testimony of Lt. Gen. Bernard P. Randolph, Deputy Chief of Staff for Research, Development and Acquisition, Dept. of the Air Force (Washington: U.S. Govt. Print. Off., February-March 1987), p. 76.

10. *Ibid.*, pp. 77-79.

11. Since verification of individual bombers would be impractical, setting a fixed number of warheads per non-ALCM heavy bomber would provide a logical solution. Furthermore, if such a provision were not included and bombers were counted as one warhead, each side would have a compelling motive to violate the spirit of the agreement by procuring a large number of bombers. For example, 600 bombers would count as only 600 warheads, but could actually deliver 7,200 warheads (12 each). This number would increase to 13,200 in the event that 1,100 bombers were deployed. An additional 500 ballistic missiles carrying 4,900 warheads would be allowed under the treaty terms in this configuration. Obviously, failure to adopt a warhead-counting rule for bombers could dangerously undermine the spirit of START. Moreover, it would be especially dangerous for the United States, since we have a small continental air defense force.

12. U.S. Dept. of Defense, *Annual Report to the Congress, Fiscal Year 1988*, (Washington: U.S. Govt. Print. Off., 1987), p. 205.

13. U.S. Congress, House, Committee on Armed Services, Defense Policy Panel, *The MX Missile and the Strategic Defense Initiative—Their Implications on Arms Control Negotiations*, Hearings, Testimony of Gen. Brent Snowcroft, Former Advisor to the President for National Security Affairs (Washington: U.S. Govt. Print. Off., February-March, 1985), p. 64.

14. U.S. Congress, House, Committee on Armed Services, Hearings on *H.R. 4428, DoD Authorization Act for FY 1987*, Title I, Air Force Acquisition Statement FY 87, Hearings (Washington: U.S. Govt. Print. Off., February-May 1986), p. 706.

15. *Ibid.*, p. 707.

16. *DoD Annual Report FY 89*, p. 232.

17. *DoD Auth. for FY 87*, Title II, pp. 696-698. Prepared statement of Brigadier General Charles A. May, Deputy Director and Special Assistant for ICBM Modernization Directorate of Operational Requirements.

18. *DoD Auth. for FY 87*, Title I, Air Force Acquisition Statement FY 87, p. 710.

19. "The MX Missile and the Strategic Defense Initiative," Testimony of General Brent Scowcroft, p. 68.

20. *Ibid.*, p. 27. Quoted by Lieutenant General James A. Abrahamson, USAF, Director, Strategic Defense Initiative Organization of the Office of the Secretary of Defense.

21. *DoD Auth. for FY 87*, Title I, p. 943. Testimony of Admiral Kenneth C. Malley, USN, Director of Strategic Systems Project Office, Dept. of the Navy.

22. *Ibid.*

23. "Interview: Vice Admiral Bruce DeMars, U.S. Navy." Interview with Vice Admiral Bruce DeMars, Deputy Chief of Naval Operations for Submarine Warfare, U.S. Naval Institute *Proceedings*, Annapolis, Md.: October 1987, p. 55.

24. The 16th *Ohio* and 66 D-5 SLBMs were requested in the FY 89 DoD budget. The request has been approved by both the House and Senate Armed Services Committees without amendment. *DoD Annual Report FY 89*, p. 236; Tim Carrington, "House Panel Backs Defense Budget of $299.5 Billion," *Wall Street Journal*, 30 March 1988, p. 52; Tim Carrington, "Military Budget Wins Approval of Senate Panel," Wall Street Journal, 29 April 1988, p. 48.

25. For an extensive discussion of the vulnerabilities of U.S. C^3 assets see: Blair; and Aston B. Carter et al., *Managing Nuclear Operations*, (Washington, D.C.: Brookings, 1987).

26. Rear Admiral W.J. Holland, USN (Ret.), "The Link to the Boomers: The Triad's Best!" U.S. Naval Institute *Proceedings*, January 1988, p. 42; For a thorough discussion of the SSBN communications debate see: Holland; and Richard B. Kelley, "The Link to the Boomers: A Bad Connection," in *ibid.*

27. U.S. Congress, House Committee on Armed Services, Subcommittee on Seapower and Strategic and Critical Materials, Hearings on *H.R. 4428, Department of Defense Authorization of Appropriations for Fiscal Year 1987*, Hearings Testimony of Vice Admiral Bruce DeMars, Deputy Chief of Naval Operations for Submarine Warfare, Dept. of the Navy (Washington: U.S. Govt. Print. Off., February-June 1986), p. 77.

28. Tim Carrington, "Trident II Missile Wins Panel's Praise As Lone Success in U.S. Strategic Triad," *Wall Street Journal*, 28 March 1988, p. 24.

29. *Review of Air Force B-1B Program*, pp. 76-77. Testimony and prepared statement of Lieutenant General Bernard P. Randolph.

30. *DoD Auth. for FY 87*, Title I, p. 985. Testimony of Dr. Lawrence W. Woodruff, Deputy Under Secretary of Defense for Strategic and Theater Nuclear Forces.

31. *Ibid.*, p. 932. Prepared Statement of Dr. Woodruff.

32. *DoD Annual Report FY 89*, p. 238.

33. *The MX Missile and SDI*, p. 41. Prepared statement of General B.L. Davis, USAF, Commander in Chief, Strategic Air Command and Director, Strategic Target Planning.

34. William W. Kaufmann, *A Thoroughly Efficient Navy*, (Washington, D.C.: Brookings, 1987), pp. 22-24; Admiral Stansfield Turner, USN (Ret.), "Winnowing Our Warheads," *New York Times Magazine*, 27 March 1988, p. 69.

35. The Air Force would stand to lose a significant portion of its budget in this case since maintaining and operating strategic forces is a major Air Force mission. The Navy would also fear such a plan since a greater strategic function would likely divert resources from primary missions such as sea control and power projection. Any plan that would threaten the Maritime Strategy would not be popular among Navy leaders.

36. Associated Press Wire Service, 4 May 1988.

37. See Kaufmann, p. 28, for a list of hypothetical Soviet targets.

38. Tim Carrington, "Soviet Low-Flying Bombers and Missiles Raise Questions About Star Wars System," *Wall Street Journal*, 2 May 1988, p. 6.

39. Under the SALT II provisions, all B-52s and B-1s were counted as heavy bombers. START, however, will assign to each bomber a fixed allotment of warheads. If conventional bombers were included in the totals, the strategic airwing or the other legs would have to be reduced considerably. In the SSBN case, satisfactory verification procedures must be resolved that will allow for reserve SSBNs without raising fears of a breakout of the treaty in a crisis. Finally, the Reagan administration preference for a ban on mobile ICBMs should be modified. SNAPS depends heavily on these systems. According to Senator Sam Nunn (D-Ga.), "If we have no survivable mobile ICBMs to deploy under the START ceilings, then our options for taking advantage of the opportunities for stability afforded by this prospective treaty are greatly reduced." Senator Sam Nunn, "Arms Control in the Last Year of the Reagan Administration," *Arms Control Today*, March 1988, p. 4.

40. U.S. Congress, House, Committee on Armed Services, Defense Policy Panel, *U.S. Nuclear Forces and Arms Control Policy*, Hearings (Washington: U.S. Govt. Print. Off., May-June 1986), p. 8.

Ψ

Economics and Military Power

Lieutenant Ethan B. Kapstein, U.S. Naval Reserve

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I

Writing in 1941, Edward Mead Earle argued that "the interrelation of commercial, financial, and industrial strength on the one hand, and political and military strength on the other . . . is one of the most critical and absorbing problems of statesmanship."[1] This is the enduring problem that informs the books under review. As did Earle and other writers, the authors have attempted to refine the problem and point toward its policy resolution. The objective of this article is to examine the propositions that underpin recent scholarship in economics and military power, and to assess the policy implications.

Work in the political economy of defense has a substantial pedigree in postwar scholarship, but this crop of authors, with the exception of former

Dr. Kapstein is the John M. Olin Research Associate and the Executive Director of the Economics and Security Program at Harvard University's Center for International Affairs. A lieutenant in the U.S. Naval Reserve, he drills with the First 0291, Naval Air Station, South Weymouth, Massachusetts.

Defense Secretary Weinberger, differs from their predecessors in a fundamental way: they perceive a United States that is in relative decline. This perceived decline signifies that the U.S. government must take vigorous unilateral and multilateral measures to lower the defense burden. Recommendations to achieve this objective include expanding competition among defense contractors, and a new formula for burden-sharing among the western allies.

From a theoretical perspective, the books, one hopes, will encourage the development of a new synthesis in international relations scholarship. In recent years, international relations has splintered into the two major specialties of political economy and security studies, with little communication across the divide. The literature highlights the need to bridge this gap. Case studies in areas embracing both specialties, such as international arms cooperation, the arms trade, defense budgeting and procurement, and foreign investment in defense-related industries, would provide a first step in that direction. An enduring synthesis can be built only atop a strong empirical foundation.

II

The books reviewed here remind us that defense economics is one of the oldest branches of political economy. As a field of study, defense economics is concerned with the allocation of scarce resources to the defense sector of the economy. While research in this field was relatively active during the early postwar years, it entered a period of decline in the early 1960s. These books signify the end of that drought.

Historically, the financing of warfare has been the most challenging economic task facing rulers. War costs could disrupt national strategy no less than enemy forces. As Fernand Braudel wrote of 16th-century Europe: "The expense of war crippled states. . . . The inglorious and costly Irish wars ruined Elizabeth's finances toward the end of her brilliant reign and, more than any other single factor, prepared the way for the truce of 1604. The cost of war in the Mediterranean was so great that bankruptcy often followed . . . war fleets devoured money and supplies." As Rabelais nicely put it, "coin is the sinews of war."[2]

While historians like Braudel have touched on war economics in their work, it is the central focus of Paul Kennedy's study. He examines the "*interaction* between economics and strategy as each of the leading states in the international system strove to enhance its wealth and its power, to become (or to remain) rich and strong" (Kennedy, p. xv). Beginning with the Habsburg Empire in the 16th century, Kennedy argues that the challenge that has faced all great powers has been the demand to match capabilities with commitments. "Imperial overstretch" and increasing war costs have

doomed all those who would create and maintain a Holy Roman Empire or One-Thousand-Year Reich.

Kennedy uses one historical example after another to support his thesis that states must build military power on a strong economic foundation. Typical is his comment that "military power rests upon adequate supplies of wealth, which in turn derive from a flourishing productive base, from healthy finances, and from superior technology" (Kennedy, p. 439). While some reviewers have accused Kennedy of economic determinism, nowhere does he argue that a strong economy provides the necessary *and* sufficient condition for power; he asserts that the Vietnam war exposed that fallacy. He does believe, however, that if state power is to endure, it can be done only within the context of a self-sustaining economic system.

Yet it is difficult to find an argument in Kennedy's book that can be acted upon by policymakers. While he makes an implicit protectionist argument—for example, that "there could be serious implications for American grand strategy if its industrial base continues to shrink" (Kennedy, p. 530)—he does not propose a list of positive policy prescriptions. This would be unobjectionable if the book were proffered solely as a work of history. But his time span is 1500-2000, thus making it an exercise in futurology as well as history. He recites much of the common wisdom with regard to the Japanese economic challenge, but leaves unclear the military-strategic implications of a booming Pacific Rim. Unfortunately, Kennedy is vague as to the lessons to be derived from his intriguing study.

From an analytical standpoint, Kennedy's work is reminiscent of the postwar realist literature. Indeed, a fundamental proposition of the realists was that a powerful state must possess a strong economy. Such an economy would be characterized by a high level of gross national product and advanced technology, and a foundation of rich human and natural resources.

Recognizing the economic dimension of national power, N.J. Spykman wrote in 1942 that: "the relative power of states depends not only on military forces but on many other factors—size of territory, nature of frontiers, size of population, absence or presence of raw materials, economic and technical development, financial strength . . . they have value in themselves, and they are means to power." Modern warfare, Spykman argued, "can be fought successfully only on the basis of a rich supply of strategic raw materials and an enormous industrial output." He recognized that the prosecution of a great power war would demand the "full participation" of the national economy.[3]

James Schlesinger echoed a similar theme in his work on the political economy of defense. He asserted that states must build an adequate "mobilization base" to produce materiel for war, taking into account the "scarcity of real resources . . . ." This scarcity demanded that the use of

economic resources "be coordinated and synchronized in accordance with an overall plan of production." Such plans should be prepared in peacetime, not in the heat of battle. Schlesinger argued that the efficient use of economic capabilities could provide the critical margin needed for victory.[4]

The most noted realist thinker, Hans Morgenthau, was also sensitive to the economic dimension of national power. Morgenthau suggested that geography, natural resources, industrial capacity, and population all influenced military capability. He noted that: "the technology of modern warfare and communications has made the overall development of heavy industries an indispensable element of national power . . . it is inevitable that the leading industrial nations should be identical with the great powers, and a change in industrial rank, for better or for worse, should be accompanied or followed by a corresponding change in the hierarchy of power."[5]

For the older realists and defense economists, who were writing at the peak of U.S. power, there was no question regarding the supremacy of America's defense industrial base. The United States possessed human, material, and financial capital in abundance, far outstripping any rival. While Soviet advances in atomic weapons and rocketry during the 1950s shook American complacency, it was clear that the arsenal of democracy could beat any foe in a global contest. Realists like Schlesinger and Morgenthau saw the United States as autarkic for military purposes, and indeed capable of meeting alliance needs during wartime. The concept of "dependence" on overseas suppliers for critical military inputs was foreign indeed.

The books under review depart from traditional realism at this juncture. While such authors as Kennedy and Gansler would agree with the realists that military power is the key currency of international relations, they recognize that the domestic competition for resources on the one hand, and international shifts in comparative advantage on the other, have worked to undermine, in the United States and other alliance countries, the postwar defense economy. Challenges to Nato's stability are coming not just from the Soviet Union, but more pointedly from economic competitors like Japan and the newly industrializing countries.

This economic competition is taking place at a time when the military commitments of the United States remain widespread. David Denoon, in his *Constraints on Strategy*, expresses the problem succinctly: "the military debates in the West have developed from the unsettling recognition that there is an imbalance between the West's strategy and its capabilities" (Denoon, p. 2). While the United States claims a declining share of the west's economic output, it remains the big spender in an alliance composed of free riders.

The problem of military security in an age of economic interdependence provides a major theme in current literature, and it is this global dimension that moves the works beyond traditional studies. Clearly, one of the challenges for scholars in the next decade will be to define, describe and analyze the economic/security trade-offs that policymakers will inevitably face in light of economic interdependence. Does direct foreign investment in defense-related industries threaten national security, or should it be encouraged? Do joint Nato arms programs offer an efficient route to weapons procurement, or are they more costly than national procurement? To what extent should governments permit sourcing of defense materiel from abroad? The books under review will have served a large part of their purpose if they stimulate research on these and related questions.

The Kennedy book, with its attendant publicity, has encouraged more people to think about the complex linkages between economics and military power than any other recent work of scholarship. But students who are looking for detailed analytical arguments regarding the defense economy will not find it to be of much practical use. In this sense, *The Rise and Fall* is best viewed as "background" reading.

Given the size of the U.S. defense budget and its impact on the American economy, there remains a curious paucity of policy-relevant literature regarding the "military-industrial complex." As Jacques Gansler points out in *The Defense Industry*, "in view of the importance of the defense industry to America's overall strategic and economic posture, there is a surprising dearth of quantitative and scholarly research on the subject" (Gansler, p. 2). Indeed, his work helps to fill a 20-year gap in the literature, insofar as the last major text on defense economics was the 1960 RAND study, *The Economics of Defense in the Nuclear Age*.[6]

Ironically, the RAND text may have contributed to the demise of defense and mobilization economics as a field of study. According to the authors, the nuclear age had rendered extensive economic planning for a long war irrelevant. They argued that a prolonged conventional war was unlikely to occur and should be "least important in our preparations." Nuclear weapons had made "destructive power . . . so cheap that wars can be won or economies destroyed before there is time for mobilization."[7]

This view, it should be noted, contrasted sharply with that espoused by Soviet strategists at the time. As two Soviet military officers stated in 1961: "The exceptional role which will be played by nuclear strikes against the enemy's vital regions in the initial stage of the war does not contradict the thesis that the outcome of such a war will be to a decisive extent determined by the result of the competition of the economies of the warring states."[8] Unlike their American counterparts, Soviet planners took seriously a

"broken-back" scenario in which conventional warfare followed on the heels of a nuclear exchange.

