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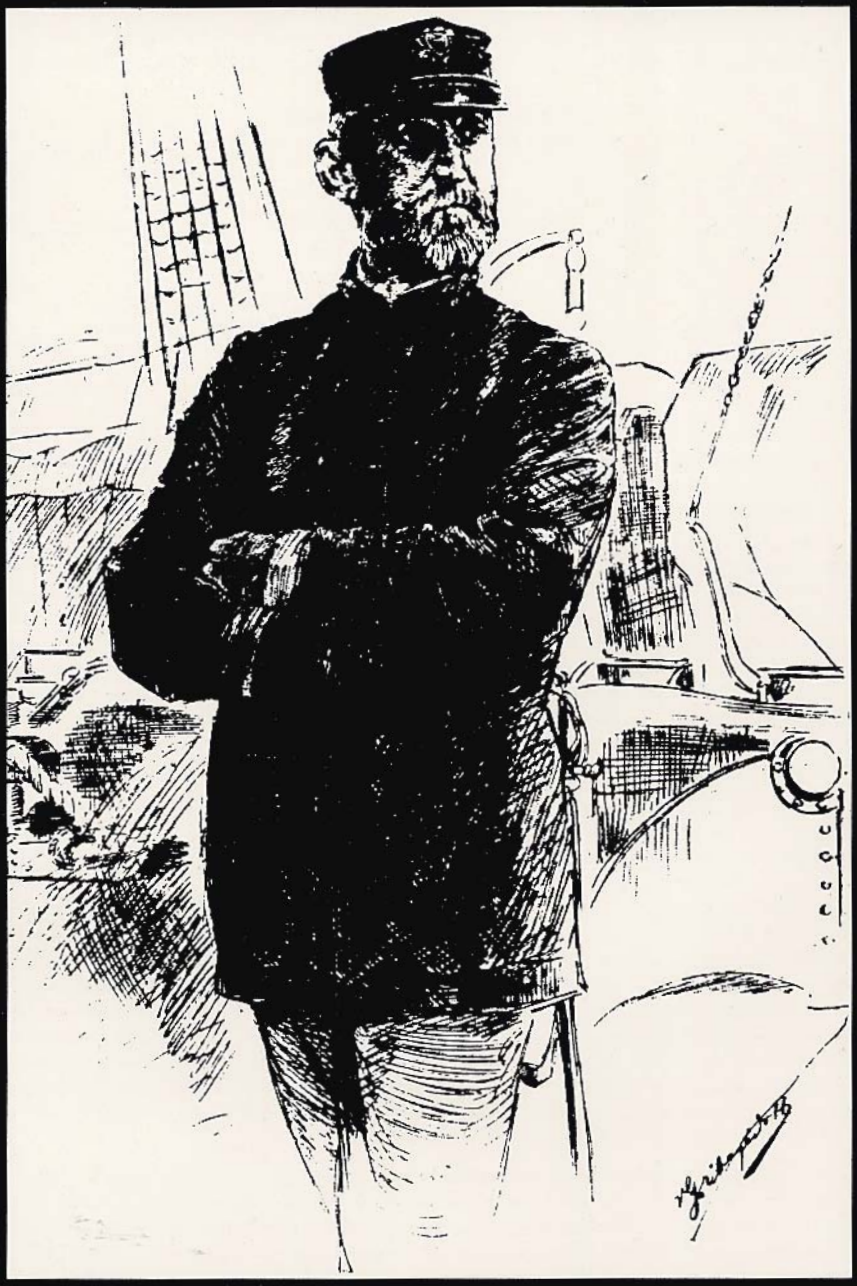
NAVAL WAR COLLEGE REVIEW



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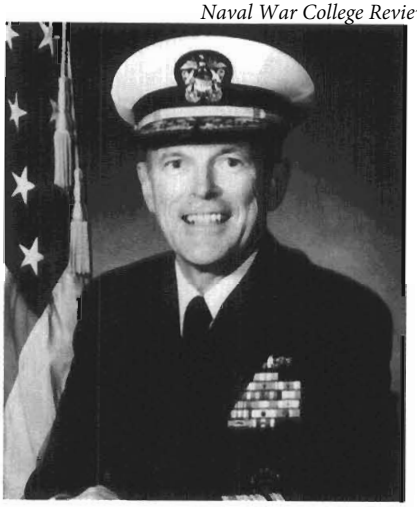
NAVAL WAR COLLEGE REVIEW

Volume XLIII, Number 4, Sequence 332 Autumn 1990

Our cover: This year is the publishing centennial of Alfred T. Mahan's most powerful book, *The Influence of Seapower Upon History, 1660-1783*. The sketch of the author was made in England in 1894 while he was on his final tour in command afloat. See the memoir on Mahan by his son, beginning on page 81.

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



President's Notes

On 2 August of this year the course of history was altered. On that day Iraq initiated its brutal military attack and subsequent forceful occupation of its tiny southern neighbor, Kuwait. Regardless of the outcome of the current crisis, the world will never be the same.

Unfamiliar patterns of political and military cooperation have evolved in response to the Iraqi aggression. The United Nations Security Council voted unanimously to condemn Iraq. The United States and the Soviet Union are in accord in areas and on subjects that heretofore escaped agreement. Saudi Arabia took the unprecedented step of asking U.S. forces to come into the kingdom to assist in its defense, and Syria, which had alienated most moderate Arab States with its position during the eight-year Iran-Iraq war, also has troops stationed in Saudi Arabia. Saddam Hussein, in an act of desperation to avoid complete isolation, has relinquished his modest gains won in the long eight-year war with Iran. Jordan, long considered a moderate pro-western country, seems closer to Iraq than to its more traditional friends.

Admiral Strasser holds a B.S. from the Naval Academy, two master's degrees from The Fletcher School, Tufts University and, from the same school, a Ph.D. in political science. He was graduated from the command and staff course at the Naval War College in 1972. He commanded the USS *O'Callahan* (FF 1051), Destroyer Squadron 35, Cruiser-Destroyer Group 3, and Battle Group Foxtrot. His seven years in Washington include two years in the office of the Chairman, JCS.

An even more amazing feat, yet one almost taken for granted, has been the rapidity and the skill with which the President's call for a U.S. military buildup in the area has been answered. During a period when many at home were advocating massive reductions in the size of U.S. forces, our military, as has so often been the case throughout our history, was tasked to respond as the leading edge of U.S. foreign policy. The results have indeed been impressive.

In a repeat of almost all crises since World War II, naval forces have been a key element of the U.S. military response which has truly been a joint one. The *Eisenhower* battle group transited the Suez Canal into the Red Sea, and the *Independence*, with her escorts, steamed north into the Gulf of Oman to augment the seven Middle East Force units. The mission of both groups is to establish a naval embargo of Iraq, while at the same time providing strike capability to support the U.S. forces in Saudi Arabia. Coast Guard detachments are aboard many of these Navy ships to assist in boarding merchant vessels suspected of attempting to violate the embargo. A third carrier battle group is now on station in the Eastern Mediterranean and all three air wings are ready in all respects should they be called upon by the National Command Authorities to project power ashore or at sea.

Our Marine Corps has also responded in impressive fashion. The Maritime Prepositioned Ships (MPS) quickly weighed anchor and sailed to the Gulf where the equipment they carried was expeditiously married up with 7th and 1st Marine Expeditionary Brigades (MEBs), forming an Expeditionary Force. This first real test of the MPS was totally successful in every respect, completely validating this concept. Two additional MEBs have arrived aboard amphibious ships thus providing a composite U.S. Marine Corps force of over 40,000.