During the 1950s and early 1960s, the American strategic doctrine of massive retaliation dovetailed with fiscal orthodoxy in minimizing U.S. defense budgets. A dialectical approach to conflict emerged, in which strategic planning focused on nuclear war on the one hand or limited regional conflicts on the other. In either case, economic factors did not loom large.[9]

With the Kennedy administration's shift toward a doctrine of "flexible response," a new era of defense planning began. It was now American policy to meet aggression along the entire range of conflict, including prolonged conventional war with the Soviet Union. This meant that the United States had to reconsider the posture of its mobilization and industrial base. And yet, when confronted with the economic requirements of flexible response, America balked. Paul Kennedy points out that the Vietnam war diverted military resources away from problems on the Central Front, permitting the Soviet Union to achieve nuclear parity and develop its conventional forces (Kennedy, p. 406). By the 1970s, Department of Defense mobilization exercises had revealed a weakened defense industry that was characterized by reliance on sole source suppliers for critical components, declining productivity, dependence on foreign sources for strategic minerals and energy, outdated plants, critical labor shortages, and an absence of planning.[10]

Upon entering office, a major commitment of the Reagan administration was to rebuild the nation's defenses. Given the prolonged neglect of this sector, the price tag promised to be enormous: $1.5 trillion over five years.[11] As the table illustrates, the net effect would raise defense spending as a proportion of gross national product from 5.2 percent in 1981 to 6.2 percent in 1986 (Weinberger, p. 315).

Perhaps the simplest and most powerful lesson of the defense economics literature is that "defense is not a costless activity . . . it involves considerable sacrifices of public and private sector civil goods and services" (Hartley, p. 3). President Dwight D. Eisenhower summarized the costs in his unique manner: "The cost of one modern heavy bomber is this: a modern brick school in more than 30 cities. It is two electric power plants, each serving a town of 60,000 population. It is two fine, fully equipped hospitals. It is some 50 miles of concrete highway."[12]

As Kennedy observes, states have used several methods for financing national defense, including loans, plunder, colonial wealth, and the issuance of public debt. President Reagan chose to provide for his defense budget not by raising taxes, but through a combination of deficit financing and domestic spending cuts. This deferred a portion of the program's costs to future generations who were not yet of voting age, and to others who were not even born.[13]

Federal Budget Trends

Fiscal Year	Federal Outlays as a % of GNP	DoD Outlays as a % of Federal Outlays	DoD Outlays as a % of GNP	Non-DoD Outlays as a % of Federal Outlays	Non-DoD Outlays as a % of GNP	DoD Outlays as a % of Net Public Spending*
1950	16.0	27.5	4.4	72.5	11.6	18.5
1955	17.6	51.5	9.1	48.5	8.6	35.6
1960	18.2	45.0	8.2	55.0	10.0	30.3
1965	17.5	38.8	6.8	61.2	10.7	25.2
1970	19.8	39.4	7.8	60.6	12.0	25.5
1971	19.9	35.4	7.0	64.6	12.8	22.4
1972	20.0	32.6	6.5	67.4	13.5	20.7
1973	19.1	29.8	5.7	70.2	13.4	19.0
1974	19.0	28.8	5.5	71.2	13.5	18.3
1975	21.8	25.5	5.6	74.5	16.2	16.5
1976	21.9	23.6	5.2	76.4	16.7	15.4
1977	21.1	23.4	4.9	76.6	16.2	15.5
1978	21.1	22.5	4.7	77.5	16.4	15.2
1979	20.5	22.8	4.7	77.2	15.8	15.4
1980	22.2	22.5	5.0	77.5	17.2	15.3
1981	22.7	23.0	5.2	77.0	17.5	15.8
1982	23.7	24.5	5.8	75.5	17.9	16.7
1983	24.3	25.4	6.2	74.6	18.2	17.4
1984	23.1	25.9	6.0	74.1	17.1	17.6
1985	24.0	25.9	6.2	74.1	17.8	17.6
1986	23.3	26.4	6.2	73.6	17.2	17.6
1987	21.8	27.5	6.0	72.5	15.8	17.9

*Federal, state, and local net spending excluding government enterprises (such as the postal service and public utilities) except for any support these activities receive from tax funds.

How effective is defense spending in the United States? Gansler's work, written at the beginning of the Reagan era, represents the most ambitious effort to address this question. His fundamental proposition is that: "the industrial base of U.S. defense is becoming both economically inefficient in the production of defense material and strategically unresponsive in terms of the production speedup required to meet an emergency" (Gansler, p. 4).

The author backs this contention with an impressive array of evidence drawn from detailed studies of various defense programs. According to the author, the root of the defense industry problem is located in the absence of rational planning. Unlike the Soviet Union and many western countries, in which long-term planning encourages optimal production decisions, the annual defense appropriations and review process in the United States disrupts the defense economy. Gansler sketches a Rube Goldberg-type system in which the Defense Department, Congress, and private contractors all provide input to the decision-making process. Productive efficiency is impeded by government micromanagement and a lumpy procurement system that prevents firms from taking full advantage of learning curve effects.

Gansler's theoretical approach to defense economics is not derived from classical market analysis, but rather from the theory of the "second best." This is an area of economics which proposes that if the conditions of perfect competition do not prevail in a market, and for structural reasons cannot be achieved, then it is not necessarily optimal to introduce *some* market instruments as a partial corrective; rather, it may be appropriate for policymakers to take decisions which diverge from free market dictates.[14] From a defense policy perspective, it would be irrelevant to suggest that the defense industry would be more efficient if only there were a free market of buyers and sellers, since such a market is unlikely to be established.

To begin with, the defense economy is a monopsony; it is a market with one major buyer (the Defense Department). Additionally, "the Department of Defense is the regulator, the specifier of new products, the 'banker,' the judge of claims" (Gansler, p. 5). This singular control of the market by one entity makes the defense market different from most others in the economy.

In economic theory, a monopsonist is said to have great power in a market composed of numerous sellers and is basically a price maker rather than a price taker. But a peculiar feature of the defense market is that "the buyer and seller have a far greater mutuality of interest; price plays a relatively minor role" (Gansler, p. 29). Instead, what the buyer seeks is *performance.*

Former Secretary of Defense Caspar Weinberger addressed this emphasis in his 1987 *Annual Report*. He stated that "technological superiority is a key element in the West's efforts to maintain a stable deterrence . . . US policy seeks to offset the Soviet's numerical advantage with our strong suit—superior high technology" (Weinberger, p. 302). But the high cost of technology means that the United States can purchase only small numbers of the advanced ships and planes that private contractors design. Gansler observes that whereas the United States could afford to buy 3,000 tactical aircraft per year during the 1950s, in the 1970s it purchased just 300 per year (Gansler, p. 21). Defense industry executive Norman Augustine has expressed the problem as "Augustine's Law," which states that given the growing costs of technical innovation, by the year 2000 the Defense Department will be able to purchase only *one* airplane. Despite America's undoubted technological superiority, the decreasing size of the conventional arsenal raises doubts about its ability to fight a prolonged, conventional war with the Soviet Union.

This points to the paradox of contemporary American defense planning. While the United States has reaffirmed its commitment to conventional deterrence, it has financed the development of limited numbers of increasingly expensive technologies. But modern conventional wars are wars of attrition. As Martin van Creveld argues in his outstanding contribution to McCormick and Bissell's *Strategic Dimensions of Economic Behavior*, the First and Second World Wars demonstrated that "there are

no real limits to the productive forces that it is within the power of modern industrialized economies to unleash. . . ." (Van Creveld, "The Origins and Development of Mobilization Warfare," p. 31.) Nor should the mobilization capacity of the Soviet Union be underestimated. Unlike the United States, Russia has always taken conventional war seriously. Van Creveld asserts that the ability of the Soviets to withstand a prolonged conflict puts them "in a position to have their cake and eat it too" (Van Creveld, p. 40).

The Defense Department's answer to this cost vs. performance trade-off has been to espouse the doctrine of competition. Secretary Weinberger argues in the *Annual Report to the Congress* that "the most powerful force for efficiency in production is competition" (Weinberger, p. 23). Of course, Weinberger is not speaking about free market competition, since the defense market is not composed of numerous buyers and sellers. In this case, competition is a euphemism for second-sourcing techniques.

Former Secretary of the Navy John Lehman was in the forefront of this new approach to defense procurement. By using second-sourcing, in which an additional supplier was brought on board a defense contract that had been won by another firm, he was able to lower the unit cost of several navy platforms. The price of the Aegis cruiser, for example, dropped from $1.2 billion to $900 million a copy, while the F/A-18 fighter's cost fell from $22.5 million to $18.7 million. All things being equal, Lehman could buy eight Aegis cruisers for the price of six, thus expanding the size of the fleet. Currently, with the exception of aircraft carriers, "the Navy has more than one producer for every ship it buys."[15]

Gansler notes another possible method for introducing important savings into the defense budget: the purchasing of foreign equipment. While acknowledging that "it is a basic tenet that the U.S. defense industry must be self-sufficient" (Gansler, p. 1), he questions whether this posture can be maintained. Indeed, the defense industry today imports a substantial amount of its components (up to 20 percent for some weapons systems). This "globalization" of the defense industry suggests opportunities for cost savings, at the security risk of foreign dependence.

As Gansler and the other authors all recognize, the trade-off between dependence and autarky in the defense sector is bound to become a heated issue in the 1990s. For the first time in its modern history, the United States is likely to have a defense industry which relies on foreign suppliers for items ranging from armor plating to ceramics to semiconductors. As dependence rises, pressure will inevitably be placed on the Defense Department to expand the size and scope of its stockpiles. Stockpiling, in turn, will drain resources from other budgetary items. Already, the department has been severely criticized for maintaining unacceptably low levels of ammunition, fuel, and other basic military inputs.[16]

III

Another approach to globalization has involved the multinational production of weapons systems. In recent years, international arms cooperation has been embraced by nearly every party to the defense debate. The "Nunn Amendment," named after Senator Sam Nunn of Georgia, earmarks defense funds for cooperative programs within Nato, and it has won overwhelming support on Capitol Hill and within the defense bureaucracy. There are at least two explanations for this phenomenon: first, arms cooperation deals appear to provide political benefits in dealing with Nato allies; second, such deals hold out the promise of reducing the costs of new weapons systems.[17]

Keith Hartley's book, *NATO Arms Co-Operation*, although sometimes contrary, is the best guide to the economics of defense cooperation. He disagrees with the assertion that cooperative programs lead to reduced costs. The economic benefits of joint weapons development, he argues, have been much exaggerated on both sides of the Atlantic.

Taking as his main example the F-16 fighter aircraft, which was produced on assembly lines in Europe and the United States, he found that coproduction "cost the European nations 18 percent more than if they had purchased the aircraft directly from the USA" (Hartley, p. 93). This corroborates Gansler's finding that "the result of the F-16 sale to Nato was that the cost of the aircraft to the United States was significantly higher, because of the complexity of the multinational program" (Gansler, p. 206).

But as Hartley recognizes, "weapons procurement policy tends to embrace objectives other than defense and protection" (Hartley, p. 5). Among the other concerns of bureaucrats and elected officials are employment, the balance of payments, the acquisition of advanced technology, and foreign policy effects. Any analysis of cooperative weapons programs must incorporate the perceived benefits as well as the costs. While these benefits could be quantified, they are left outside most defense program analyses.

Focusing solely on cost structures, Hartley posits several reasons for the additional expenses associated with multinational programs. First, such programs result in higher research and development costs, owing to duplication of efforts, travel, translation, measurement, and so forth. Second, when two assembly lines are purposely built, each may fail to achieve the scale necessary to make the line economic. Third, joint ventures normally take longer to complete than national projects, with inflation leading to higher costs. Finally, the intrusion of additional government bureaucracies leads to incessant meddling in project management.

Unlike Gansler, Hartley does not adopt a "second-best" approach to the defense economy. Rather, he advocates the broadening of competition in

the Nato weapons market. He recommends the creation of a Nato "free-trade area" in which governments act as competitive buyers of weapons, abolishing national entry barriers. This would establish "effective competition" since it would allow the many Nato defense suppliers to compete for the business of the 16 Nato defense ministries.

As a first step in this evolution, Hartley suggests that governments begin to apply the principle of comparative advantage to weapons procurement. They should be willing to buy more weapons "off the shelf" from foreign suppliers, focusing indigenous production on armaments that can be produced efficiently. Unfortunately, even these recommendations fly in the face of a weapons market characterized by, in the words of one Nato official, "monopolistic practice, government preference and protectionism."[18]

In assessing the future of arms cooperation, it should be kept in mind that Nato members continue to have divergent security interests outside the geographic scope defined by the North Atlantic treaty. Indeed, even the Nato promise of a common response to Soviet aggression must be discounted to some degree by each member. As Hitch and McKean observed: "One ally cannot put complete trust in military support by another even in the event of a major war whose threat brought the alliance into being. Hence each ally will have some reason to avoid specialization so extreme that it could not operate independently in military operations and each member is likely to have, in addition, some special military objectives unshared or imperfectly shared with its allies."[19]

Nonetheless, given the widespread availability of advanced weaponry, Hartley makes a strong case for the advantages of an international—as opposed to joint or multilateral—approach to procurement. And he disarms European critics of such a policy by showing that the end result would not be greater dependence on the United States. He points out that Europe is competitive in several areas, including vertical take-off and landing (VTOL) aircraft, communications, and various types of missiles (Hartley, p. 63). In a recent study, *The Economist* reached a similar conclusion, stating that "contrary to the common suspicion, the entire alliance would not finish up buying everything from the United States. There are several things Europe could make better and cheaper."[20]

Were the defense industry like any other, the trend toward specialization and off-the-shelf procurement would already be far advanced. But instead we continue to see duplication of effort at tremendous cost. The French are unilaterally pursuing a new jet fighter program, the Rafale, while a consortium of European countries is building the European Fighter Aircraft (EFA). Ironically, each of these planes will be more expensive and less advanced than an older, off-the-shelf fighter from the United States. In order to have any economic payback, each new program must win a substantial

share of an increasingly crowded export market. This implies stiff competition in the future on the high-technology end of the world's arms trade.[21]

What are the prospects for the international security environment in light of this glut of advanced weapons? The books reviewed are disappointing in their failure to give us guidance. But the creation of such a glut will be among the most important security trends in the next decade, possibly undermining the positive value of any Soviet-American progress in arms control and containment of regional conflicts. As the defense industry becomes an increasingly commodity-like business, insecurity will be among its paradoxical spin-offs.

IV

The authors of the reviewed books have pointed to two future trends in the defense economy: first, globalization; second, relative American decline. What are the policy implications of these trends? What prescriptions do the authors provide?

Before examining these questions, it should be emphasized that these major assertions are certainly not incontrovertible. Such scholars as Bruce Russett and Susan Strange have disputed the "myth" of vanishing American hegemony. As Strange reminds us, most of the important rules governing international life reflect American preferences.[22] Russett has focused our attention onto the fact that the United States continues to outstrip any competitor along a wide range of vital military and economic indicators. In paraphrasing Mark Twain, he states that reports of America's death are greatly exaggerated.[23]

Regarding economic interdependence and the globalization of the defense industry, an ambivalent picture emerges. According to a recent report by the Office of Technology Assessment: "some argue that the United States is becoming (or is in danger of becoming) too dependent on others for our defense technology. Others take the opposite position, that we are missing out by failing to take full advantage of the technological capabilities of our friends and allies."[24] In studies undertaken by the National Defense University, it appears that U.S. dependence on foreign suppliers varies greatly from one weapons system to the next, making generalizations difficult.[25]

Assuming that the authors are correct in their assertions, what policies emerge? Perhaps the major conclusion to which all authors would agree centers on the need for greater competition among defense contractors. Competition brings out the "best" in the American economy and harnesses it to the military's needs. By enhancing competition, it is argued, the Department of Defense could get better equipment at cheaper prices.