As these naval units were moving, advanced elements of the Army's 10th Airborne Corps and the 9th Air Force began flying into Saudi Arabia. The Army has now deployed a sizeable force to Saudi Arabia and more troops are on the way. Elements of more than four divisions will ultimately contribute to deterring further Iraqi adventurism. Air Force aircraft have now arrived in several Gulf Cooperation Council (GCC) countries and await the President's call in the event hostilities cannot be avoided. Both naval and air lift have performed superbly, transporting enormous quantities of men and material to the distant Gulf. The first fast sealift ships from the East Coast arrived in the area within 10 days and now have established an initial seabridge to support the 150,000 U.S. troops involved. An estimated 95 percent of the supplies for Desert Shield are being transported by the Military Sealift Command.

As a nation, we have come to expect this type of performance from our military even though it is anything but routine. From a naval perspective, it is not an easy task to deploy a large naval force some 12,000 miles from

our shores, sustain it on station for long periods and maintain morale and readiness to respond at a moment's notice. Make no mistake about it, no other nation in the world, including the Soviet Union, can do it. Yet the U.S. Navy has three CVBGs and a large Marine contingent in the area today and has maintained at least one carrier there almost continuously throughout the decade of the 1980s. The Army and Air Force deployments were equally impressive. The capability to do what we have done resides only in this country. This should be a source of great pride for all Americans.

We are indeed heartened to be joined at sea during this crisis, as was the case in 1987-89 during the Kuwaiti reflagging operations, by ships from many of our friends and allies. This time, strongly united in their opposition to Iraqi aggression and support of the Security Council resolutions, some 13 countries have dispatched naval ships to the Gulf. In addition to our European allies, units from Canada, Australia, and Argentina are also in the area or en route to assist with the maritime embargo.

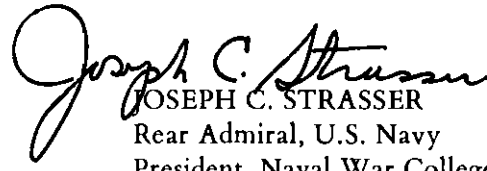
This strong international support is not confined to the sea. Ground units from a host of countries have deployed to the Saudi Arabian desert to demonstrate world resolve to oppose the forceful annexation of Kuwait. U.S. Army and Marine Corps units are alongside troops from Egypt, Syria, Morocco, the GCC countries, Britain and France, all postured to repel an Iraqi assault. Pakistani, Afghan and Bangladesh forces have also arrived to help guard Mecca.

The Iraqi aggression against its small neighbor has prompted a remarkable show of global unity. Responding to strong U.S. leadership, the nations of the world have shown, both at the United Nations and in and around the Arabian Gulf, that they will not accept rule by force. The Charter of the United Nations clearly recognizes the political independence and territorial integrity of each of its members, and over the past two months the United Nations Security Council has demonstrated unprecedented unanimity in condemning and isolating Iraq both diplomatically and economically. As Americans, we should be heartened that our political leaders and our military are squarely at the forefront of this effort.

From the pedagogical viewpoint, the U.S. and world response to the Iraqi invasion of Kuwait has served to focus our studies at the War College and perhaps points towards the sort of military confrontation we can expect in a post Cold War world. It is fraught with dangers that spill over international boundaries as the plight of innocent refugees and hostages are added to the burdens with which national decision makers have to contend.

This is indeed an exciting time to assume the presidency of the Naval War College. For those who may not be aware, I relieved Rear Admiral Ron Kurth on 17 July. I look forward to the opportunity to lead this prestigious institution

and to present my views on subjects of interest to our Navy and Nation on a quarterly basis in the *Naval War College Review*. I also pledge to all of you, the alumni, friends and supporters of this school, that I will do all in my power to maintain the preeminence of the Naval War College as the finest institution of its kind in the world.



JOSEPH C. STRASSER
Rear Admiral, U.S. Navy
President, Naval War College
1 October 1990

The Strategic Importance of the Bab el-Mandeb and the Horn of Africa

Richard B. Remnek

The strategic importance of the Bab el-Mandeb and the Horn of Africa lies in their geographic positions, the one connecting two major international waterways—the Red Sea and the Indian Ocean—and the other across that strait from the Arabian peninsula. In addition, most of the waters of the Nile originate in Ethiopia. The strategic importance of the region stems not from its own meager resources, but rather from its proximity to other areas of strategic significance, such as the Persian Gulf and the sea lanes emerging from it. After all, were it not for the protection that the Horn of Africa potentially provides to the flow of oil from the Persian Gulf, it is highly doubtful that the region would receive as much attention as it does in U.S. policy circles. It is worth recalling that even before the discovery and exploitation of oil on the Arabian peninsula, Western involvement in the Horn of Africa derived from interests in areas further east of Suez. The colonization of the region by the European powers in the late nineteenth century was stimulated mainly by the need to protect and support maritime traffic along the newly opened Suez Canal-Red Sea routes to Asia and Africa. As a result, major ports were developed by the British at Aden and the French at Djibouti. From a global perspective, any assessment of the strategic importance of the region must take into account these connections to interests in other areas—for the strategic significance of the former is largely a function of the importance assigned to the latter.

A global perspective of the region's strategic importance must also consider the discrete interests of the major external states involved, since these interests vary significantly. In my estimate, the major foreign countries are the Soviet Union, the United States, France, Israel, Saudi Arabia, and Egypt. To be sure, other European, Middle Eastern and Asian states have interests in the region,

Dr. Remnek is currently a research associate of the Institute of International Studies at the University of California at Berkeley. A specialist on politico-military affairs in the Indian Ocean area, he has previously served as a research analyst for all three branches of the U.S. armed services.

but their interests tend to be of a lesser magnitude and often run parallel to those of the main extra-regional states.

Another selection criterion employed here relates to the nature of the strategic interests at stake and is restricted mainly to positive interests or acquisitive goals rather than negative or denial goals. For example, while China may have earlier had a strategic interest in denying Soviet access through the Bab el-Mandeb, and Libya may today have an interest in denying Israeli access to the Red Sea, neither of these states have appreciable positive interests in the region worth protecting. Some of these denial goals will be discussed briefly when reviewing the threats to the positive interests of the major states concerned. I have also included a discussion of potential Soviet threats to oil shipping and U.S. naval forces in this region (examples of denial goals), since they are threats that have long received prominent attention and have been the subject of often ill-informed speculation in the West.

The interests of external states in the region has not been static. In recent decades, important changes in the nature of these interests and the threats to them, both perceived and real, have been realized. As the implications of the basic improvement in East-West relations are drawn out, new assessments of the strategic significance of the region will emerge.

This article examines the positive interests of the main external states in the region, both separately and in depth. My purpose here is to identify what these interests are and are not; to evaluate the threats to those interests; to consider how the interests and threats have changed over time; and how they may do so again in a changing international environment. It is worth drawing attention to the important linkages that exist among the six nations and that largely stem from alliance considerations. To cite one example, the United States has agreed to support Israel's right to "free and unimpeded passage" through and over the Red Sea and the Bab el-Mandeb, according to the terms of a 1975 memorandum of understanding between the two governments. Hence, alliance considerations factor into the way states calculate their own interests in the region. Once the interests of the individual states have been reviewed, I shall present some generalizations about the evolving strategic importance of the Bab el-Mandeb-Horn of Africa region.