While market competition is unlikely in the near future—Hartley's proposal for a Nato free-trade zone seems untenable—a first step would be to encourage more suppliers to bid for the services of the defense monopsonist. This requires an overhauling of current procurement practices, already a focal point of Defense department efforts, and greater use of "dual-use" technologies whereby the military adopts civilian items to its needs.[26]

A second point on which the authors converge concerns defense burden-sharing among the western allies. The authors generally agree with the proposition that Japan and the Nato allies have been "free-riding" on U.S. defense expenditures, and that a more equitable arrangement is appropriate. Paul Kennedy, for example, says that "Japan seems to be getting off lightly from the costs of defense" (Kennedy, p. 468). Unfortunately, the authors do not provide us with an alternative formula for burden-sharing, nor do they suggest ways in which a new formula might be adopted by alliance members. Nonetheless, this literature, combined with recent political debate on defense spending, suggests that the issue of defense burden-sharing will not go away anytime soon.

A final point on which the authors would agree focuses on the need for a longer term approach to defense planning and budgeting. The current system of annual budgeting in the United States is incompatible with the desire to optimize defense research and development, and procurement. In an age when defense contractors must spend millions of dollars of risk capital simply to prepare *proposals*, and when a single airplane like the Stealth bomber costs $450 million, an annual decision-making process impedes efficiency. Another way of stating this proposition is that if the Congress wishes to maintain its annual veto power, it must accept the costs associated with that right.

There are also several recommendations which the authors dispute among themselves. Perhaps the most important revolves around the issue of protectionism. Paul Kennedy makes an implicit protectionist argument in his book, citing the need for a strong domestic mobilization base and the need for skilled manpower. Yet he appears ambivalent about paying the costs associated with such a capability. Jacques Gansler expresses similar ambivalence about the costs and benefits of autarky. Keith Hartley, in contrast, advocates widespread competition within an area defined by alliance members. Former Secretary of Defense Weinberger, while clearly unwilling to dismantle the U.S. defense industrial base, praised in his *Annual Report* Congressional funding of international arms cooperation and passage of legislation that permitted "side-by-side comparative testing" of foreign weapons (Weinberger, p. 270). In sum, while the authors differ about the permissible scope of globalization, they see it as an inevitable direction that defense procurement will take.

The menu of policy options developed in this literature provides plenty of room for further study at several levels of analysis. A major gap in the literature concerns the domestic politics of defense budgeting, and more work in this area is needed.[27] Hartley advocates a Nato free-trade zone from an economic perspective, but here an international political economy analysis could prove useful; the obvious question concerns the possibility of an arms acquisition "regime." With Gansler as a partial exception, the works also give little sense of the comparative politics of defense budgeting and procurement. Is it true that the European countries and the Soviet Union take a longer term view toward their defense programs? If so, is it true that this approach is more efficient?

From an academic viewpoint, however, the great value of these books lies in their marriage of economics and national security. Work at this intersection has a long tradition, but it has been dormant in recent years as students of political economy and security studies have gone off on separate tracks. A leading student of international political economy, Robert Keohane, has argued that "it is justifiable to focus principally on the political economy of the advanced industrial countries without continually taking into account the politics of international security."[28] For their part, scholars of international security have almost entirely overlooked economics. These books should encourage a needed synthesis in international relations scholarship that, one hopes, will be built on a strong foundation of case studies.

Notes

1. Edward Mead Earle, "Adam Smith, Alexander Hamilton, Friedrich List: The Economic Foundations of Military Power," in Earle, ed., *Makers of Modern Strategy* (Princeton, N.J.: Princeton Univ. Press, 1941), p. 118.

2. Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II* (New York: Harper & Row, 1973), v. 2, p. 840.

3. N.J. Spykman, *America's Strategy in World Politics* (New York: Harcourt, Brace, 1942), p. 18.

4. James Schlesinger, *The Political Economy of National Security* (New York: Praeger, 1960), p. 76.

5. Hans Morgenthau, *Politics Among Nations* (New York: Knopf, 1968), p. 113.

6. See Charles J. Hitch and Ronald McKean, *The Economics of Defense in the Nuclear Age* (Cambridge, Mass.: Harvard Univ. Press, 1960).

7. *Ibid.*, pp. 14-15.

8. Quoted in V.D. Sokolovskii, *Soviet Military Strategy* (Englewood Cliffs, N.J.: Prentice-Hall, 1963), p. 120.

9. See John Lewis Gaddis, *Strategies of Containment* (New York: Oxford Univ. Press, 1982).

10. Ralph Sanders and Joseph Muckerman, "A Strategic Rationale for Mobilization," in Hardy L. Merritt and Luther F. Carter, eds., *Mobilization and the National Defense* (Washington, D.C.: National Defense Univ. Press, 1985), p. 10; and see *The U.S. Defense Mobilization Infrastructure* (Cambridge, Mass.: Institute for Foreign Policy Analysis, 1981).

11. David Stockman, *The Triumph of Politics* (New York: Harper & Row, 1986), pp. 277-299, on the Reagan defense budget.

12. Quoted in Hitch and McKean, p. 4.

13. See Congressional Budget Office, *Defense Spending and the Economy* (Washington: U.S. Govt. Print. Off., 1983).

14. For the classic article, see R. Lipsey and K. Lancaster, "The General Theory of the Second Best," *Review of Economic Studies*, no. 24, 1956-57, pp. 11-32.

15. "Lehman Details Navy's Buying Successes," *Navy Times*, 21 April 1986, p. 43.

16. Sanders and Muckerman, p. 10.

17. "Nnnn Amendment Projects Given Go-Ahead," *Jane's Defense Weekly*, 26 April 1986, p. 744.

18. See Brian Field, "Economics and Defense Resonrces," *NATO Review*, October 1985, pp. 24-29.

19. Hitch and McKean, p. 285.

20. See "Enrope Does it the Second-Best Way," *The Economist*, 21 June 1986, pp. 21-23.

21. Tim Carrington, "Europe's Plan to Build New Fighter Plane Puts Western Firms on Cutthroat Course," *The Wall Street Journal*, 23 May 1988, p. 16.

22. See Susan Strange, "What is Economic Power, and Who Has It?" *International Journal*, Spring 1975, pp. 207-224, and "The Persistent Myth of Lost Hegemony," *International Organization*, Autumn 1987, pp. 551-574.

23. See Bruce Russett, "The Mysterious Case of Vanishing Hegemony," *International Organization*, Spring 1986, pp. 207-231.

24. Office of Technology Assessment, *The Defense Technology Base* (Washington: U.S. Govt. Print. Off., March 1988), p. 14.

25. Personal communication from a Senior Fellow, Natioual Defense University, to the author, April 1988.

26. Under Secretary of Defense Robert Costello, "Defense Procurement," Seminar at the Kennedy School of Government, Harvard University, Cambridge, Mass: 16 May 1988.

27. For an excellent case study see Nick Kotz, "Money, Politics and the B-1 bomber," *Technology Review*, April 1988, pp. 30-40.

28. Robert Keohane, *After Hegemony* (Princeton, N.J.: Princeton Univ. Press, 1984), p. 137.

IN MY VIEW . . .

Looking a Little Closer, Perhaps

Sir,

I agree with many of the points presented in Commander Mayer's "Looking Backward Into the Future of the Maritime Strategy" (Winter 1989). However, there is a significant factor he did not address that impacts on any assessment of the strategy's effectiveness: its role as a deterrent to conflict.

The Maritime Strategy is designed to function as a deterrent to war as well as a general blueprint for naval engagement if deterrence fails. This is apparent from the considerable—almost unprecedented—open discussion of the strategy by senior defense decision makers and the top naval leadership. While we are accustomed to having American defense policy debated in Congress, the press and academia, rarely have senior defense officials devoted so much time to explaining the *particulars* of an actual war-fighting strategy. The amount of official participation in this unofficial debate is a clear indication that the Reagan and Bush administrations want the Soviet leadership to know the exact naval consequences of a Soviet-Nato conflict in order to deter Soviet war planners from viewing a Central European conflict as a "no-lose" situation for the Soviets.

In assessing the impact of the Maritime Strategy on antisubmarine warfare in the Atlantic, Commander Mayer neglects the fact that repetitive statement of the Strategy's "seizing the initiative" principles—its intention to attack the Soviet fleet and naval establishments in Kola and Kamchatka—forces the Soviets to carefully consider retaining a considerable portion of the SSNs in northern waters in order to protect their ports and surface and SSBN forces. The probability that the U.S. Navy would attempt to execute its strategy even in the face of strong Soviet land-base defenses has considerable deterrent effect. Could the Soviets feel so confident of repelling such an assault that they would commit the major portion of the SSN force to the mid-Atlantic interdiction role? *Without* the perceived threat of a forward-pressing American Maritime Strategy, Soviet planners would be *less* likely

to retain SSNs in northern waters and *more* likely to sortie their SSNs for interdiction of Nato's sea lanes. In this respect, the current Maritime Strategy helps rather than hinders the anti-SSN "battle of the Atlantic" (and Central Front war) since it holds out the possibility that fewer Soviet SSNs would be committed to the interdiction role.

Commander Mayer uses many analogies (lessons learned) from the First and Second World Wars. An additional analogy is appropriate. As long as the German Navy possessed a "fleet in being," the Royal Navy could never withdraw all of its forces from the North Atlantic to use in critical theaters elsewhere such as the Pacific or Mediterranean. The inconclusiveness of the Battle of Jutland during the First World War and the threat of a German cross channel invasion during the Second World War tied up considerable British assets in home or adjacent waters. Similarly, as long as the Soviets perceive that the U.S. Navy can and will penetrate the northern seas, it is likely they will retain the bulk of their forces for fleet defense rather than gamble on whether their interdiction SSNs will have homeports to return to.

The Maritime Strategy possesses a deterrent effect that restricted alternatives do not. Its worth cannot be assessed without an analysis of its role in promoting conventional deterrence.

Sam J. Tangredi
Lieutenant Commander, U.S. Navy
Coronado, California

Could the Soviet Subs Ever Do It?

Sir,

I found Commander Charles Mayer's article, "Looking Backward into the Future of the Maritime Strategy" (Winter 1989), enlightening. I wonder, however, if he has not overlooked one of the critical lessons of the submarine campaigns of World Wars I and II: submarine attrition rates and their implications for Soviet submarine deployment in a future war against Nato.

Submarine losses for the Germans in World War I were approximately 48 percent, while 67 percent were lost in World War II. Against these losses the Germans destroyed approximately 20 percent and 17.4 percent (respectively) of their opponents' merchant fleets. In comparison, the Americans lost 15.4 percent of their submarines in their campaign against the Japanese while destroying 48.5 percent of the Japanese merchant fleet. In light of these attrition rates, the size of the merchant fleets of the Western maritime nations and current ASW capabilities, one wonders if the Soviets will have enough subs to wage effective commerce warfare in the Atlantic, as Commander Mayer suggests. According to Karl Lautenschlager in "The Submarine in Naval Warfare 1901-2001" (*International Security*, Winter 1986-1987), the Soviets would have to deploy a submarine fleet twice as large as the one they currently possess to wage effective commerce warfare against Nato. This is before Soviet ballistic missile subs, escorts to protect them

against American SSNs, cruise-missile launching subs assigned to support theater strategic forces, and attack subs assigned to fleet engagement are subtracted from the total Soviet force. Accordingly, approximately 60 SSN and diesel-electric boats would be available to wage a campaign against either Nato ballistic missile subs or merchant shipping. Assuming an attrition rate of between 50 to 70 percent, the Soviets would find it difficult to wage an effective campaign in the Atlantic. True, production of attack subs would be stepped up as soou as war was evident; it would have to be. Soviet attack submarine production has dropped from 10 per year (1978-1982) to 7 per year (1983-1987). It is unlikely, however, that the Soviets would be able to produce enough new attack subs (or train enough new crews) to replace losses in a submarine campaign.

The Soviets are much more likely to concentrate their attack subs on Nato ballistic missile subs and carriers rather than risk them against merchant shipping. The primacy in Soviet strategy of winning the land war in Europe, and Soviet desires for a short war, dictate the destruction of American naval forces. American aircraft carriers are held in high regard by the Soviets and are correctly recognized as the basis of the Maritime Strategy. Their destruction far outweighs any advantages that might be gained from a war against commerce. Additionally, the Soviets have the option of attacking the channel ports with bombers and intermediate range missiles, delaying the timely arrival of critically needed reinforcements and resupply to Nato. There is thus little need for the Soviets to resort to a costly submarine campaign against Nato.

Gilberto Villahermosa
Captain, U.S. Army
Newburgh, New York

We Cannot Put it Off Any Longer

Sir,

I was arrested by William V. Kennedy's comments concerning the 2d Infantry Division in "Moving West: The New Theater of Decision" in the Winter 1989 issue of the *Naval War College Review* for I have just completed my tour as the S2 (Intelligence) officer, 1st (Armored) Brigade, 2d Infantry Division.

Mr. Kennedy has argued fervently, perhaps brilliantly, for a new strategy to replace our European orientation. He is absolutely correct in his assessment that Europe is moving toward neutral status, which American troops have no business defending. These "allies" are exploiting us economically, while shifting the burden of their own defense to us. How can a Europe which cannot agree to modernize nuclear weapons ever expect to use them? Without the use of these weapons, the continent may be overrun, and thousands of U.S. soldiers and dependents killed or captured. On the other hand, should the weapons themselves be employed, the results for Central Europe would certainly be catastrophic, and if uncontrolled escalation continued, would engulf the American heartland as well. This is a no-win situation from which we need to extricate ourselves as soon as possible.

The current U.S. Army presence in Nato makes less and less sense politically and militarily. It is the result of continued bureaucratic inertia and has very little to do with deterring any possible communist invasion.

The only thing I would add to his article is that he might extend the very same logic to the U.S. Army presence in Korea. In this theater, there is less concern with nuclear brinksmanship, and more concern with straightforward perceptions of conventional power. Also, to their infinite credit, the Republic of Korea has fielded a diverse, well-trained, and extraordinarily disciplined military which is Kim Il Sung's match any day. Nevertheless, we are still bearing a considerable economic burden by maintaining American ground forces there, while the ROK outstrips us economically.

Mr. Kennedy states that the presence of the 2d Infantry Division is key to understanding Soviet and Chinese perceptions of U.S. military power on this peninsula. I would suggest that their perceptions and even those of Kim Il Sung are probably influenced very little by this division. The latter especially knows that a single U.S. division will play only a small part in defending South Korea should he decide to push across the border. The larger part will be played by the ROK Army, and U.S. air and naval power, which has the potential of turning everything north of the DMZ into glass, a habitation fit for Peking Man.

My point is simple: U.S. air and naval commitments to Europe and Asia make sense. However, the utility of large, expensive, ground force commitments needs to be relooked at now. We can no longer afford to avoid the hard choices. Dr. Gray, in the same issue of the *Review*, has argued for the greater strategic versatility of just such a strategy, and perhaps this is the place to start the discussion.

We cannot put it off any longer. The discussion, of necessity, must be maintained on the level suggested by Dr. Gray, and it must not degenerate to the level of mindless military bureaucrats whose only concern is that they might "lose slots."

William M. Shaw II
Major, U.S. Army
Hollis, New Hampshire

Pacific Only is Not Good Enough

Sir,

In "Moving West: The New Theater of Decision," which appeared in the Winter 1989 issue of the *Review*, William V. Kennedy is entirely correct in noting that the United States no longer has the "resources, fiscal or otherwise, to meet the security requirements" that a " 'two-and-one-half-war' strategy" requires. Further, he is on equally solid footing in stating that the proper remedy for rectifying this untenable predicament is for the United States to "shift [its] strategic emphasis" from Europe and the Atlantic to Northeast Asia and the North Pacific. So far so good. However, on leaving the general realm of his proposition, and moving on to the specifics of why and how this new strategy should be accomplished, his footing becomes less sure.