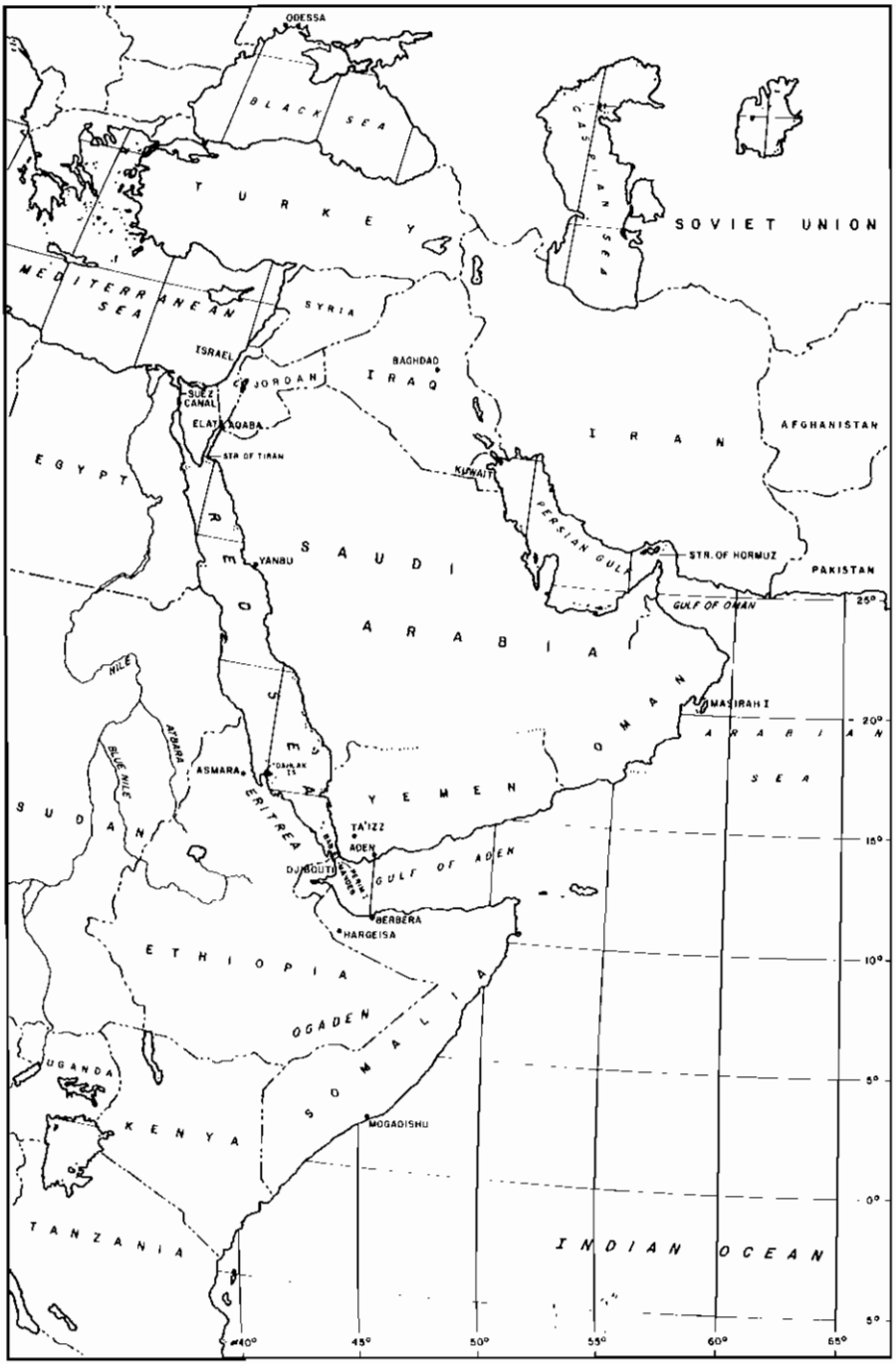
Soviet Interests

Of all the foreign powers, the Soviet Union arguably has the paramount interests in the region. These interests are multiple, and some of them are essential to Soviet national security. The region lies astride the U.S.S.R.'s southern sea route—the shortest sea lines of communication that are open year round between its European and Pacific ports. The next fastest route runs around the Cape of Good Hope, which takes approximately an additional 18 sailing days.[1] It has been estimated that well over 50 percent of the

U.S.S.R.'s transcontinental freight has been carried over this route.[2] The reliance on the southern sea route is not likely to be reduced appreciably by the introduction into service of the Baikal-Amur (BAM) railroad line, which should eventually open up Siberia's natural resources to commercial exploitation and foreign export. This would constrain the BAM line's limited ability to relieve some of the pressure of intercontinental commerce from the Trans-Siberian railroad. In fact, since the BAM line was opened in 1984, Soviet maritime traffic has gradually increased. Whereas 1,823 Soviet flag-vessels transited the Suez Canal in 1981, by 1987 the number had risen to 2,281, accounting for 6.8 percent of the net tonnage of ships using the Canal.[3] The Soviet Union ranked as the fourth highest user of the Suez Canal (after Liberia, Panama, and Greece). To be sure, a significant part of Soviet shipping through the Suez Canal is bound for India, Vietnam, and other Asian and African states with which the U.S.S.R. maintains trade and aid ties. And these economic ties have grown as well.

The Soviet interest in protecting its southern sea route is long-standing. Even in the last century, the Russian tsars took an interest in cultivating ties with Christian Ethiopia, undoubtedly in the hope of eventually planting a Russian flag along the shores of the Red Sea, then the object of British, French, and Italian colonial expansion. In modified form, this interest was carried over by the tsars' successors. At the end of World War II Stalin tried unsuccessfully to establish Soviet control over Italy's former colonies, including Eritrea. And, well before the Soviets established a regular naval presence in these waters at the close of the 1960s, they undertook aid projects apparently in preparation for this eventuality. In the 1950s they constructed the North Yemen port of Hodeida and built an airport nearby. In the early 1960s they dredged the Somali port of Berbera. Although these projects could be rationalized on purely economic grounds, their military utility became evident when the Soviets began to develop and use Berbera as the principal support base for the Soviet Indian Ocean Squadron in the 1970s.

The Soviet naval presence in the region can, in part, be regarded as a concrete expression of Soviet concern about the security of its southern sea route. This concern seems to have peaked around the time the Soviets established a routine naval presence in the area, in the late 1960s, following the British withdrawal east of Suez. Although the Soviets probably saw this withdrawal, coupled with the U.S. preoccupation in the Vietnam War, as an excellent opportunity for them to use their emerging military power to expand their political influence throughout the Indian Ocean area, they may also have been motivated by defensive considerations. Chinese influence on both sides of the Bab el-Mandeb was then on the rise, and with mounting tensions along the Sino-Soviet border the Soviets might have feared that Chinese influence among the littoral nations could be used against them, at a minimum to deny the U.S.S.R. access to local ports and airfields, and at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worst to obstruct Soviet maritime traffic. Sino-Soviet clashes along the Ussuri river in 1969 must have underlined the value of the shorter sea route through the Suez Canal (assuming it would be reopened) in the event of a Sino-Soviet War, especially in the period before the Soviets augmented their stocks of war materiel and strengthened their military and naval forces in the Far East. If the Trans-Siberian railroad were also to be cut in such a conflict, the southern sea route would become critically important. In addition, access to local port facilities would also have been valuable, should it have been needed by transiting ships.

Although the Soviets have never discussed openly the importance of water routes around Africa in the event of a Sino-Soviet War, they have used historical examples as surrogates to imply their current concerns. In his 1976 *Sea Power of the State*, for example, Admiral Sergei Gorshkov commented on the voyage around Africa of the Russian squadron, which the Japanese sank in 1905 at the Tsushima Strait, in these words: "The history of the Russian fleet and indeed of other fleets still did not know of such a distant and long movement of a huge fleet consisting of a variety of ships, some of which were not fully seaworthy, with no experience of combined long-distance oceanic travel. Over the entire route the squadron did not have a single base for resting the crew, for repair and supply. Most of the shores along which it passed belonged to hostile England."[4] Gorshkov's explanation here is historically inaccurate, for the French permitted the Russian Fleet to use their bases at Diego Suarez, Madagascar, and Cam Ranh Bay, French Indochina for crew rest, repairs and replenishment. This passage thus appears to be a thinly veiled rationalization for the Soviet Navy's need for exclusive access privileges around Africa. Indeed, the relevance of Africa to Soviet planning for a Sino-Soviet War was made all the more transparent by the publication, on the page opposite the excerpt cited above, of a map of the tsarist fleet's voyage around Africa.

In addition, a close reading of Soviet diplomatic initiatives in the Yemens and Somalia during the early 1970s reveals how sensitive the Soviets were to Chinese influence.[5] Indeed, Soviet moves, particularly in Somalia, seemed designed to preempt the Chinese from developing a military relationship with the Siad Barre government. Although Soviet sensitivity to Chinese influence in the region remained strong through the remainder of the decade,[6] it ebbed over time as the Soviet military buildup in the Far East reduced the need for rapid reinforcement of supplies along the African sea lanes, and as the dangers of a war with China subsided in the 1980s.

Nevertheless, the Soviets remain concerned about the security of their maritime commerce through the Bab el-Mandeb, and their anxieties in this regard seem to heighten whenever the Arabs raise the concept of turning the Red Sea into an "Arab Lake," as they did during the Ta'izz, North Yemen meeting of Arab leaders in March 1977. Qaddafi's recent call for a Sahel Arab

Union, which would establish Arab sovereignty and control from the Atlantic to the Persian Gulf,[7] may have aroused similar concerns among the Soviets, especially if they viewed his remarks in the context of the probable Libyan mining of the Red Sea in 1984. Although the immediate objective of such schemes is to deny Israel's access through the Red Sea, the Soviets also see them as a potential threat to their own freedom of navigation along this vital waterway. Indeed, one of the reasons the Soviets have remained steadfast in their support of Ethiopia's territorial integrity, even in the period of declining Soviet support for the Ethiopian war effort in the north, is the fear that an independent Eritrea would probably come under Arab influence and might eventually cooperate with Arab plans to limit international navigation through the Red Sea. In view of these potential threats, it is not surprising that Israel and the Soviet Union have found common cause in supporting Ethiopia's territorial integrity.

Whereas the U.S.S.R.'s strong stake in protecting its sea lines of communication through the Red Sea is usually ignored in Western commentaries, the potential threat of Soviet interdiction of Western tanker traffic through these waters in the event of a global war has received far greater attention. Certainly the Soviets have the capability to mine the Bab el-Mandeb and sink tankers, but this does not say much about their combat capabilities, since tankers can be sunk by RPGs fired from Arab Dhows, and mining can be accomplished by cargo vessels. Whether the Soviets would employ their naval capabilities for such missions would depend on what they assess as the most effective use of their naval and air forces in the area in the event of a major war.

The issue will always remain in doubt, for probably even the Soviets would not know beforehand whether their Indian Ocean Squadron could even remain in the area in the event of a major wartime crisis, much less know how they would prioritize their targets if the squadron did remain. Since the Soviet Indian Ocean Squadron consists of older, less combat-capable warships, presumably the Soviets would have less need for them in more demanding, higher priority missions closer to home waters, and hence, one might expect these ships to be assigned to combat missions in the area. Assuming that Western warships remained in the Indian Ocean and were not redeployed to European or Asian waters during a crisis leading to war, these ships would be a high-value target, along with Western base facilities such as Diego Garcia and Oman's Masirah Island, etc. If the Soviets believed that they could maneuver their combatants close enough to Western warships during a crisis leading to war (as they did in the Mediterranean during the October 1973 War), so as to be able to inflict significant damage once hostilities had erupted, they might then conclude that this mission would be worth the predictable destruction of their own combatants.

The Soviet Navy, in fact, continues to justify its out-of-area deployments, in part, as enhancing Soviet strategic warning against U.S. surprise attacks and as contributing to the "battle of the first salvo."[8] Indeed, when U.S. carrier battle groups deploy in the northern Arabian Sea within air combat range of Soviet territory, they are watched by Soviet warships and auxiliary vessels. In recent years, however, U.S. warships in the Indian Ocean have demonstrated their ability to "lose" Soviet tailing ships. This might eventually reduce Soviet confidence in their ability to close with Western warships during a crisis, and hence might force them to reconsider the suitability of their ships for this mission.

If the Soviets should decide that their warships could not seriously damage Western combatants (presumably they would still target them with their land-based bomber aircraft), the Soviet Indian Ocean Squadron could be used to strike Western military installations at Diego Garcia, Oman, Somalia, and possibly Djibouti. Here again the Soviets would have to calculate whether their warships would survive long enough to inflict enough damage against these installations and make the mission worth undertaking.

A third possible target would be the interdiction of oil supplies. There are several ways the Soviets could accomplish this—mining of the straits of Hormuz and the Bab el-Mandeb, sabotage of the Suez Canal, targeting of oil tankers, terminals and pipelines, and even the assassination of key technical personnel. Most of the shore-based missions could be accomplished by *Spetsnaz* commando units without the support of the Soviet Navy. For example, Soviet commandos could be flown into the area, possibly as replacements for civilian crews aboard fishing trawlers and other civilian vessels, and later disembarked nearer to the oil terminals.[9] The Soviet Indian Squadron could be used to mine ports and chokepoints, though this task could also be accomplished perhaps just as easily by civilian vessels or aircraft.

However, mining of the Bab el-Mandeb, whose main channel is over 16 kilometers wide at its narrowest point and 311 meters deep,[10] does not appear to be easy to accomplish satisfactorily should the Bab el-Mandeb littoral remain under Western control. If the West had sufficient mine-clearing assets available for this purpose, the mine fields could be cleared within a few weeks. Moreover, mining does not appear to be as useful a means of interdicting oil supplies as destroying oil terminals. In fact, the development and expansion of oil pipelines to Yanbu' on Saudi Arabia's Red Sea coast,[11] and through Turkey and Syria, has reduced the significance of the Bab el-Mandeb and Strait of Hormuz chokepoints, at least with respect to the flow of oil to Western destinations. It has been estimated that by the mid-1990s, approximately 7mbd of oil produced on the Arabian Peninsula and Iraq could be exported via Red Sea terminals, bypassing the Bab el-Mandeb thereby. Destroying the oil terminal and storage facilities at Yanbu' would seem, therefore, to hold a higher priority than mining the Bab el-Mandeb.

Although targeting supertankers remains a final possible mission of Soviet warships, it too is doubtful. In a crisis leading to a war, tankers might well put into protected ports and would not return to sea without naval escort or until the Soviets had been swept from the seas. Moreover, tankers might be just as easily targeted by civilian vessels, or even commando or proxy forces using RPGs from Arab Dhows. Thus, even if the Soviets opt to interdict the flow of oil to the West from the Gulf, they are not likely to waste their naval forces in traditional antiship missions. The most efficient and potentially effective approach towards interdicting oil supplies would be through sabotage of terminals, pipelines and storage facilities carried out by *Spetsnaz* or specially trained proxy guerrilla forces.