Regarding the why, the United States should shift its military force toward Northeast Asia not only because the "enormous engine of economic development . . . has been operating for more than two decades around the entire rim of the Pacific," but more significantly because the nature of the Soviet threat has gravitated towards this region. Furthermore, it is wishful thinking to believe that the Soviet Union's dramatic military growth in Northeast Asia has come solely because "China . . . is perceived as the long-term threat to the Soviet state." While the Chinese threat at the Soviet underside *partially* explains the air and land buildup in the Far Eastern TVD, this threat alone does not explain the massive increase in the Soviet Pacific Fleet, which now consists of 73 surface combatants (including two of the Soviet Navy's four *Kiev*-class VTOL carriers), 112 submarines (including 24 nuclear-powered ballistic-missile subs), and a formidable naval air strike component (including scores of Backfire and Badger bombers), making this fleet the largest of the Soviet Navy's four fleets. This lavish naval increase in the North Pacific during the last two decades would have never occurred if the Russians had only China on their minds. We should also note what Admiral David E. Jeremiah, Commander in Chief, U.S. Pacific Fleet recently said about Soviet naval activity in the Pacific: "while the scope of out-of-area operations by Soviet combatants has been less extensive since 1985, the . . . presence [of] Soviet intelligence collection ships . . . [near] the Hawaiian Islands has grown from 60 ship days in 1986 to more than 250 ship days in 1987 and 1988." How does a Soviet "China strategy" tie in with this eye-opening observation? In addition, the Soviets are presently constructing three large nuclear aircraft carriers; and I doubt very much that these are intended for use against China or Western Europe.

Further, with the Soviets meeting nearly all of China's three prerequisites for restoring a Sino-Soviet relationship, and with Soviet President Mikhail S. Gorbachev and Chinese leader Deng Xiaoping talking, how is it that Mr. Kennedy can still propose that if "war were thrust upon us, the U.S. North Pacific offensive would be the hammer . . . [and] on a North-South axis, *China . . . would be the anvil*"? While it is easy to see why the Soviets would want an accommodation with the Chinese (without their backside secure, the Soviets can do little, West or East), it is not as clear why the Chinese are increasingly eager to mend fences too. I would suggest that there is more than meets the eye in Chinese-Soviet reconcilation, and that if we really want to gauge Chinese feelings toward the free world and international peace, we should watch which way the wind blows in Cambodia. If the Chinese continue to provide political and military support to the infamous Khmer Rouge, do not count on China for much.

Now, coming to the how of Mr. Kennedy's proposition, it is one thing to haggle over modernizing Nato's short range nuclear weapons, but entirely another to submit that America's five Army divisions be completely withdrawn from Europe. Are we to believe that the Europeans are to be responsible for security in the eastern Mediterranean and North Africa in addition to their own continent? And suggesting moving the Second Marine Division from Camp Lejeune on the east coast to Camp Pendleton in California only compounds the problem. Containing the Soviet Union should not mean transforming the United States into a Pacific-only power; we must

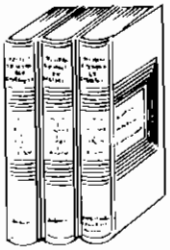
maintain our resolve to handle contingencies elsewhere. It simply means better utilization of men and dollars.

Instead of moving all of the U.S. Army's assets from Europe, I suggest that we leave there nearly a corps (the heavy stuff, a mechanized division and armored brigade), deactivate two divisions, and put the remainder in Alaska. Then, move the First Marine Division to Alaska as Mr. Kennedy recommends, and preposition there cold weather clothing and equipment for the Second Marine Division. Next, train all of them, including elements of the II MEF from Camp Lejeune and the Army's 6th Light Infantry Division currently in Alaska, in conducting amphibious operations in the North Pacific. This is necessary because if we are going to talk about an invasion of Soviet Asia, it is going to take more than two Marine divisions, even as the assault echelon of a larger force, to make a forceful entry against the 27 Soviet divisions in the Far Eastern Military District of the Far East TVD—especially if the Chinese "anvil" is not there, or worse, is even part of the problem! Moreover, should we have to leave the Philippines, upgrade the Thirteenth Air Force and move it to Alaska; likewise relocate *some* of the U.S. Air Force's men and planes stationed in Europe to Alaska when the Army reduces its force in Europe. In addition, allocate more carrier and surface action groups to the Pacific as Mr. Kennedy advocates; but this still leaves us short on amphibious, sea, and air lift!

However, none of the above may be required. With glasnost and perestroika flourishing, and 20 McDonalds slated for operation in Moscow, it is not completely unimaginable that there could be such an animal as democratic communism. But this is not a possibility that I would care to wager my sons on. And since the primary aim of our strategy should be to prevent war, I would hope that the United States and its allies continue a policy of stringent containment until military reality suggests otherwise.

John C. Thompson
La Grange, Georgia

PROFESSIONAL READING



A book reviewer occupies a position of special responsibility and trust. He is to summarize, set in context, describe strengths, and point out weaknesses. As a surrogate for us all, he assumes a heavy obligation which it is his duty to discharge with reason and consistency.

Admiral H.G. Rickover

One Man, One Book, Two Views

Lehman, John F., Jr. *Command of the Seas: Building the 600 Ship Navy*. New York: Charles Scribner's Sons, 1988. 464pp. $21.95

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Rear Admiral C. E. Armstrong, U.S. Navy (Ret.)

From the tales of the rich and famous to thoughtful discourses on national and maritime strategy, the defense acquisition system, and recent military operations, the richly anecdotal *Command of the Seas* by John F. Lehman, Jr. is an interesting and valuable, if somewhat uneven, account of his six years as Secretary of the Navy during the Reagan administration. His book clearly illustrates how one man with will and determination can make a difference, even in as hidebound an organization as the navy, and as Byzantine an environment as the Pentagon.

On 28 January 1981, the Congress approved President Reagan's appointment of John F. Lehman, Jr. as the Secretary of the Navy. It was a position the 39-year-old Lehman had avidly and aggressively sought, and one to which he brought several unique qualifications, including his experience on the National Security Council and his continuing reserve duty stints as bombardier navigator with active duty carrier squadrons. The central goal of Secretary Lehman's agenda was no less than to rebuild and reenergize the post-Vietnam navy. It was a navy that had shrunk from 950 ships in 1969 to 479 ships in 1979 and a navy with too few officers and men

(many of whom were not up to their job), poor morale, low retention, and severe drug problems—all exacerbated by a perceived lack of esteem from the American public, low pay, and long deployments away from homeport.

When Lehman resigned in 1987, he bequeathed a different navy to his successor. His oft-stated goal of rebuilding the navy to 600 ships was within reach. The very best of our young men and women were once again serving their country with pride and distinction, essentially free of drug influences, and now a force with which to be reckoned. He also left behind loyal friends and bitter enemies. It is a strange paradox that this man, who did so much to lead the navy back to a position of strength and pride, should continue to be the source of so much resentment by many, both in and out of the navy.

The upper levels of the navy were not quite ready for John Lehman. He knew what he wanted, and to achieve his goals he was willing to test the legal limits of civilian control over the military. In carrying out his ever-expanding agenda, he wandered repeatedly and with full awareness into the minefields of traditional uniformed prerogative. An accomplished infighter, he was awed by neither title nor crusty gold striping. In his tilts with the top levels in the office of the Secretary of Defense, as well as in the navy, one senses that he took as much satisfaction from the battle, for which he was always prepared, as he did from the victory, which he usually won.

Lehman moved back and forth with remarkable ease between his status as reserve officer on active duty and that as Secretary of the Navy. During his active duty periods and frequent whirlwind trips as Secretary to ships and installations around the world, he related remarkably well with the operators—the people doing the work. His charm and wit, his willingness to listen, and his demonstrated qualifications to perform as a combat-ready crew member of a carrier jet, all made him a welcome visitor, enabling him to hear, unvarnished, the concerns of the fleet. These trips provided him with invaluable ammunition for the battles he fought within the Pentagon.

Lehman's background, education and experience brought him into conflict with the "systems analysts," whom he felt gave far too much credence to technical quantitative assessments and far too little to conceptual context. This conflict extended more broadly to the nuclear submarine community, which had been led by Admiral Hyman G. Rickover for more than 30 years. Chosen from only the best and brightest talent within the navy, with promotional quotas higher than those of all other warfare areas, it is not surprising that the ensuing years have witnessed a high percentage of Rickover-trained officers rising rapidly to the topmost positions in the navy. Lehman believed—and he was not alone—that Rickover's single-minded concentration on the technical disciplines, coupled with his increasing influence on school and training curricula, were creating an

officer corps unprepared to think tactically and strategically. Early in his tour as Secretary, Lehman succeeded in bringing about Admiral Rickover's retirement, but he was less successful in limiting the pervasive strength of the nuclear submarine community.

Lehman's assessment that the national security apparatus lacked the effectiveness to properly plan and execute military operations is well supported. He used the military operations of the late 1970s and early 1980s to point out specific shortcomings in planning, training, command and control, and tactics. He did more than identify problems. Naval aviation did not like hearing from Lehman that it was "broke" after the unsuccessful 1983 Lebanon air strikes, but Lehman was right, and he took immediate action to correct the situation. With the support of the CNO, in a remarkably short period of time he constructed a strike-warfare training center at Fallon, Nevada. He selected the best operational talent in the navy to develop the tactics and do the training, provided realistic and responsive training ranges and equipment, and then made the training mandatory for every carrier air wing preparing for deployment. Credit Lehman's initiative with today's stronger, more professional at-sea striking force. One wishes that the command and control structure—from the commander in chief to the on-scene commander—were similarly improved.

Lehman takes credit for bringing much needed reforms to the defense acquisition system, and, indeed, his policy changes and bully boy tactics focused attention and got results. His successes in terms of lower unit costs and improved delivery schedules are impressive, and a significant number of the reforms he imposed on the navy acquisition process and on navy contractors have been adopted throughout the defense acquisition system. Heady as these successes were, there were indications, even before Lehman's departure, that many defense companies were finding it increasingly difficult to struggle with the growing number of restrictive, often confusing, and frequently contradictory regulations that have increased risks, constrained allowed profits, and created a counterproductive adversarial environment. Condemning the entire industry for the greed and mismanagement of the few has been a bitter pill to swallow. It has not been made easier by the revelation that the Defense Department also had a few willing contributors to the problem.

By his own admission, Lehman pays "scant attention" to his "mistakes and bad calls." He also makes no apology for promoting and placing in key billets those officers who supported his actions and policies, or for ignoring or crushing those who did not. He is vindictive toward those few who were successful in thwarting him. His unnecessary parting shot in this book, directed at the current CNO, Admiral Carl A. H. Trost, is a case in point.

John Lehman is now working in the financial world, presumably recharging both his batteries and his coffers in preparation for a return to

government service. He has much to offer, not the least of which is the self-confidence that he can persuade the other 89,999 ants on the log who think they are steering to answer John Lehman's orders to the helm.

*

Albert M. Bottoms

Rarely does one have the opportunity to share the thoughts, events, and motivations that surround a major national leader. Lehman's *apologia* provides a form of instant history that is all the more fascinating for his articulate presentation of the forces that he perceived to be impinging on the navy. To be sure, there is a distinctly defensive tone in his remarks that at times approaches paranoia. Whether he actually believes the things he says or whether he applies his perceptions in a tactical fashion are matters left to the reader to decide.

This reviewer is a practicing systems analyst. Mr. Lehman leaves no doubt as to his opinion of that genre. He does not sugarcoat his criticism and disdain for those who would have the temerity to analyze his policies or his concepts of strategy. What galls me is that he is more right than wrong in his assessments. He correctly alludes to the atrophy in conceptual thinking that he found upon taking the navy's helm.

Unfortunately for the navy and the country, Mr. Lehman, the political scientist, was and apparently remains blissfully unaware of the powerful and sometimes inconvenient concept of opportunity costs. The landscape is littered with the carcasses of naval economists who attempted to discuss these matters prior to the headlong rush to 600 ships. Not only was the orderly development of analytical methods consigned to the trash heap, but emergent technological development was also cut. Mr. Lehman's management initiative that eliminated the Naval Material Command and reorganized the navy's research and development processes had the effect of straining to the breaking point the developer-user relationship that had been the hallmark of the navy's successful exploitation of the fruits of research and development.

There are some fascinating parts in Mr. Lehman's book. His account of his struggle to have Admiral Rickover retire gracefully and his description of the powerful influences that opposed his efforts are revealing and instructive for the future. His wars and battles with peers and superiors who opposed the Lehman version of naval strategy are equally instructive, as are the revelations of character and purpose in this largely autobiographical account. But the reader must continuously ask whether the stated views of his opponents are real or strawmen. My contacts with the same people and

institutions that Mr. Lehman describes as so "Army-oriented" show about the same distribution as one would find elsewhere in informed societies, including the Army.

This book belongs on the navy bookshelf. It has much fuel for discussion and—perish the thought—analysis. Inevitably there will be the temptation to second-guess many of the force level and platform decisions. When that process starts, it is only fair that we take into account the environment and the implicit and explicit assumptions that Mr. Lehman made in his quest to rebuild the navy.

Smith, Hedrick. *The Power Game: How Washington Works*. New York: Random House, 1987. 793pp. $24.95

Hedrick Smith is an imaginative and insightful journalist. His earlier volume, *The Russians*, based upon his experience as a *New York Times* Moscow correspondent, is the best of its kind. It manages to capture both the personal and the bureaucratic, the official and the very unofficial facets of life in the Soviet Union.

Mr. Smith's latest book sadly lacks the crispness and freedom from cant which marked his first volume. It is difficult to determine whether Mr. Smith was overcome by his subject or whether his editor and publisher let him down. This reviewer is inclined to choose the latter as more likely.

True enough, *The Power Game* is full of interesting insights on the changing nature of politics "inside the Beltway." There are fascinating quick analyses of the impact of money, television, public opinion polling, incumbency in the House of Representatives and the destruction of its seniority system, the maladies and false victories within the old Reagan White House, the agonies and exasperations of a cabinet poorly led, and the corrosive impact of right-wing orthodoxy on programs throughout the last two presidential terms. Unfortunately, the heavy emphasis upon bungling, pettiness, and the cult of the Reagan personality compels one to wonder why the United States has not proceeded along the path of the Roman Empire long before now.

Surely the opportunity to observe the process of government "inside the Beltway" and the process of electioneering "outside" does not bring joy and relief to the idealistic observer. Mr. Smith observes that the Founding Fathers built our system to be inefficient, and it is indeed, in many respects, exactly that. Despite occasional bows in the direction of honest men's differences, however, Mr. Smith identifies so few successes in public life as to leave a very bad taste for nearly everything and everyone involved in

trying to make this great nation function.

Were all that not bad enough, Mr. Smith has managed to pack into nearly 800 pages at least 300 pages worth of material. Example after example is repeated. Add to that such literary gratuities as multiple use of the verb "to limn," stir in immense irritation to the reader caused by footnotes arranged chapter by chapter in the rear of a book in which chapter headings appear only once, and one has a classic case of poor editing and publishing.

Smith's last chapter is called "What Is To Be Done?" How about a second edition of *The Power Game*, shorter by half, using all of the current material and adding some solid recognition for a few more of those "inside the Beltway" struggling on our behalf?

MICHAEL A. FRENEY
Senior Research Fellow
Naval War College

Friedman, Norman. *The Postwar Naval Revolution*. Annapolis, Md.: Naval Institute Press, 1986, 240pp. $21.95

Friedman's study is an examination of "the revolution in naval affairs" that occurred during the "decade following World War II." He focuses on the navies which "defined" that revolution, those of Great Britain and the United States. These two nations confronted the global challenge posed by the Soviet Union, the breakup of the old European-dominated colonial order (what we now call the Third World), the advent of new technology, financial constraints, and rivalry among the services. Having previously written at length on the U.S. Navy, Friedman here concentrates on the Royal Navy, although the Americans are not ignored. And he addresses the progress of other European navies, the French and Dutch, for example, in chapters that cover politics and strategy, the shape of the fleets, new technology, and the various classes of ships, including those used for mine and inshore warfare.

The postwar dilemmas of British naval leaders were always drawn more clearly, if less dramatically, than those facing their American cousins. For Britain, World War II was a Pyrrhic victory. The nation was bankrupt and its empire was slipping away. The cost of maintaining a land force on the Continent could only come at the expense of the Royal Navy. And for several years after the war, British leaders faced the prospect of having to confront the Soviets in Europe and the Middle East without any guarantee of American assistance.

Moreover, the forces that Britain and the United States needed to police an increasingly unstable world differed from those required to fight a major conflict with the Soviets. Because the British judged such a "hot" war unlikely before 1957, they cancelled many of the projects begun during the war, allowed their existing forces to run down, and

concentrated on research and development of new technology.

In the interim, Britain, armed with obsolescent equipment, faced new challenges from advanced submarines, jet aircraft, and missiles developed by the Germans and assumed to be in Russian hands. The inability to counter such weapons at the target led to the development of an early postwar naval strategy in both Britain and the United States that focused on "attack at source." For example, the ineffectiveness of convoy escorts in the face of the German Type XXI submarine technology fostered a strategy that called for Anglo-American carrier battle groups to attack Soviet submarine bases.

The promises of the postwar naval revolution were initially left unfulfilled. Before the technological problems could be worked out on either side of the Atlantic, atomic weaponry came to dominate strategy, and deterrence became the means of avoiding the massive expenditures needed to build up a credible conventional force. By the mid-1950s, concepts such as Massive Retaliation and the New Look made the prospect of conventional war between the superpowers seem remote.

Most of the technological breakthroughs of the immediate postwar period, Friedman writes, are just now being fully exploited. Only in the 1980s, with the prospect of global conventional conflict once again considered a possibility, have the British and United States navies begun to realize the technological promises of the 1940s. And it should come as no surprise that the underlying strategy that shapes today's navies is once again "attack at source." As Friedman writes: "Their roots [current strategic and tactical ideas] go all the way back to the immediate postwar period." Indeed, the outlines of American postwar naval strategy, as well as early Nato strategy, foreshadow the Maritime Strategy of the 1980s. In Friedman's view, the U.S. Navy's Maritime Strategy is a logical response to the challenges of the postwar period, a philosophy to guide a navy capable of making full use of electronic technology in a flexible force capable of meeting challenges in the Third World, in the Cold War, or in a hot conflict, be it conventional or atomic.

Friedman ends his work on a positive note, suggesting that the postwar naval revolution that has finally borne fruit is likely to continue to do so given current technological trends. He concludes: "These considerations suggest that increased levels of ocean surveillance will tend to change the shape of navies (mainly in the directions of stealth, cover, and deception) but not to abolish them. World trade must still move over the surface of the sea, because the laws of nature which make that movement efficient are unlikely to be repealed. Navies will move with it, to protect it in peace and in (probably non-nuclear) war."

The author's discussion of the turmoil of the late 1940s and 1950s

within the naval communities in Britain and the United States over roles and missions for the respective services, as well as for individual weapons systems, is well done. As usual, Friedman's research is first-rate, although this book, like his others, lacks citations. And some readers may find the detailed discussions of ship designs within the various chapters more a useful reference than a good read.

MICHAEL A. PALMER
Naval Historical Center
Washington, D.C.

Grove, Eric J. *Vanguard to Trident: British Naval Policy since World War Two.* Annapolis: Naval Institute Press, 1987. 399pp. $34.95

This is not, as its title implies, a history of British warship construction. Rather, it is a tale of the protracted bureaucratic war waged by the Royal Navy's leadership since the 1940s to preserve a balanced blue-water surface fleet. It is a tale that will fascinate force planners on both sides of the Atlantic.

Against the constant background of a vulnerable economy that has never quite succeeded in providing a stable framework for long-range planning, Eric Grove shows us the effect of both liberal-leftist administrations distrustful of all things military and governments of the right with eccentric and equally damaging views on the usefulness of sea power in the nuclear age. He reveals the machinations of interservice rivalry at their worst and he shows how, repeatedly, the shortage of manpower has arisen to dampen incipient delusions of naval grandeur. He makes clear how real combat (Korea, Suez, the Falklands) has obtruded to confound the plans and predictions of politicians and naval officers alike.

The development of naval policy during this period of radical change, as Britain painfully adjusted herself to a post-Imperial role, makes an epic tale, and Eric Grove tells it well. He begins in the immediate postwar era with a Board of Admiralty striving to protect its wartime investment against the forces of economic instability and shifting strategic consensus. He describes how Mountbatten (First Sea Lord 1955-59 and Chief of Defense Staff 1959-65) began to set the navy on a new course, emphasizing quality rather than quantity, and basing his case for a balanced fleet on an East of Suez intervention role. He shows how a Labour administration, a prey to economic and ideological forces it could not control, exploited both service disunity and inadequacies within the naval staff to demolish the central pillar of the Mountbatten navy (the fixed-wing carrier program) and, ultimately, to settle for a defense role in Europe and the Eastern Atlantic.

The author also examines the political, diplomatic, and economic pressures which continue to drive Britain toward a continental strategy. This, he implies, is the next intellectual challenge for those who

wish to keep the torch of sea power alight.

Although his primary focus is on policy issues in the corridors of Whitehall, Grove provides a fairly full description of naval operations in peace, crisis, and war throughout the period. Sparing us no detail, he also describes the various classes of ship by which staff officers have sought to meet the strategic requirements of the day, and some classes which (thankfully) never progressed beyond the drawing board. Some readers will find this technical detail excessive, blurring the clarity of the main theme.

There will be an inevitable quibble about the quality of his sources. In Great Britain, the "Thirty Year Rule" is alive and well. When dealing with the period up to 1954, therefore, the author is on firm ground and has access to authoritative documents in the public record. Thereafter he relies inevitably on biography, interview (not always impartial), and anecdote. Nevertheless, as a two-term Whitehall warrior during the late seventies and early eighties and witness of the infamous John Nott Defense Review, I found his treatment of the issues convincing. He captures exactly the atmosphere of crisis, the shooting from the hip, the far-reaching decisions required overnight, and the shifting bureaucratic alliances from which "policy" emerges.

Where does the post-Falklands Royal Navy go from here? Eric Grove takes the conventional and pessimistic viewpoint. He sees little scope for any increase in general defense spending, and he views Britain's pattern of trade and interest as increasingly Eurocentric. In this context Grove believes Britain's continental commitment, the Army of the Rhine and RAF Germany, to be sacrosanct, leaving maritime forces exposed and vulnerable to the Treasury axe. At the same time, he argues, institutional changes within the Ministry of Defense, and particularly the concentration of power in the hands of the Central (Joint) Staff will tend to dilute the expression of the naval viewpoint.

This book is required reading for anyone starting a career in the Ministry of Defense. Despite its British setting (and the author presupposes more than average knowledge of British governmental administrative practice) any U.S. Navy officer destined for the Pentagon should read it too. You have been warned.

G. RHYS-JONES
Commander, Royal Navy
England

Hyde, Harlow A. *Scraps of Paper: The Disarmament Treaties between the World Wars*. Lincoln, Neb.: Media Publishing, 1988. 456pp. $18.95

At a time when the United States and the Soviet Union seem to be moving toward important arms control agreements, Harlow A. Hyde has produced this provocative book on the efforts of the great

powers during the interwar years (1919-1939) to limit naval armaments. Hyde's book is not footnoted, but it is clear from his text and bibliography that he has read extensively in the basic published materials and has achieved a considerable command of factual information.

Hyde's *Scraps of Paper* are the Washington Five Power Naval Treaty of 1922, the London Naval Treaties of 1930 and 1936, and the other basic treaties and agreements that the major powers concluded during these years to promote peace and understanding. The innocents in this book are the Americans, who accepted and honestly observed the treaties that, in the author's view, may actually have contributed to the breakout of World War II. Hyde describes the Japanese as the leading villains, to whom he attributes lying and deceit in almost every one of their recorded actions. He delights in recounting the alleged "dirty tricks" by which Japan emerged to become the terror of East Asia. He fails to note, however, that practically every "aggressive" action by Japan found a precedent in the actions of the enlightened powers of the West during the Age of Imperialism.

He dismisses the Four Power Pact of 1921-22, relating to the Pacific, as a "miserable excuse for a treaty" that arose from the inability of Britain and Japan to end the equally miserable Anglo-Japanese Alliance without, "in effect," having the United States join it. The Nine Power Pact in support of the Open Door to an independent China is one of those bad treaties that proved worse than no treaty, according to Hyde. He suggests that by the Five Power Naval Treaty, the United States surrendered to Japan military supremacy in the Western Pacific, a supremacy that the Japanese could not otherwise have achieved short of fighting for it. This naval treaty included the infamous Article XIX by which the United States gave up its right to build up bases and fortifications in Guam and the Philippines in return for comparable pledges from Britain and Japan that governed their Pacific island holdings.

Having thus dismissed the achievements of the Washington Conference, Hyde turns to the "miserable" 1930 London Naval Treaty that, he regrets, actually left Japan with 70 percent of the cruiser tonnage allowed the United States, and parity in submarines. The 1936 London Naval Treaty, which was confined to setting limits on tonnages and guns for various classes of ships, is seen by the author as a futile exercise of the democracies to limit armament by example.

Hyde describes in some detail Japan's programs to build "gyp cruisers" that initially were about 10 percent heavier than the 10,000 ton limit allowed under the Washington naval treaty. This reviewer does not believe, however, that Japanese cruiser building was as significant as does Hyde in sparking heavy cruiser construction by Britain and the United States. The Japanese throughout the twenties were model

participants at the naval conferences when the French and British were at odds over submarines and the Americans and British confronted each other on cruisers.

Without volunteering evidence other than an item from the *New York Times* in 1945 and rumors noted by Ambassador Joseph C. Grew in his diary of 1933, Hyde claims that beginning with a naval base at Truk in 1930, the Japanese built fortifications in the Mandated Islands that cost the lives of thousands of young Americans during World War II. In April 1955, 10 years after Japan's surrender, Thomas Wilds published a very factual report in the U.S. Naval Institute *Proceedings* in which he stated that Japan had scrupulously observed her nonfortification agreements until about 1934, the year she gave notice of her intent to abrogate the naval treaties. For five years thereafter, the Imperial Navy undertook harbor, airfield, and other development useful for either civilian or military purposes. Apparently, Japan began to build strictly military facilities in the islands only about two years before Pearl Harbor.

The author also denounces Japan for refusing entry to U.S. naval ships into the Mandated Islands in alleged violation of the American-Japanese Commercial Treaty of 1911, which was extended to include the islands in a bilateral agreement between the United States and Japan in 1922. The 1911 treaty did permit free entry of American ships into Japanese ports that were open to foreign commerce. For a good part of the interwar period, Japan agreed to permit American naval ships to visit ports in the Mandates that she herself had opened, but she did not agree that American naval ships could freely call at any island or atoll that the United States for its own purposes might select. Hyde suggests that the Mandates problem could have been resolved in 1935 by a surgical strike to relieve Japan of the islands on the grounds that she had stolen them from the League of Nations!

The author insists that he would approve arms control agreements providing they satisfy four requirements: that all types of "strategic" weapons be limited, that the agreements be verifiable, that they be verified, and that they be subject to review and updating at periodic intervals. To demonstrate his acceptance of arms control, he commends the Rush-Bagot Agreement of 1817 by which the boundary between the United States and Canada has been demilitarized for over 160 years. That agreement today would not meet Hyde's four basic requirements.

WILLIAM R. BRAISTED
Naval Historical Center
Washington, D.C.

Halpern, Paul G. *The Naval War in the Mediterranean 1914-1918*. Annapolis, Md.: Naval Institute Press, 1987. 631pp. $29.95

Historians of the war at sea from 1914-1918 traditionally focus on the activities of the major belligerents,

on the high drama of Anglo-German fleet actions and on the 1917 convoy crisis. This pattern has left its imprint on general works of the war as well. Much of our understanding of the lesser theaters and the smaller navies has been shaped by the condescending—if not downright contemptuous—contemporary opinions of the larger navies. Arguably, British and German disdain for "less aggressive" and "less efficient" allies has skewed the whole historiography. Happily we now have a powerful corrective in the form of Halpern's excellent work.

The strength and importance of Halpern's account of the Mediterranean naval war transcend cliched superlatives. Building on his previous work on the prewar years, the present book is a definitive single volume account of the war years based on exhaustive research not only in British, German and American archives but, more importantly, in French, Italian and Austro-Hungarian archives as well. Not surprisingly, what emerges is a strikingly different picture than we have had of the stress and strain of war in those narrow seas. With considerable skill and remarkable clarity Halpern reviews the strategic, tactical and technological impediments to "decisive" naval activity in the Mediterranean from 1914 to 1918. For example, his discussion of the Austro-Hungarian dilemma over sending aid first to the *Goeben* and then to the Turks in the Dardenelles is a deft presentation of the constraints imposed by coal-fired warships dependent upon bases and faced with the new threats from mines, submarines, long-range gunfire and aerial reconnaissance. Far from lacking the aggressive spirit, the Mediterranean fleets were virtually crippled by it in the same way that the search for a decisive battle under favorable circumstances inhibited the Anglo-German fleets. For example, in true Mahanist style the Italians held their battlefleet in readiness for the decisive naval battle which, after they switched camps in 1915, the vastly outnumbered Austrians would not chance.

As Halpern points out, the confined nature of Mediterranean sea routes, the constant danger from new weapons and the overwhelming strength of the Entente Powers quickly reduced naval action to that between small ships and to jockeying for postwar positions. As a work on the broader issues of Mediterranean geopolitics, this is a hard source to beat. But making sense of the area's rivalries is only one strong suit in a book which is laced with them. Halpern's tightly packed pages of text and notes contain a whole world of names, events, and historical problems new to us: a marvellous potion for scholars who have watched more familiar fields undergo continuous microscopic dissection. And despite this surfeit of newness, Halpern had to shorten his final manuscript for publication. Clearly, much of what fell by the wayside was context and, perhaps understandably, the book makes

little effort to set the story into the already familiar pattern of the war.

It is tempting to label Halpern "The Marder of the Med," itself no mean accolade and one which does invite some comparisons. Both clearly have produced work of consummate scholarship. Marder gave us his in smaller packages, and he enjoyed the benefits of a much clearer and more limited focus. Halpern could have benefited from these advantages, but that was clearly impossible. Perhaps for that reason Halpern lacks the easy familiarity with his subject, the colorful character sketches and the pithy judgements which were so much a part of Marder's work. Marder, of course, enjoyed the tremendous advantage of being able to interview many of the principal actors in his drama. Halpern, writing a generation later, could not be so fortunate. If it is true that he fails to breathe life into his story in the same way Marder did, Halpern can be credited for the clarity and candor of his style. Whatever the subtle differences in approach and writing, there is little to choose between them.

Halpern fits well into the new wave of historians who seek to fill that enormous void in the historiography of the First World War we have come to describe euphemistically as "peripheral theaters." With this book he has plugged a huge hole, and all scholars and students interested in naval history generally, and the First World War owe Professor Halpern an enormous debt of gratitude. It will doubtless be some time before the impact of his scholarship is felt in general accounts of the war, but there can be little doubt that that impact will be profound.

MARC MILNER
University of New Brunswick
Canada

Pack, James. *The Man Who Burned the White House, Admiral Sir George Cockburn*. Annapolis, Md.: Naval Institute Press, 1987. 288pp. $21.95

This is history imitating art. A young boy from a "good" family joins the navy on the eve of the Napoleonic Wars. He serves well in every post to which he is assigned and is rewarded with rapid promotion. This is George Cockburn (or is it Horatio Hornblower?). What Pack has given us in this biography is the life of a man in which there is virtually no fault, no sin and no blame. Pack has mined the papers of Cockburn and come up with pure ore; no imperfections here.