Another mission that the Soviet warships in the Indian Ocean will probably not perform in the foreseeable future is hunting U.S. ballistic missile submarines. Although speculation about the presence of U.S. SSBNs in the Indian Ocean has been rife ever since Geoffrey Jukes pointed out in 1972 the potential advantages of Polaris and Poseidon-missile submarines using the northern Arabian Sea to fire at targets in the U.S.S.R. and western China,[12] the speculation has been unfounded. Jukes discounted the fact that the long transits between the home bases and the Indian Ocean would leave U.S. SSBNs out of range of their targets for long periods.[13] The Soviets have often played up a U.S. SSBN threat in the Indian Ocean as part of a larger propaganda campaign directed mainly at Third World audiences and designed to rationalize their own naval presence, while casting the U.S. military presence in a negative light.[14]

In fact, the Soviet Navy in the Indian Ocean does not perform, nor is it configured to perform, ASW missions. No deep-water ASW exercises have been carried out by the Soviet Navy in the Indian Ocean. And the ships that comprise the Indian Ocean Squadron are general purpose forces, not those used by the Soviets when they do engage in ASW exercises closer to home waters.[15] Although the Soviets have replaced the combatants comprising their Indian Ocean Squadron with more modern ships, possessing better ASW capabilities, they have yet to conduct open-ocean ASW operations in the Indian Ocean. Another indication that the Soviets do not practice deep-water ASW operations in the Indian Ocean is their employment of shorter range Il-38 May ASW planes for surveillance against Western "hunter-killer" submarines and general reconnaissance missions. If the Soviets were to practice open-ocean ASW surveillance, they would presumably replace these planes with their longer range Tu-142 Bear-F ASW planes. Thus, none of the peacetime activities of the Soviet Indian Ocean Squadron suggest that it has an ASW mission.

To sum up, all that can be said is that the Soviet Indian Ocean Squadron does not possess clearly defined anti-SLOC or anti-ASW missions, the roles which are often attributed to it. In fact, the squadron's wartime role remains

unclear. What is more certain is that the squadron is not a highly combat-capable force. Even with the active assistance of local client states,[16] it would be exposed and vulnerable to Western attack and would not likely be able to survive the outbreak of hostilities for very long.

If the Soviet Indian Ocean Squadron appears to be less of a threat than many have assumed, then it follows that the value of the shore-based facilities which have supported the squadron should be similarly discounted. This is not to deny the importance of the logistics and maintenance support these facilities provide in peacetime. The use of these facilities has enabled the Soviets to double the length of their combatant deployments in the Indian Ocean, permitting them to meet their force requirements with a smaller inventory of ships, thereby reducing operating costs as well as freeing units for other assignments. The availability of shore-based support has also allowed the Soviets to employ older, less-capable surface combatants, such as the Petya-class frigates, hence extending their useful service beyond the point at which they would normally be scrapped or exported.

The Soviets also operated a long-range high-frequency communications station at Berbera until 1977, and at Aden since then. The communications station has been used to relay messages between the U.S.S.R. and Soviet naval forces deployed forward.[17] It is also conceivable that the Soviets have used their land and sea-based assets to intercept military communications of Western military forces.

It is also significant that the Soviets have used airfields in the region to stage routine surveillance flights, mainly by Il-38 May ASW planes and, on rare occasion, by long-range Tu-95 Bear-D reconnaissance aircraft (e.g., from Somalia's Dafet airfield in 1976).[18]

The military importance of Soviet naval support facilities in the region, moreover, is not limited to their role in peacetime. We know that in developing an infrastructure at Berbera in the 1970s, Moscow built in certain capabilities designed to support Soviet air combat operations, even though no Soviet strike aircraft were ever deployed there. The so-called "missile-handling and storage" facility that they built at Berbera was capable of handling a wide range of air and sea-launched conventional tactical missiles as well as other ordnance far more sophisticated than those the Somalis had or were ever likely to receive.[19] The ordnance storage facility's proximity to both the large airfield then under construction and the port suggests its potential use for both naval combatants and bomber aircraft.

What contingencies the Soviets had in mind when they built into their support infrastructure at Berbera the capability to support strike aircraft remains a mystery. At the time, no conceivable regional scenario would have justified their use. Moreover, with the rudimentary air defense capabilities the Soviets had installed at Berbera (i.e., a few SA-2 and SA-3 missiles), any Soviet aircraft stationed there would have been vulnerable to attack. In a

previous paper, I have speculated that the Soviets might have been preparing for contingent use of Berbera to stage an attack with their older and less valuable Tu-16 Badger-G bombers against the Sixth Fleet in the Eastern Mediterranean.[20] But it is just as likely that they had no specific scenario in mind and simply replicated an existing storage facility in the U.S.S.R. without anticipating the negative publicity the facility's public exposure later garnered as a result of the U.S. Defense Department's disclosures in June 1975.

If the construction of the ordnance facility at Berbera was ill-considered, then the Soviets appear to have learned their lesson. Since their expulsion from Berbera, they have not built comparable ordnance storage facilities elsewhere in the region or, for that matter, in the Third World.

The military benefits the Soviets have derived from their facilities in the region appear to be rather modest. Their limited needs for naval access, nevertheless, appear to have impelled them to make military aid commitments that they might have preferred to avoid, hence distorting their policy in the region. In the early 1970s, when they decided to buy access to Somali facilities with modern weapons, they ignored the warnings of their specialists about the dangers of dealing with an irredentist regime.[21] They seem to have taken a calculated risk that a strong U.S.-backed Ethiopia would deter any Somali military adventures. The 1974 Ethiopian revolution, which eventually altered the military balance on the Horn, took them by surprise. Even in the mid-1970s, when the unstable situation in Ethiopia aroused Somali nationalism, the Soviets did not temper their military aid for Somalia. Rather, they increased it in exchange for additional access privileges, while securing Somalia's pledge, written into their 1974 friendship treaty, to use that aid for "defensive purposes" only. Without the need for naval access the Soviets would never have aligned themselves so closely with what the rest of Africa regarded as a "pariah" state. Had the Soviets not furnished Somalia with the wherewithal to fight a major war, at a minimum, the scale of the conflict would have been far smaller and, at best, the war might have been avoided altogether.

The Soviets have learned from their Somali experience about the impermanence of Third World friendships. They have, therefore, built "down" their naval support infrastructure in Ethiopia's Dahlak islands, which replaced Berbera as the Soviet Navy's principal Indian Ocean logistic and maintenance base. The Dahlak complex contains easily movable equipment, such as the same 8,500-ton floating drydock they had previously stationed at Berbera, floating piers, water and fuel storage tanks.[22] In addition, once the Soviets deploy the TAG-D, the new large sea plane they are developing as a replacement for the Il-38 May ASW planes, they will no longer need to use local airfields to stage maritime reconnaissance flights.[23]

In the current situation, with Eritrean rebels on the verge of victory over the remaining Ethiopian forces in Eritrea, now beseiged in Asmara, the

Soviets may be thinking about abandoning the Dahlaks altogether. If the Soviets relinquish their access privileges in Ethiopia, they would have to rely exclusively on the naval and air facilities in Yemen to support their Indian Ocean Squadron.[24]

Some indication about the future direction of Soviet policy regarding their own naval access may be gleaned from a recent Soviet article, published in the journal of the Soviet Ministry of Foreign Affairs, in which the author expressed interest in reducing the needs for shore-based facilities as much as possible through technological developments (e.g. replacing long-range communications stations with satellites) and seeking to satisfy remaining needs for shore-based support on a commercial basis.[25] Should the Soviets succeed in establishing such a commercial relationship with Yemen, it would virtually eliminate their need for the Dahlak installation. A commercial arrangement should also be far less troublesome than one based on the barter of access privileges for military aid, such as the "arms for access" relationship with Somalia, which distorted Soviet policy in the region in the 1970s.