Pack's one dimensional view of Cockburn may well be the result of confining so much of his research to the Cockburn papers alone. Aside from that treasure he seems to have paid little attention to other unpublished sources. The result is that we see the world through the prism of Sir George Cockburn, not always, one might suggest, an entirely undistorted view. In dealing with the War of 1812, however, and Cockburn's attack on Washington (the

high point of the Admiral's career), Pack is careful to take a balanced view. Indeed, in his description and analysis of the "burning" of the capital, Pack provides a long overdue corrective to the distortions of that event so often found on this side of the Atlantic.

Most naval historians will find little that is new in Pack's description of the wars with France and America. The detailed account of affairs in the Chesapeake provides some insight, from the British viewpoint, of that part of the War of 1812. By far, however, the most interesting portion of the biography are the two chapters detailing Cockburn's role as "Napoleon's Keeper." To Cockburn fell the honor and burden of transporting the fallen emperor (a title by which he could not be addressed—he was called General) to his exile at St. Helena, remaining with him until his relief arrived. Oftentimes sullen, moody and petulant, Napoleon could on the other hand be a most fascinating dinner companion and raconteur. Nevertheless, whatever the pleasure of his company might have been, it soon wore thin and Cockburn was delighted when he was able to put St. Helena over his stern.

If the plot resembles Hornblower, the prose does not. Pack's style relies heavily on quotes, and unfortunately the publisher elected to print them; some of them are quite long. One needs to read carefully to discern between Pack and a quoted source.

Perhaps Cockburn was as good as the author makes him out to be. He did have a distinguished career and his accomplishments speak for themselves, but this sort of biographical approach verges on hagiography. Instead of a human being, Pack has presented us with an icon.

WILLIAM M. FOWLER, JR.
The New England Quarterly

Fairbank, John King. *The Great Chinese Revolution, 1800-1985.* New York: Harper & Row, 1986. 396pp. $19.95

John King Fairbank has been the dean of American China scholars since World War II. Now 80 years old and emeritus at Harvard, he has turned out this book as an "ex-professor who is not up for tenure and who doesn't care about reputation." The book has neither footnotes nor bibliography, and it is written in a style neither stuffy nor unsophisticated. Hence, Professor Fairbank has irritated scholars and pedants in much the fashion that his learned but practical advice has irritated national administrations for over four decades.

This may possibly be the best book on China since the establishment of the People's Republic in 1949. Certainly, if an American had only one book with which to brief himself on the Chinese revolution, this is that book.

Fairbank recounts the dramatic history of China over 185 years. Each event he describes might as justly be considered the real beginning of the Chinese revolution as 1 October 1949, when Mao announced that

China had "stood up": the first Opium War of 1839-42; the Taiping Rebellion (1850-64), with its emphasis on land reform, women's rights and anti-Confucianism; the shock of defeat in the Sino-Japanese War of 1895; the 1898 Hundred Days of reform; the reaction to the Boxers' failure in 1900; the abolition of the Civil Service examinations in 1905 (the basis of both Chinese government and literate society); the abolition of the empire in 1911; and unification under the Kuomintang in 1927.

All of these and other mileposts are described by Professor Fairbank with detachment, wit, and yet, sympathy. He acknowledges that his job has been made easier by the many learned contributions his colleagues made to the six-volume *Cambridge History of China* of which he was coeditor.

Aside from academic noses out of joint, there has been criticism of Fairbank's book because in some instances he seems to strain to demonstrate analogies that may not be complete between present day and historical China.

One point, however, is beyond argument. After reading this book one may be amazed, baffled or discomfited by events in China, but no one will be fooled, particularly by politicians or propagandists. This alone would put us deep in Professor Fairbank's debt.

J. K. HOLLOWAY
Naval War College

Rapoport, Vitaly and Alexeev, Yuri. *High Treason: Essays on the History of the Red Army, 1918-1938*. Treml, Vladimir G. and Adams, Bruce, eds. Translated by Bruce Adams. Durham, N.C.: Duke Univ. Press, 1985. 436pp. $35

The enormous struggle between the Soviet Union and Germany has long fascinated historians and professional students of World War II. Perhaps no phase of this conflict has received more attention in the West than this campaign's opening: the deep German penetration, the massive Soviet losses, and the great battles at the gates of Moscow. One of the most interesting questions concerning these operations relates to the performance of the Red Army. Why was it caught so unprepared and savaged so mercilessly by the Wehrmacht?

High Treason is one of the first books to explore this tragic episode in detail. What emerges from this riveting account is a portrait of the destruction of the "old" Red Army by Stalin and his regime on such a scale that, as the text notes, by 1938 "all that was left of the Red Army was its name." This episode was all the more ironic because it followed a brief, but intense period of intellectual ferment and openness that could have moved the army into the forefront of interwar tactical innovation, and almost certainly could have precluded the disasters of 1941. Instead, Stalin and his party bureaucracy struck. Sixteen pages of tables are needed to list the principal victims. In addition to its detailed, if

at times eclectic account of the military purges, the book is also important because it is an example of the *samizdat* literature that has been smuggled into the West.

Vitaly Rapoport is a Red Army veteran now living in New York City, while Yuri Alexeev is the pseudonym for a writer still living in the Soviet Union. Both are Russian patriots, indignant at the defeats and outraged by the horrifying casualties their country suffered in 1941. They are sympathetic to the Red Army, reserving their ire for Stalin and the political leadership that they hold expressly responsible for the debacle of 1941.

The book is not without flaw. The very nature of *samizdat* makes documentation sketchy. The condemnation of Stalin and the Party will scarcely startle the Western reader, yet the details of the army purges and the character portraits of the victims and the perpetrators cancel out the volume's shortcomings. This is an important book, both for understanding the decisive front of the Second World War, and for analyzing the complex relationship between Party and army that plays so crucial a role in the modern Soviet state.

GARY P. COX
Lieutenant Colonel, U.S. Air Force
U.S. Air Force Academy

Leiken, Robert S. and Rubin, Barry, eds. *The Central American Crisis Reader*. New York: Summit Books, 1987. 718pp. $24.95

Wiarda, Howard J. *Finding Our Way? Toward Maturity in U.S.-Latin American Relations*. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1987. 286pp. $27.50

Wiarda, Howard J. and Falcoff, Mark. *The Communist Challenge in the Caribbean and Central America*. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1987. 249pp. $24.75

Three cheers for three outstanding books! For the informed public policy or international relations professional who has for the past decade or so avoided the seeming quagmire of obscure history and confusing relationships that the Central American crises represent, this collection of volumes will go a long way toward easing anxieties. The authors and editors of these books provide a sober and balanced evaluation of the proximate causes of today's strife, without losing sight of their audience: foreign policy specialists in the United States. As a result, they have skillfully avoided the increasing pitch and downright "clientelism" to which Latin Americanists frequently fall prey as they offer policy prescriptions that ignore American political realities.

Messrs. Leiken and Rubin have provided us with the most comprehensive collection of relevant documents and articles available. Their dense volume is divided thematically, with chapters such as

"The Revolution in Nicaragua" and "The War in El Salvador," and appropriate subheadings that provide the reader with a variety of useful perspectives for examining the current crises. It is not difficult, for example, to understand the traditional Nicaraguan disdain for American policy in the region when we read Henry Stimson's words that "in no way have we transgressed upon the sovereignty and independence of the government of our sister nation," even as U.S. Marines occupied Nicaragua for the third time in 15 years.

Similarly, the editors treat us to a most convincing sequence of documents that should make it clear to all but the most close-minded idealists that in 1979 the Sandinistas had much more in mind than a "mixed economy" with an "open political system," as they had assured the Organization of American States in exchange for formal recognition.

Admirably, the editors have refrained from excessive embellishment of the documents and articles, attempting instead something all too unusual in foreign relations literature: to let history speak for itself.

For analysis and policy prescriptions, there are few books better than Wiarda's *Finding Our Way*? The thesis of his work is that despite the harsh rhetoric of President Reagan and his key advisors on Latin America, U.S. policy since 1981 has gradually become more pragmatic, sophisticated and nuanced than the media and foreign policy elite have dared acknowledge. As one of the professional staff members of the bipartisan Kissinger Commission on Central America (to which he devotes one chapter), Dr. Wiarda is well-placed to comment on the successes and failures of Reagan administration policy in the region, and he is evenhanded in his approach. The first half of his book is overview material, which draws on his previous and well-respected body of scholarship; the book's real value is its latter half, in which he offers a tantalizing peek into how American foreign policy is made in the late 20th century. The roles of "think tanks," the media (which, in the author's words, "tend to share the countercultural view that the United States is among the major causes of the world's problems"), and bureaucratic politics are presented alongside those of more traditionally accepted players, such as Congress and public opinion, to show how foreign policy paralysis has become the rule rather than the exception. In Dr. Wiarda's opinion, though, the Reagan administration was remarkably successful at overcoming this paralysis with regard to Central America. He credits "the increased military preparedness . . . the restored economy, the renewed confidence and faith in ourselves and our system" that President Reagan ushered in.

From this assessment of recent American policy, one moves in the third book to an equally sober analysis of the challenge that has driven that policy from the start: the perceived communist threat to the

Caribbean and Central America. In this volume, Dr. Wiarda teams with Mark Falcoff to provide a collection of essays which consider the Moscow-Havana role in communist expansion in the region. Among their contributors are Jiri and Virginia Valenta, who have provided the best analysis available of Grenada in 1979-1983. Their chapter is particularly useful in its breakdown of Soviet policy into its component parts: policy toward revolutionary regimes (Cuba and Nicaragua), progressive regimes (Mexico and Panama), "bourgeois-liberal" regimes (Venezuela and Costa Rica) and reactionary regimes (El Salvador, Guatemala and Honduras). Described here is a more systematic and sophisticated foreign policy approach, with different means to achieve different ends throughout the region, than that suggested by more traditional analyses of Soviet western hemisphere policy.

Chapters by Marc Falcoff on Cuba's policy of revolution-for-export and an excellent offering by Ernest Evans on the changing strategies of revolutionary movements in Central America round out this important study, perhaps the best in a fairly recent explosion of literature on the subject.

These three books provide ready access to a most comprehensive span of documentation and analysis. Indeed, if the reader is not an expert on the region but a generalist in foreign policy, this collection is really all he needs.

LAWRENCE T. DIRITA
Lieutenant, U.S. Navy
U.S.S. *Leyte Gulf* (CG-55)

Lowenthal, Abraham F. *Partners in Conflict: The United States and Latin America.* Baltimore: The Johns Hopkins Univ. Press, 1987. 240pp. $10.95

Economic and demographic changes in Latin America's major nations have altered U.S. interests in the region. Especially, argues Professor Lowenthal, with respect to Mexico, Brazil, and the Caribbean Basin, whose current roles in both hemispheric and world economic affairs have simply bypassed North American policy thinking.

Professor Lowenthal offers details on trade, production, finance, and development in these three subregions. In clear, restrained passages, he reviews the recent history of U.S. policies toward Latin America which presidents since Franklin D. Roosevelt have offered as foreign policy centerpieces. These policies, he concludes, barely survived their authors' terms in the White House. He believes that they were couched in corrective-reformist terms and failed to address the emergence of several Latin American nations as important world economies. A corollary theme is the long-standing debate between those who favor Uncle Sam in the activist or interventionist mode, and those who

advocate the passive or hands-off stance toward Latin America. Both camps, says Lowenthal, are missing the point.

What has really happened, he argues, is that Latin America is no longer the region it once was, or the one we once thought it was. The parade of presidential policy cliches no longer apply, however sincerely they may have been conceived. Instead of the interventionist-neutrality dichotomy, Lowenthal advocates flexible partnership. The long-term interests of both the United States and Latin America, he believes, are served by policies which foster economic development.

Refusing to duck the regional thornbushes, Lowenthal (writing in 1987) wades into the Sandinista Revolution in Nicaragua and the old U.S. policy of arming its opposition. He takes a well-reasoned jab at both the doves and the hawks. The Sandinistas really are, he affirms, a regional destabilizer and a genuine military threat; but the Reagan policy of arming an opposition which could not generate the popular support needed to overthrow the Sandinistas tended to push the United States to the brink of an armed showdown to avoid diplomatic humiliation. Such an intervention, he concludes, would have been condemned throughout Latin America and much of the western world.

According to Lowenthal, the Central American solution is to resurrect the Contadora Plan of 1982, which the United States quietly scuttled in the mistaken notion that the Contras could achieve a military victory in Managua. The regional solution is for the United States and Latin America to drop trade barriers, share economic success, and seek a basis for genuine partnership. The old Washington notion of U.S. regional hegemony must go. Professor Lowenthal's arguments are trenchant, factually supported, and perhaps still in need of a significant political champion in Washington, D.C.

RUSSELL W. RAMSEY
Air Command and Staff College

Chiliand, Gerard and Rageau, Jeanne-Pierre. *A Strategic Atlas: Comparative Geopolitics of the World's Powers*. 2nd ed., translated from the French by Tony Berrett. New York: Harper and Row, 1985. 224pp. $26.95

The authors of *Strategic Atlas* claim that theirs is the first book of its kind. They note in the preface a break from the traditional and long outdated Mercator projection "with its horizontal and almost pre-Galilean world in which the land masses appear to cover a larger area than the seas;" and they address a subject not often treated in an atlas: the perceptions held by states regarding their own security (including not only those of the United States and U.S.S.R., but also the lesser known regional powers such as Saudi Arabia, Brazil, India, South Africa, Japan and Israel). A section on physical resources, demographic

data, and suchlike seeks to promote a better grasp of North-South relations. Rounding out the study is a final section on the military balance, which centers partly on nuclear questions. In short, the authors' conception of strategy attempts to embrace all human, material, and cultural factors that make up the global balance of forces.

So far so good. One soon finds, however, that the reach generally exceeds the grasp. Mercator projections *are* used on several important world area charts including some framed in an oval to suggest that they are not Mercator. The "circular projection" used elsewhere is helpful in polar areas; other charts seem to be azimuthal equidistant projections but are not identified as such. The section on geopoliticians is sketchy, offering only a starting point for further study. This is surprising since the atlas is dedicated to, among others, two geopoliticians, Halford Mackinder and Friedrich Ratzel.

The treatment of natural resource constraints, economic factors, population data, North-South problems, and the Mideast, South Asia and Japan is quite good. Data on European population and wealth, French overseas interests, *et al.*, are excellent—undoubtedly a consequence of the French authorship.

The "Military Balance" section covers 22 pages, but includes very little statistical data. Statistics, the authors claim, are useful but are measured by experts, whereas "strategies are won with peoples and leaders . . . Figures are quickly out of date." However, among the few statistical tables offered is a very important one that is rarely seen in U.S. compilations: the relative tonnages of the Soviet and American fleets. Few American planners seem aware of the great superiority of the Atlantic Alliance over the Warsaw Pact in gross fleet tonnages (for a great many decades the true measure of relative fleet strength). Other interesting charts show the deployment of U.S. and Soviet navies, overseas bases, U.S. and Soviet missile sites, the deployment of U.S. and allied forces in western Europe, and of particular interest, world charts of American aggressiveness as viewed by the U.S.S.R., and Soviet aggressiveness as viewed by the United States. Although the information is far less detailed than that found in typical western compilations of the military balance, the authors have designed a useful reference for the policymaker or strategist who is not an expert.

Strategic Atlas is valuable for its world view, its grand conception of what is required. The average student of strategy will find it useful as a handbook in picking his way through some of the international hot spots. It offers much less of the overconcentration on the U.S.S.R. to which Americans are prone, and even though limited by the rather amateurish cartography, it may frequently prove worthwhile.