Until the recent crisis in the Gulf, it appeared that the Soviets were reducing their naval presence in the area and their needs for local shore-based support as well. This was consistent with the general tenets of Gorbachev's policy, which has discounted the role of military power in foreign policy and sought to curtail foreign military presence overseas. In fact, the low profile maintained by the Soviet Indian Ocean Squadron following an Eritrean attack on a Soviet tanker in Ethiopian territorial waters in early May suggests that "gunboat diplomacy" is clearly out of favor in Moscow.

Rather than rely on its own military power to protect its interests in the region, the Soviets appear to prefer international guarantees for freedom of navigation. Indeed, a Soviet commentator, writing in the journal of the influential Institute of World Economy and International Relations, recently called for a demilitarization of the region, including the curtailment of arms deliveries from all sources, the withdrawal of foreign military personnel, and the liquidation of foreign military bases, as well as the elaboration of a system of international security which would protect peaceful navigation.[26]

The current crisis in the Gulf has obviously dealt a blow to this desired Soviet scenario. Instead of anticipated reductions of the U.S. and Soviet military presence in the area, Iraqi aggression has precipitated a massive deployment of U.S. military power. Depending on how the current crisis is resolved, the U.S. Navy is likely to maintain a carrier group in the northern Arabian Sea for a long time to come. U.S. naval power will probably be considered to be an indispensable component of any future plan for collective security in the Gulf region once the Iraqis leave or are expelled from Kuwait, and the immediate crisis is resolved. A strong U.S. military presence this close to the Soviet homeland has been and will likely continue to be a cause for Soviet concern.

Although the Soviets thus far have declined to participate in the international military buildup in the region, there is mounting internal and external pressure for them to do so under a U.N. flag.[27] Should the Soviets participate, it would serve a dual purpose of their standing with the world community against a blatant act of aggression, perpetrated with their own military aid, while at the same time keeping U.S. military forces in the region under surveillance. An enlarged Soviet naval presence would also underline the continued Soviet need for local support facilities. In this event, the Soviets might have to depend on the Dahlak facilities, since their military access to facilities in Yemen may be doubtful due to Yemen's sympathy for Iraq in the current crisis.

But even if the Soviets decide not to participate militarily in the current crisis, Iraq's unexpected aggression undoubtedly has drawn their attention to the dangers in the area which threaten vital global interests. This, in turn, may lead to a more positive Soviet reassessment of the potential contribution that their military power may make towards safeguarding international security.

U.S. Interests

U.S. strategic interests in the region basically center on two objectives: 1) the use of facilities ashore to support U.S. military operations in the Southwest Asia-Indian Ocean area in peacetime and in wartime contingencies; and 2) freedom of international navigation through the Red Sea/Bab el-Mandeb. Of the two, the military role of the Horn of Africa has received far greater attention and is of greater salience.

Historically, military objectives have always been a major factor in U.S. involvement in the region. For over two decades the United States operated the Kagnew military communications station at Asmara. Although it once played an important role in the worldwide U.S. military communications system, by the early 1970s it had been rendered technologically obsolete by satellite communications as well as the development of what was then an "austere" naval communications station at Diego Garcia. Shortly before the Ogaden War, the United States closed Kagnew station, hence removing an important underpinning of the U.S. presence in the region. With the cessation of the 25-year-old U.S. military assistance program in Ethiopia in 1977, U.S. dealings with the new Mengistu government rapidly unravelled, and they have since remained minimal.

With the abrogation of the Soviet-Somali friendship treaty in November 1977 and the withdrawal of Somali regular forces from the Ogaden in February-March 1978, a new phase in U.S. policy in the region, centered on Somalia, began. Although discussions about military aid to Somalia began in 1978, it was the collapse of the Shah of Iran's authority and the Soviet

intervention in Afghanistan in 1979 which gave impetus to the development of a military relationship, codified in the 1980 U.S.-Somalia security assistance agreement. It provided for $65 million worth of U.S. military credits and grants to be used in defense of Somalia's territorial integrity.[28] The agreement also provided for the development and use by U.S. armed forces of naval and air facilities at Berbera and Mogadishu. As of 1985, the U.S. government had appropriated $54 million for improvements of the airfields and port facilities at these locations, as well as the addition of POL storage and distribution facilities at Berbera.[29]

This amount was five times less than what the United States spent on developing facilities in Oman, a ratio that reflects the far greater importance of that country in U.S. military preparations for Southwest Asian contingencies.[30] Until the Iraq-Kuwait crisis, Somalia played a limited role, primarily in support of reconnaissance and logistic flights. Some of the flights staging from Berbera entailed surveillance of Soviet naval units in the area. On occasion, the United States used Djibouti's airfield for such purposes. U.S. aircraft were also permitted to use open Somali territory to practice low-level bombing runs. The value of port facilities for crew rest was extremely limited, given the poverty of the country, the lack of attractions and amenities, and the spread of disease. Even before U.S.-Somali relations became strained over the genocidal fighting in northern Somalia, it was often difficult to schedule liberty visits, due, in part, to the reluctance of sailors to go ashore.

Before the current Gulf crisis, Berbera's potential role in supporting wartime contingencies was considered to be far more important than its peacetime utility. Somalia agreed to permit the United States to store war materiel at Berbera, which in the event of a wartime crisis could have been used as a major staging area to join deployed U.S. combat forces with their supplies. Berbera was not the first choice for this role, since it is located relatively far away from the expected locations of disembarkation in the upper Persian Gulf. However, the reluctance of other countries, such as Egypt and the Sudan, to permit the storage of U.S. materiel on satisfactory terms meant that the United States found itself with no practical alternative to Berbera. Largely by default, therefore, the storage, airfield and port facilities at Berbera were deemed to be important.

The willingness of the Arab Gulf states to support the massive buildup of U.S. forces in the region during the current Gulf crisis has obviated the need for the Somali facilities. Indeed, there is no indication that the United States has made extensive use of the Somali facilities during this crisis, even in support of naval embargo operations in the Red Sea-Gulf of Aden area.

Even if the U.S. government had some current operational need to use the Somali facilities, it might well decline to employ them because of the civil war and incipient political chaos in Somalia. The Issa-based Somali National Movement has recently targeted Berbera, which has served as a staging area

for the Somali government's military campaigns in the north. This has placed U.S. employment of the facilities at Berbera at risk. It is worth noting that in the past it has been very difficult to disassociate routine U.S. military support activities in Somalia from the Siad Barre regime's genocidal punitive campaigns against the Issa tribe in northern Somalia. For example, the repair of U.S.-used military communications links from Mogadishu to the northern administrative center of Hargeisa in mid-1988 was regarded, rightly or wrongly, as assisting the Somali army's military campaign raging in northern Somalia at the time.

For the time being, U.S.-Somalia military cooperation has been suspended. In response to the Somali government's repugnant policies, the U.S. government has stopped supplying military aid and apparently suspended military support activities at Berbera as well. Given the current political situation in the country, the U.S. Congress would probably find it most difficult to renew the U.S.-Somali security assistance agreement. However, the treaty may remain in force beyond its expiration date even if neither side formally requests its renewal. Given the present strains in U.S.-Somali relations, inaction on renewing the treaty may be the only way it will survive.

The United States is also committed to safeguarding freedom of navigation through international straits, such as the Bab el-Mandeb. It participated in multinational mine-clearing operations in the Gulf of Suez in 1974 and in the Red Sea a decade later, following the apparent mining of the area by a Libyan cargo vessel.[31] Moreover, the United States has made a formal commitment to the protection of Israeli passage through and over the Red Sea and Bab el-Mandeb. The 1975 memorandum of agreement between the governments of Israel and the United States stipulates: "In accordance with the principle of freedom of navigation on the high seas and free and unimpeded passage through and over straits connecting international waters, the United States Government regards the Straits of the Bab el-Mandeb and the Strait of Gibraltar as international waterways. It will support Israel's right to free and unimpeded passage through such straits and will support diplomatically the exercise of that right."[32] This agreement was signed in the course of the disengagement negotiations following the October 1973 War in which Egyptian warships prevented Israeli shipping from passing through the Bab el-Mandeb. According to one legal scholar, this formulation insuring Israel's free passage through and over the Bab el-Mandeb is broader than the concept of "transit passage" stipulated in the Draft Convention of the Third U.N. Law of the Sea Conference.[33] It hence raises the prospect that the United States could find itself one day internationally isolated in supporting future Israeli military actions in and over the Bab el-Mandeb. This is an exceedingly remote possibility, however, as the following discussion of Israeli interests in the region should make clear.

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Israeli Interests

Israel's strategic interests in the region focus on freedom of navigation through the Red Sea and the Bab el-Mandeb. Although 90 percent of Israel's maritime trade is handled by its Mediterranean ports, the Red Sea route is important nonetheless. At one time most of Israel's oil imports arrived from Iran via this waterway. But after the fall of the Shah, the Islamic government in Teheran cut off regular oil supplies. Thereafter, Israel decided to diversify its sources of oil so that no more than one-quarter of its imports would come from any single source. (Egypt supplies approximately one quarter of Israel's oil imports.)[34] Israel also decided to rely more heavily on coal imports from South Africa and Australia to satisfy its energy requirements. These coal deliveries as well as other raw material imports reach Israel via the Bab el-Mandeb.

Israeli shipping through the Bab el-Mandeb has faced several threats in the past. In 1971 a 30,000-ton Liberian tanker, the *Coral Sea*, chartered by Israel and carrying oil for Eilat, was fired upon, but not sunk, by a group of terrorists from a launch operating from South Yemen's Perim island. (The PFLP took credit for the attack.) This incident may have been intended to demonstrate that Israeli access to the Red Sea and Indian Ocean depended on more than their control of Sharm el-Sheikh and the Strait of Tiran, which was then a disputed issue. During the October 1973 War the Arabs once again tried to take advantage of Israel's vulnerability by conducting an Egyptian naval blockade at the Bab el-Mandeb. The blockade was lifted by December 1973 without Israel ever trying to challenge it.[35] However, this blockade proved to be effective, for by the end of the war Israel's oil stocks were badly depleted. Israel's pressing need for oil was indicated by Israeli Prime Minister Golda Meir's insistence on lifting the blockade as a primary condition for any relief of Israeli pressure on the encircled Egyptian Third Army.[36]

Partly to reduce her vulnerability to another Arab blockade, Israel decided to develop air tankers to extend the range of its fighters. The introduction of the long-range *Reshef*-class missile boats means that the Bab el-Mandeb is now within reach of Israeli sea and air power. No further challenge specifically to Israeli shipping through the Bab el-Mandeb has been mounted,[37] which is probably due as much to the changed diplomatic situation in the Middle East following the October 1973 War as to the emergence of Israel's long-range military capabilities and the 1975 U.S. guarantee of Israel's freedom of navigation through the Bab el-Mandeb.

It may be added that even Israel's adversary in the region, the PDRY, modified its position on international navigation through the Bab el-Mandeb in a way that could be objectively interpreted as being more accommodating to Israeli interests, although this was probably not the PDRY's intention. The initially restrictive PDRY position was articulated at the 1974 Law of the

Sea Conference. The PDRY representative stated that the PDRY's territorial sea extended to the Bab el-Mandeb and that the right of innocent passage through the Bab el-Mandeb applied only to civilian commercial vessels, not to foreign warships, which should require prior authorization by the PDRY.[38] The air space over the Bab el-Mandeb was also regarded as part of the PDRY's territorial sea and under its exclusive jurisdiction. In 1978, however, the PDRY enunciated a more liberal policy on this issue: "Being well aware of the great importance of the Strait of the Bab el-Mandeb to all peoples and States of the world as an international waterway which has long been used for international navigation, and of its important strategic location as a link between the international traffic lines, and believing in the importance of keeping international navigation through this vital strait free for the benefit of the peoples and States of the area in particular and the international community in general, the Government of the People's Democratic Republic of Yemen confirms its respect for the freedom of navigation of maritime and air traffic of ships and aircraft of all coastal and non-coastal States, without prejudice to the sovereignty, integrity, security and independence of the Republic."[39] Although it seems probable that this policy shift was designed mainly to accommodate Soviet airlifts and shipments of supplies and Cuban military personnel to Ethiopia during the Ogaden War, its wording applies to all states, presumably including Israel as well. Hence, it removed a potential source of friction between Israel and the PDRY, even before the latter's recent merger with the more moderate Yemen Arab Republic. So far, the unification of the Yemens has not threatened the security of Israel's navigation through the Bab el-Mandeb.

On balance, then, it would appear that the threats to Israeli shipping through the Bab el-Mandeb were not serious in the past, and even less so today. Nor, for that matter, is this waterway as important to Israel as it once was when it relied heavily on imports of oil from Iran.

French Interests

Like other West European states, France has a strong interest in freedom of navigation along the sea routes surrounding the Horn of Africa. According to some estimates, roughly 70 percent of the Persian Gulf oil that is earmarked for Western Europe is shipped along these waterways through the Bab el-Mandeb and around the Cape of Good Hope.[40]

In the past, moreover, France had been heavily dependent on the imports of oil from the Persian Gulf. By 1978, France's imports of Persian Gulf oil accounted for 44 percent of its total energy consumption, and 70 percent of its oil imports.[41] This meant that France relied on Persian Gulf oil to meet its energy requirements more than any other West European country. However, this energy dependence declined markedly as a result of France's

nuclear energy program expansion and its diversification of the sources of crude oil supplies in the 1980s. Imports from the Gulf region averaged only one-third of France's total imports of crude oil for the years 1986 through 1988.[42] Furthermore, by 1986 oil imports accounted for only 42.6 percent of France's energy requirements.[43] This meant that by the late 1980s Persian Gulf oil met roughly 16 percent of France's total energy requirements. In addition, as increasing use has been made of the oil pipelines from the Gulf region to terminals along Saudi Arabia's Red Sea coast and the Mediterranean coasts of Turkey and Syria, the proportion of Gulf oil reaching France and other West European countries via the sea lanes adjacent the Horn of Africa has declined commensurately.