PAUL R. SCHRATZ
Captain, U.S. Navy (Ret.)
Arnold, Maryland

Holmes, Richard. *The World Atlas of Warfare: Military Innovations that Changed the Course of History*. New York: Viking Studio Books, 1988. 304pp. $40

Richard Holmes has set out to chart the history of the art of war and its impact upon our world. His central theme is stated to be the evolution of technology applied to war, but he does not address technological developments in detail and leaves many fundamental ones unmentioned. On the other hand, he gives significant attention to the important interplay between military events and social, economic, and political institutions; and he illustrates these events vividly with maps, graphics, and fascinating photographs. His atlas reaches back several thousand years in its coverage of warfare, but appropriately devotes more than half the book to events of the 20th century.

Holmes is a military historian of international standing. A senior lecturer at the Royal Military Academy in Sandhurst, England, and a serving officer in the British Territorial Army, he addresses his book to readers with a general interest in the history of the art of war. Most of the text will be familiar to those well-grounded in military history, although the manner in which Holmes and his contributors present their material may be of interest to many already intimate with the subject. In particular, because of the worldwide geographical scope of its long historical view, many will find it a convenient source of illustrations for speeches and articles.

The atlas concentrates on conflicts of primary interest to Great Britain. Military events in South America, except for the few direct interactions with Great Britain, are largely ignored, and the entire military history of the Orient (Indo-Persia, China, Japan) prior to this century is allotted less than 20 pages. The concluding chapters of the book address guerrilla warfare and terrorism, nuclear warfare capabilities of the superpowers (including a discussion of Star Wars), and the multitude of conflicts in the four decades since the close of World War II, bringing its coverage to the middle of this decade.

The book succeeds in identifying clearly the factors that caused the wars and examining those factors that shaped them. It also demonstrates how, in a number of cases, strategic expectations of military and political leadership failed to be realized in conflict. For example, "strategic" bombardment, whether employed by the Germans against England or by the Allies against Germany and Japan, failed to destroy the morale of the civilian population, as had been expected by proponents of such bombing. In candidly drawing these insights from the past, the treatment is balanced and focuses upon only the most significant aspects of warfare.

Eric Grove, currently associate director of the Foundation for International Security, wrote the chapter on the Pacific in World War

II. The key events are adroitly summarized, and technical issues affecting battle outcomes as well as the strategy involved are addressed. Because the book is directed toward a British audience, it includes some aspects of the Pacific war that are not always emphasized in American histories.

Throughout the book there are brief profiles of key military leaders, including Yamamoto and Spruance. These vignettes are a definite asset to this work.

In sum, *The World Atlas of Warfare* is well written and interesting, and its index and bibliography are well-organized and useful. I expect that I will refer to this book a number of times in the future.

D. K. PACE
Johns Hopkins University
Applied Physics Laboratory

Saward, Dudley. *Victory Denied.* New York: Franklin Watts, 1987. 376pp. $18.95

In 1697, Father Francesco Lama described an aerial ship of war, but concluded that: "There is one small difficulty that cannot be solved; God will never allow man to construct such a machine since it would create many disturbances in the civil and political governments of mankind." So much for medieval prophecy in matters of technology and warfare.

By the end of the First World War, aerial ships of war capable of dropping bombs well behind the battle lines had been built and used, albeit with little strategic consequence. These machines did, however, inspire great prophecies of future military victory, most notably by Giulio Douhet in Europe and Billy Mitchell in America. Of the world's air forces, the Royal Air Force was most influenced by these optimistic prophecies of easy victory through aerial supremacy and the bombing of the enemy's military, industrial and economic base.

Dudley Saward's book (first published in 1985 in the United Kingdom) is an account of the rise of the RAF's air power from 1920 to the defeat of Germany in 1945. While he has taken up an ambitious and important task—to relate the role of the RAF and "strategic" air power to the outcome of the war in Europe—the book is oddly flawed in that it contains no mention of the influence of either Douhet or Mitchell nor of the prewar roles of "Boom" Trenchard or "Bomber" Harris. Saward's book fails to make any connection between the earlier prophecies of victory through "strategic" air power and the realities of the European theater. "Strategic" air power did play an important role in the Second World War, but not quite as expected by its proponents before the war.

Nevertheless, Saward's book is an important contribution to the history of that form of air power. He was graduated from RAF Cranwell in 1934 and served in the RAF throughout the war, working on the development of electronic aids for precision night bombing. This perspective

and his personal experience provide valuable insights for the historian of the period.

The first half of the book is a series of chapters which alternate between the early growth of the RAF and the rise of Hitler. This odd juxtaposition does not work well, for there is no new or relevant material in the chapters on Hitler. However, the material on the RAF is valuable, covering as it does the leadership of Trenchard, the establishment of Cranwell, the role of the RAF in the Middle East and the Northwest Frontier of India, and advances in aircraft design. Although Saward's biases are evident, his account of the struggle during the 1930s to build, train and equip an adequate number of squadrons of both offensive and defensive aircraft is a useful historical contribution.

Perhaps the best chapter in this section is Saward's commentary on the development of air defense in Britain during the late 1930s. He focuses on the great debates in the Air Defense Committee between Tizard and Lindemann. While C. P. Snow's work on this era is often considered definitive, Saward brings out more of the fundamental technical issues. He is particularly good at relating the new technical capabilities of the early radar systems to the tactics for air defense.

The second portion of the book covers the RAF bombing campaigns in Europe. Here Saward's perspective is valuable to the American reader who has been exposed primarily to the daylight bombing campaign of the U.S. Army Air Forces. The British campaign was quite different. The RAF relied on night action rather than escort fighters for defense and on electronic rather than optical bomb aiming.

The author's coverage of the development of electronic methods for improving bombing accuracy profits from his personal knowledge. When the night bombing campaign began, the initial results were dismal because the bombers had to find their targets by dead reckoning and visual identification. In the weather-plagued nighttime skies of Europe, this method proved inadequate. In clear, nontechnical terms, Saward explains the development of the electronic navigation and radar bombing aids, including Gee, H2S, G-W and Oboe, and relates their significance to the bombing tactics. For the historian concerned with the impact of technology on tactics and strategy, this is valuable new material. Its significance has often been overlooked in previous works on the RAF bombing campaign.

Throughout that campaign, one of the key strategic issues was the selection and prioritization of targets. The doctrine of "strategic" air war called for the resources to be concentrated, in Harris' words, on "attacking the kernel of the problem at the center." This meant that the bombing should be concentrated on the enemy's internal war-making capability. If this were destroyed, then surely the enemy's war-fighting capability at the battle front would collapse.

As the Bomber Command's strength grew in 1942, high debates resulted concerning its best use. Harris argued passionately for focusing solely on the industrial kernel. In June 1942 he wrote to Churchill: "We are free, if we will, to employ our rapidly increasing air strength in the proper manner. In such a manner as would avail to knock Germany out of the war in a matter of months, if we decide on the right course." Churchill was cool to this grand promise: "I do not however think Air bombing is going to bring the war to an end by itself, and still less that anything that could be done with our existing resources could produce decisive results in the next twelve months."

Churchill's view prevailed, and Bomber Command's squadrons were used in a number of ways to support the many facets of the war against Germany. Saward does not criticize Churchill's decision directly but does seek to demonstrate that this was a mistake. He bases his case on postwar interviews with Albert Speer (the German minister of production), which indicate that the Allied bombing did impede German military production by 10 to 20 percent (at its peak) and did result in the reallocation of fighting forces from the front to homeland defense. The absolute impact of this on the pace and duration of the war remains unclear.

Saward's detailed account of the wartime debates over the use of Britain's heavy bombers contains a number of historically important insights, especially his use of Harris' and Churchill's correspondence. However, his material from Speer and his vast statistics on tonnage of bombs dropped do not resolve the debate over the effective use of big bombers. Saward's book should be read for its source material on the rise and use of air power, but not for its implicit conclusion: that air power, if used as Harris wished, would have ended the war with less pain.

FRANK C. MAHNCKE
Naval Surface Warfare Center
Silver Spring, Maryland

Parker, Geoffrey. *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800.* New York and Cambridge: Cambridge Univ. Press, 1988. 234pp. $27.95

Taking his cue from Michael Roberts' important 1955 lecture, "The Military Revolution 1560-1660," Professor Geoffrey Parker of the University of Illinois, Urbana-Champagne, delivered these superb Lees Knowles lectures at Cambridge University's Trinity College in 1984. They are a model of synthesis, clarity, and comparative strategic history, and are drawn from primary and secondary sources in over a half-dozen languages to provide new and revealing information to English-language students of military history. What the author lacked in knowledge and sources, he elicited from scholars of many lands, all of whom he justly acknowledges.

The book is a major treatise on the role of military innovation in the rise of Western European civilization over the rest of Europe and indeed over Asia, Africa, the Middle East and the Americas during the early modern period: 1500 to sometime between 1750 and 1800 (the author properly avoids a precise and thus artificial date).

Although Parker accepts Roberts' general thesis, he projects it over a much longer period of time. The emergence of the new imperial powers "depended precisely upon those improvements in the ability to wage war," namely, a new system of defensive fortifications (the *trace italienne*) with the attendant siege artillery, increased reliance upon massed infantry firepower, and a dramatic growth in the size of armies. He examines each in detail and with relation to the course of European and world history.

Of particular note are his treatment of overland logistics (drawn from his first book, the excellent *The Army of Flanders and the Spanish Road 1567-1659*) and his treatment of strategic manpower needs. For example, although Gustavus Adolphus of Sweden had 183,000 troops available in 1632, all but the 20,000 of his main army were tied down in "sideshows." It might be added that tactical control reached its limit at that size, which was about that of both armies at First Bull Run in 1861. Parker's attention to the key contribution of the Netherlands in late 16th and 17th century warfare, especially early tactics based on Roman examples, is noteworthy. His use of statistical examples and original archival illustrations is especially judicious.

As land warfare became stalemated, "the leading states sought a decision through naval power," certainly after 1650. To the author's credit, he devotes almost as much attention to navies as he does to armies—Mediterranean galleys, Atlantic sailers, and even Far Eastern warship types. What we now regard as the Third World—India, China, Southeast Asia, and the Middle East—receives its own chapter and reveals that, often as not, lack of genuine need by these armies accounted for their slow adoption or adaptation of European weapons and tactical techniques.

But did all these changes constitute a "revolution"? Revolutions, including the Industrial one, do not encompass centuries; such lengthy change is generally accepted as an "evolution," i.e., gradual, which is one reason that Michael Roberts confined his original hypothesis to 100 years. Even in this book, Parker notes "a further" military revolution after 1800, heralded by the appearance of light infantry and cavalry, mobile artillery, and the division organization. And, on the final page, he even hints at yet another revolution on land and sea—that of machine weapons.

What Parker and Roberts saw was not a revolution but was instead one dramatic component of the emergence of European civilization, the gradual change from the Renaissance

to the Enlightenment. However, the drawback to using convenient historical packaging, like "revolution" in this case, is primarily semantic. This set of published lectures, like Roberts', remains a major contribution to the literature of war, to be read with profit by military professionals and historians alike who are interested in understanding the pace of continuity and change in the art of war.

CLARK G. REYNOLDS
College of Charleston

Lider, Julian. *Origins and Development of West German Military Thought: Vol. 2, 1966-1986: Swedish Studies in International Relations, 21*. Brookfield, Vt.: Gower Publishing, 1988. 637pp. $113.95

The first volume in this series dealt with the Konrad Adenauer era (1949-66); the present volume takes the story from there to 1986. It is much better written than the first, devoid of the sociological jargon that plagued its predecessor. The bibliography is exhaustive, citing virtually every article and book on the topic in the major European languages. Archival sources are absent owing to the current nature of the investigation.

Lider investigates German military thinking through the various stages initiated in 1967 by Nato's decision to combine the military policy of defense by deterrence with the political policy of detente (or as the West Germans term it, *ostpolitik*): the strategy of flexible response, the new interpretation of forward strategy and the principle of incalculable risk, and the notion of military equilibrium in place of the erstwhile reliance upon American nuclear superiority. The book balances the position of the conservatives, who regained power in 1982, with that of the peace researchers, who question much of the present military doctrine of Nato. Both camps converge, at least physically, insofar as they operate mainly out of government-supported universities and research institutes.

The heart of the book deals with what Lider perceives to be the contradictory development of Nato's doctrine and force posture as well as the paradox that while the Federal Republic returned to the ranks of political and economic powers, it had severe limitations placed upon its military power. As a result, German military thinkers remain in a state of flux, apparently unable to determine how the strategies of deterrence and flexible response should actually be implemented. Moreover, there remains the historical baggage of the past. Neither allies nor adversaries want the *Bundeswehr* to become too strong. The West can hardly demand that it acquire offensive capabilities—which, at least in theory, are forbidden by the Basic Law of 1949. And no one could accept a German call for nuclear weapons. Therefore, German strategists are limited to being sideline commentators in discussions concerning the use of

nuclear weapons—first or second, counterforce or countervalue, massive or selective. In any event, German military thinkers are severely hampered by two factors: their armed forces lack a national command and a national military doctrine. Neither condition is likely to change in the near future.

In the final analysis, West German military thought is bound to remain squarely in the political arena. The Social Democrats and the Greens will continue to press for detente in Europe and will urge the new United States administration to push ahead with arms limitations with the Soviets. Neither of these opposition parties supports forward deployment of conventional forces or of American-controlled nuclear weapons. And even the Christian Democrats are not at ease with any policy that could result in the destruction of the other German state as the opening stage in any future war in Central Europe. Check and checkmate.

HOLGER H. HERWIG
Vanderbilt University

Emerson, Steve. *Secret Warriors: Inside the Covert Military Operations of The Reagan Era*. New York: G.P. Putman's Sons, 1988. 256pp. $17.95

Steve Emerson's *Secret Warriors* explores the military and intelligence aspects of covert operations with the objective of producing "newsworthy" revelations. He describes both actual and proposed covert operations, as well as the individual units assigned to carry out the missions.

Some of the operations are discussed in great detail: the preparations for the second Iranian rescue mission, when infrared reflective tape was used on the roofs of rescue vehicles to allow orbiting gunships to identify them in the streets of Tehran; covert flights into Central America; the insertion of U.S. military personnel into Lebanon to gather intelligence and coordinate a hostage rescue mission; the rescue plans for the passengers on the *Achille Lauro* and TWA flight 847.

Emerson's central theme is the potential for abuse arising from covert special operations forces. Because of their need to remain secret, few in the command structure are even aware of their existence. Since conventional means of supervision is absent, the individuals in these groups gain considerable freedom of action. There is also very little accountability for money spent. Emerson mentions Yellow Fruit as an example of a unit that eventually outgrew itself and could no longer hide behind its secret cover. A series of court-martials ensued, ruining several careers and resulting in an investigation by the Army that ultimately triggered a major reorganization of its special operations forces.

Similarly, Emerson examines the "special sense of mission" mentality that develops in these small, highly secret groups and sometimes leads to

an approach that puts the mission above legal and moral concerns. While unit "esprit" is very valuable, carried to the extreme it becomes dangerous. Closely linked to this concern is the ego problem, whereby the practitioners of special operations become so caught up in their own self-importance that cooperation with others is virtually impossible for them. The ultimate result of such a mentality is a series of bitter turf wars as each secret "empire" seeks to preserve and advance its own interests. Another problem is the sharing of the resources and information developed by these small groups in light of the need for secrecy. Several instances in the book highlight situations where one group had information invaluable to other groups or to higher authority, but did not pass it on for fear of compromise.

Given that these special units, in some form, will remain a necessary national security tool for the immediate future, the issues raised must be addressed if our nation is to conduct effective special operations. Foremost among these issues is the question of control. How is the necessary control maintained without crippling the effort? Normal bureaucratic procedures and lengthy chains of command rob the units of the two things they need most to respond to terrorists: speed and decisiveness. Yet too much freedom, as this book details, invites abuse.

The solutions to these problems are not easy. *Secret Warriors* does a service by presenting clear illustrations of the need to address them. But the work would be of much greater value if Mr. Emerson spent more time discussing issues and less on telling anecdotes. Such an approach would have produced a far more balanced and usable book. As it now stands, it is an entertaining newsmagazine with a hard cover.

CHRISTOPHER C. STASZAK
Lieutenant Commander, U.S. Naval Reserve
Naval War College

Godson, Roy, ed. *Comparing Foreign Intelligence*. New York: Pergamon-Brassey's International Defense Pub., 1988. 157pp. $17.95

Intelligence has been recognized as a legitimate subject for academic research and teaching only in the last ten years. Early seminars brought together scholars from a variety of universities and disciplines, but most were political scientists from American institutions. These seminars, and writings by former intelligence officers, journalists, and politicians specializing in intelligence, soon brought realization of the necessity for a multidisciplinary approach to the vastly increasing body of information available. It was also recognized that study has centered mainly on U.S. intelligence after 1940 (since more information was available on that topic than any other) and that explicit comparative research was needed on intelligence experiences of countries with diverse historical, political, and cultural backgrounds. Accordingly, this book consists of six

essays intended to highlight differences and peculiarities that need to be understood.

The preface and first essay, by Roy Godson, describe the short history of the academic study of intelligence and provide overviews of the other contributing authors' essays. He stresses throughout the still embryonic state of the entire subject.

Kenneth G. Robertson, a member of the British Study Group on Intelligence, writes on "The Study of Intelligence in the United States." He contends that the United States is the most influential center for intelligence study because of its strategic importance in the Western Alliance, the sheer quantity of information concerning U.S. intelligence, and the variety of conceptual approaches to the study. Robertson identifies and discusses four approaches: an early series of books and articles endeavoring to establish intelligence work as a respectable profession; the "liberal" approach, which considers as central the contrasts between intelligence activities and the values and systems of a democracy; the "surprise" school, which focuses on how intelligence can contribute to successful crisis management; and the "realist" approach. In the last of these, the defense of democratic values from threats to national security is considered more important than any tension between those values and the necessary intelligence activities. The emphasis is on developing efficient and effective intelligence practices through such methods as identifying threats and opportunities, and establishing intelligence requirements.

The third essay, by Christopher Andrew of Cambridge, concerns historical research on the British intelligence community. He makes some interesting observations on the relationships that have occurred between British and U.S. intelligence, and closes with a caution against presuming U.S. intelligence to be a pattern reflected in all other communities. This point is greatly expanded upon in later essays.

John J. Dziak, a defense intelligence officer at DIA, writes on "The Study of the Soviet Intelligence and Security System." His description of the Soviet system as the "counterintelligence state" sheds light on the extreme differences that national or cultural philosophies can cause between one intelligence system and another. A dominant concern with "enemies" drives the Soviet Union and various satellites toward making the security service and foreign intelligence the same organ of state. Dziak describes historically how the Soviet system came to be what it is.

Dale F. Eickelman, a professor of anthropology at New York University, addresses "Intelligence in an Arab Gulf State." The state he examines is Oman. He concentrates on one period: from the creation of a modern intelligence service (1957) to a palace coup (1970). The special cultural and political influences highlight differences in circumstances and therefore in objectives, obstacles, and conduct of activities between efforts in Oman and those

in other places, such as the United States. Among these influences are regional politics (where family or tribal loyalties may sometimes conflict with loyalty to the state), shifting popular ideas of security "threats," rapidly and greatly changing economic conditions (here affected by oil), and the participation of foreigners in the process. Eickelman points out the value of understanding how perceptions of political activities in different cultures shape the knowledge their intelligence communities generate (what is reported and how it is reported), and how this can affect the policies formed as a result of that knowledge. The small scale of the intelligence apparatus in Oman allows a full exploration and understanding of how various pressures and assumptions helped shape the reporting, analysis, and contributions to policy.

The final piece, by Adda Bozeman of Sarah Lawrence College in New York, is entitled "Political Intelligence in Non-Western Societies: Suggestions for Comparative Research." Bozeman begins with an explanation of the need to explore the history, culture, theology, and other aspects of the peoples one wishes to understand. The emphasis is that the "other" must be understood on its own terms, rather than from a framework of one's own values. She presents several case studies, mostly of Europeans in Africa and Asia, to illustrate successes and failures which hinged on this concept. She also offers observations on American approaches to foreign societies and shows why we have not done as well in winning friends as we might have due to our indisposition to look at circumstances from the viewpoint of the "other."

National interests increasingly revolve around places and peoples different from America and Americans in varying, sometimes drastic, degrees. Learning how the decisions and actions of other nations are influenced may be considered the very essence of foreign intelligence.

D. A. DUVAL
Commander, U.S. Navy
Naval War College

Richelson, Jeffrey. *Foreign Intelligence Organizations*. Cambridge, Mass.: Ballinger, 1988. 330pp. $89.95

As someone who has worked most of his professional life on the periphery of the intelligence community, I feel some reluctance to reveal one of its greatest and best-kept secrets: no matter what the conclusions are (or how they are packaged), the intelligence process itself is usually boring. The intelligence community is made up of thousands of bright, dedicated, and, frequently, very interesting and serious people who may spend their working hours poring over obscure newspapers or satellite photos; the field operative, trying to convert the distracted midnight comments of a source into something coherent and meaningful for the home office, feels

far removed from the wonders of the Tom Clancy hero or the James Bond operative whose only concern about cover is who or what he finds under it.

The latest intelligence survey by Professor Jeffrey Richelson, *Foreign Intelligence Organizations*, demonstrates at length the same painstaking review of available sources which is characteristic of the intelligence community analyst. The book appears to review just about everything available in the public domain (with an occasional comment from the author's own sources) on the intelligence organizations of the United Kingdom, Canada, Italy, the Federal Republic of Germany, France, Israel, Japan and China. Each chapter follows a similar formula for each country: a section on the history of intelligence collection, details on the structure of the intelligence community, and a concluding section on recent intelligence-related incidents.

Although no new avenues are opened, the concluding items are the most interesting: the failure of British intelligence to anticipate the Argentine invasion of the Falklands; the response of Canadian military intelligence to Soviet under-ice missile firing capabilities in the Arctic; the Italian P-2 affair, and the alleged role of rogue intelligence units; a brief commentary on West German airborne collection capabilities over the Baltic; the French government's misguided attempt to divert protesters from its Pacific nuclear testing range by sinking the *Rainbow Warrior* in Auckland harbor; various Israeli intelligence successes and failures, including the infamous Pollard spy case; the Japanese maritime collecting organization whose extensive structure was revealed by the U.S. Government when it decided to exploit public indignation over the Soviet downing of *KAL 007*; and lastly, the almost incredible story of the long-term Chinese Communist "mole" in the CIA, Larry Wu-Tai Chin.

Diplomats and military commanders look at intelligence from widely divergent perspectives. The military commander, always Clausewitzean when combat looms, no doubt expects intelligence to provide clear conclusions that can help in battlefield tactics; modern technology ensures that what he gets is a cloud of information that adds to the fog of war. In contrast, the diplomat delights in the usual lack of clarity and options which intelligence provides; diplomatic careers are made in the ability to exploit these unclear zones. This tension between civilian and military leaders on the goals of intelligence is implicit in all policy determinations in the intelligence field. Unfortunately, these fundamental elements of the intelligence culture are not addressed in the various case studies in the Richelson book.

Professor Richelson has placed at least one reference on every paragraph in the book, for a total of 889 footnotes, distributed at the end of each chapter. It may seem strange to complain about sourcing in the face

of such a flood of references; however, in most case studies in the book, the author shows over-dependence on single sources, sometimes quoting the same book more than a dozen consecutive times. Of course, governments, with rare exception, publish little about their intelligence operations. For that reason, Professor Richelson must remain a prisoner to the books that refer to his subject and to newspaper articles on more recent matters. There is no separate bibliography, but such is clearly unnecessary.

Despite its shortcomings, Richelson has written one of the most comprehensive books available on the various intelligence services. One hopes that he eventually addresses such emerging Third World powers as Brazil, India, South Korea, Singapore and Taiwan. Each one has been in the press for one intelligence problem or another.

Military officers who deal with any of the countries covered will find the book of considerable value, but intelligence professionals will find it of only marginal utility. The intelligence buff will find it interesting, but will probably be looking for the latest Clancy volume before too long.

WALTER CLARKE
Naval War College

Recent Books

Barnett, Correlli. *The Pride and the Fall: The Dream and the Illusion of Britain as a Great Power.* New York: The Free Press, 1987. 359pp. $22.95

In 1986, Correlli Barnett published this book in Britain under the title *The Audit of War.* In this fully documented study, he explains Britain's fall from status as a great power since the Second World War. He focuses on the weakness of British industrial resources and financial capabilities, which was evident during the war. Barnett attacks Britain's failure to reconstruct her industrial base, reconstitute and retrain her work force, and reinvest her capital. The author's criticism of Britain is reminiscent of many of the points made by those who suggest that America is now a declining power.

Bowker, Captain Francis E. *Atlantic Four Master: The Story of the Schooner Herbert L. Rawding, 1919-1947.* Mystic, Conn.: Mystic Seaport Museum, 1986. 96pp. $22 (hardcover) $12 (paper)

American deep water commercial sail lasted until the Second World War. The former master of Mystic Seaport's two-masted schooner *Brilliant*, who was bosun aboard the *Herbert L. Rawding* in 1940-42, tells the story of the

last of the Maine-built wooden-hull four masters to carry a cargo in the Atlantic.

Brodsky, Stephen G. W. *Gentlemen of the Blade.* New York: Greenwood Press, 1988. 224pp. $39.95

In the 18th Century, Joseph Addison remarked: "Gentlemen of the blade . . . seem to be generally of the opinion that the fair at home ought to reward them for their services abroad, and that, until cause of their country calls them again to the field, they have a sort of right to quarter themselves upon the ladies." Things have changed. Brodsky's social and literary history of the British Army since 1660 traces the social evolution of that army to its modern state. His theme is the role of amateurism in the army, and he argues that the British Army was unique in this regard among European powers. Brodsky, a former Canadian Army officer and literature lecturer at Royal Roads Military College, has combined history and literature to produce a worthwhile work for military and social historians.

Cheyne, G. Y. *The Last Great Battle of the Somme.* Atlantic Highlands, N.J.: Humanities Press, 1988. 152pp. $19.95

The Battle of the Somme opened on 1 July 1916 with 14,000 British Empire soldiers killed. When it ended in November, 50,000 soldiers had perished. Cheyne's book was originally published in Scotland. The character of the Scottish army is highly visible, as is the role of the 51st Highland Division in the final victory at the village of Beaumont Havel.

Coletta, Paolo E. *A Selected and Annotated Bibliography of American Naval History.* Lanham, MD: University Press of America, 1988. 523pp. $39.50

Paolo Coletta's revised version of his 1981 *A Bibliography of American Naval History* is useful for its selection of some of the key articles, dissertations, oral histories, manuscript collections, films and historical novels which complement the major books in the field. Skimming earlier periods, Coletta gives 50 pages to the years 1980-87, while another 42 pages contain items on special topics relating to naval operations, including maritime law, religion, education and women in the navy.

Fryer, Charles E. J. *The Royal Navy on the Danube.* New York: Columbia Univ. Press, 1988. 227pp. $25

What a very odd place for the Royal Navy one might well think. Not so in fact, for Rear Admiral Troubridge's riverine operations on the Danube during the First World War had much to do with both preventing munitions from reaching Turkey and keeping the Serbians in the war. It was a campaign

whose accomplishments lay in what didn't happen as a consequence. This obscure bit of naval history is worth the read, for it demonstrates that the influence of sea power on history is neither confined to the salt environment nor found only in great sea victories.

Heller, Charles E. and Stofft, William A., eds. *America's First Battles 1776-1965*. Lawrence, Univ. Press of Kansas, 1986. 416pp. $29.95

The editors of this book have gathered together a galaxy of well-known military historians to write detailed case studies of the first land battles in each of America's wars, from the Revolution to Vietnam. John Shy has brilliantly analysed the topic in a final essay, "First Battles in Retrospect," where he examines the importance of ignorance about the enemy in such battles. It would be interesting to compare a similar examination of first naval battles. Given the relative differences in peacetime operational tempo between the two services, such a study might reveal some interesting traits behind the uniforms.

Harrison-Ford, Carl, ed. *Fighting Words: Australian War Writing*. Melbourne: Lothian Publishing, 1986. 362pp. $75

Drawn from on-site reporting, postwar accounts and fiction, this collection of 80 short pieces is an informal history of Australian involvement in foreign wars. The Boer War, the First and Second world wars and the Korean and Vietnam wars are covered. There are the usual combat stories, but there are also stories of prison camps, life in the jungle campaigns, and a wretched "club" for black servicemen only in Sydney. As the wars become more serious, so does the writing. There seems to be no joy in Korea; the Vietnam account reflects American writing of the period.

Lawlis, Chuck. *The Marine Book*. New York: Thames and Hudson, 1988. 189pp. $35

This is a large book with many photographs of impressively armed young men doing vigorous things. It is a catalogue of the history and activities of today's Marine Corps, training and fighting, which captures a good bit of what makes the marines special for many Americans. Present and former marines will learn little from it, but may find it a useful gift for their less-blessed friends and relatives.

Lucas, James. *World War Two Through German Eyes*. London: Arms and Armour Press, 1987. 192pp. $24.95

The author, who has published several other "popular" books dealing with the Second World War, attempts to answer the question as to why the Hitler regime basically was so popular in Germany. Lucas offers insights into the

political and social, economic, and military perspectives of the Third Reich. The volume is richly adorned with pictures, and has a brief bibliography and a chronology of the Third Reich.

Unfortunately, there are no reference notes, therefore the reader never knows what sources Lucas relied upon for his observations. Above all, neither the excellent work of Ian Kershaw on popular perceptions of the Hitler state, nor the secret reports on public opinion of the Security Service of the SS for the years 1939-44 are cited in the bibliography. The reader is simply left with no basis upon which to judge Lucas's work.

Medland, William J. *The Cuban Missile Crisis of 1962*. New York: Praeger, 1988. 167pp. $35.95

With the recent conference in Moscow of participants in the Cuban missile crisis, Medland's book is very timely. His approach is to examine the crisis from a variety of perspectives: the participants', the revisionists', the left-wing and right-wing true believers', and the sovietologists'. None of these are particularly remarkable by themselves. It is the juxtaposition that makes this book interesting for scholars of the period. Medland opines that the Soviet failure to get away with it led to the security of Berlin, the fall of Khrushchev, and peaceful co-existence. Not bad for one crisis.

Swartz, Peter M. *The Maritime Strategy Debates: A Guide to the Renaissance of U.S. Naval Strategic Thinking in the 1980s*. Monterey, Calif.: Naval Postgraduate School, 1988. 90pp.

If you wish to know who has had anything to say, at least in public, about the maritime strategy since 1979, this annotated bibliography by Captain Swartz will tell you. It is a plain, stapled affair that "integrates and expands upon materials published previously" by the U.S. Naval Institute. Annual updates will be performed by the Naval Postgraduate School at Monterey, California.

REVIEW PRIZE WINNERS

On 16 June 1989, at the graduation ceremony, the President, Naval War College announced the winners of the 1988 *Naval War College Review* Prize Article Awards:

First Prize ($500) to Captain Jerome J. Burke, Jr., USN of the Defense Intelligence College for "On the Cusp of the Maritime Strategy" (Autumn 1988);

Second Prize ($300) to Admiral Harry D. Train, II, USN (Ret.) of the Armed Forces Staff College for "An Analysis of the Falkland/Malvinas Islands Campaign" (Winter 1988);

Third Prize ($200) to Lieutenant Commander Joseph F. Bouchard, USN, a Burke Scholar at Stanford University, for "Accidents and Crises: *Panay, Liberty,* and *Stark*" (Autumn 1988).

These awards are made possible through the generosity of the Naval War College Foundation, a private, non-profit organization dedicated to improving the quality of the educational resources of the Naval War College in areas where federal funds are not available. The awards are given in memory of the late Captain Hugh G. Nott, USN (Ret.), who, over a period of 10 years, made major contributions to the academic and research vitality of the Naval War College.