Despite the declining importance of the Bab el-Mandeb as a conduit for France's oil supplies, this strait remains important, since it lies astride the fastest route to French territories in the Indian Ocean and the Western Pacific.

Threats to French shipping through the Bab el-Mandeb have remained minimal. In one incident in 1972, a French destroyer en route goodwill visits to Arab ports in the region was shelled from Perim island.[44] No other incidents have been reported.

Through its military presence at Djibouti, France has the ability to respond more rapidly to threats in the Bab el-Mandeb than any other state. The French Indian Ocean Squadron is normally based in Reunion, but often visits Djibouti. It usually includes 12 combatants and an aircraft carrier.[45] In addition, the French garrison at Djibouti numbers 4,500 troops, supported by a squadron of 12 fighters. This concentration of French military power near the Bab el-Mandeb is probably more than enough to counter any likely threats to the latter's security.

The French military presence in Djibouti, moreover, appears to be secure, for without it, Djibouti would probably cease to exist as an independent state. Indeed, when Djibouti gained independence in 1977, it was widely assumed that without the retention of a French military garrison, Djibouti would become engulfed in a war between Somalia and Ethiopia, which have conflicting interests in that country.[46] Also, with a population of only 400,000, Djibouti is heavily dependent on French budgetary and technical assistance. In fact, over 60 percent of Djibouti's teachers are French citizens. There are over 10,000 French citizens, including 6,300 military personnel and their dependents, residing in Djibouti.[47] Djibouti and its sizeable French presence could indeed be considered a separate French interest in itself.

Egyptian Interests

As the proprietor of the Suez Canal, Egypt obviously has a major stake, no less significant than the major users of these waterways, in the freedom of international navigation through the Red Sea and Bab el-Mandeb. In

addition, Egypt has a unique interest in the Horn of Africa, since over 80 percent of the waters of its Nile river lifeblood originate in the Ethiopian highlands.

Historically, the Egyptians and their British rulers before them took an active interest in ensuring that the headwaters of the Blue Nile would not be diverted, although many have interpreted this interest as a pretext for interference in the internal affairs of Ethiopia. Protocols regarding the free flow of these waters were signed between Britain and the Ethiopian Emperor Menelik II in 1902, and again in 1925 between Britain and Italy, as part of an agreement delineating their respective spheres of economic influence in independent Ethiopia.[48] The Egyptians have also expressed concern about Marxist Ethiopia's policies in this regard. In May 1978, soon after the Soviets and Cubans had helped Ethiopia's newly installed Marxist military regime, led by Lieutenant Colonel Mengistu Haile Mariam, to rout the Somali armed forces in the Ogaden, Sadat warned: ". . . we depend upon the Nile 100 percent in our life, so if anyone, at any moment thinks to deprive us of our life we shall never hesitate [to go to war] because it is a matter of life or death."[49] Fears about a potential Ethiopian threat to the Nile may have induced Egyptian leaders to support Somalia and the Eritrean insurgency.

In reality, neither the Mengistu government nor its predecessors have undertaken any projects which would have diverted the waters of the Blue Nile. There have been surveys of the tributaries of the Blue Nile conducted with U.S. assistance between 1957 and 1964, which recommended water storage, hydroelectric power generation and irrigation projects, but apparently none of these projects were ever implemented.[50] In the 1970s Ethiopian irrigation experts assumed that their agricultural water needs from the Blue Nile and the Atbara river (which flows into the Nile in the Sudan) would reach 4 billion cubic meters per year. And how the droughts of the 1980 may have altered these estimates is difficult to ascerrain. Although the possibility of a unilateral Ethiopian initiative in this area cannot be ruled out,[51] it is more probable that any project to develop the water resources of the Upper Nile basin would be worked out in consultation and coordination with the riparian states involved.

Even without the initiation of any major Ethiopian water projects, the flow of Nile water to Egypt has undoubtedly diminished as a result of the droughts in Ethiopia and the Sudan in recent years, a natural calamity which Egypt can do virtually nothing about. Through its own conservation efforts Egypt can do far more to control the adequacy of its water supply.

Saudi Arabian Interests

As a major oil exporter and importer of goods from Western Europe and the United States, Saudi Arabia obviously has a stake in freedom of navigation

through the Bab el-Mandeb. As noted above, the development and expansion of the oil pipeline to Yanbu' has reduced the importance of this waterway. By the mid-1990s over half of Saudi Arabia's crude oil production could be exported via the Red Sea, thus bypassing the Bab el-Mandeb entirely. Although Saudi Arabia's economic stake in this strait may be waning, its political interest in the Horn of Africa has so far remained strong.

For two decades Saudi Arabia has sought to eliminate the Soviet presence on both sides of the Bab el-Mandeb. The Saudis considered both the Soviets and their Marxist-oriented client states in the region as a threat to Islam as well as to their own and other conservative Arab monarchies in the Gulf. They also feared that the unification of the Yemens under a radical leftist regime would pose a direct threat to the Saudi political and social systems.

In the Horn of Africa the Saudis encouraged Somalia to expel the Soviets in the 1970s, and later supported the Eritrean rebels (despite the fact that the EPLF, the main fighting force, is Marxist-oriented), mainly because it weakened Ethiopia's Marxist regime. Although the Saudi position regarding Eritrean independence remains ambiguous, they had earlier supported the scheme of turning the Red Sea into an Arab Lake, which envisions an independent, Arab-oriented Eritrea.

While the Saudis continue to regard the Mengistu regime with hostility, they have reconciled themselves with the Soviet Union as a result of *perestroika* and recent Soviet cooperation in the Gulf crisis. The normalization of Soviet-Saudi relations should facilitate coordination of their respective policies in the region, which might help to remove elements of confrontation and hostility that have so far plagued the countries on both sides of Bab el-Mandeb. The summary table identifies the discrete strategic interests of the external states reviewed, and I have attempted to assign values that these states might currently place on these interests as well as to estimate how those values may have changed over time. In addition, I have tried to evaluate the significance of the vulnerability of these interests to threats, and how the importance of these threats may have changed.

As the table indicates, freedom of navigation through the Bab el-Mandeb remains important to all the states reviewed, although the reasons for its importance vary (e.g., the viability of the southern sea route for the U.S.S.R., oil shipping for France, etc.) In addition, the United States and Saudi Arabia have less directly at stake in this issue than the other states. Nevertheless, as a superpower adhering to the principle of freedom of navigation through international straits and having pledged to support Israel's exercise of this right in the Bab el-Mandeb, the U.S. commitment to freedom of navigation through the Bab el-Mandeb remains strong. What has changed is the economic importance of this waterway, which has declined mainly because of the development and expansion of oil pipelines and terminals bypassing the Strait of Hormuz and the Bab el-Mandeb.

Strategic Importance of the Bab el-Mandeb and Horn of Africa to External States

Country	Strategic Interest		Current Value	Apparent Change	Current Threat/ Vulnerability	Apparent Change
U.S.S.R.	Freedom of Navigation		High	None	Low	Decline
	Naval Support Facilities	1. Peace	High	Decline	Moderate	Increase
		2. War	Low	Decline	High	Increase
U.S.	Freedom of Navigation		Moderate	None	Low	Decrease
	Military Support Facilities	1. Peace	Low	None	Moderate	Increase
		2. War	Low	Decline	Moderate	Increase
Israel	Freedom of Navigation		High	Decline	Low	Decline
France	Freedom of Navigation		High	Decline	Low	Decline
Egypt	Freedom of Navigation		High	None	Low	None
	Flow of Nile Tributaries		High	None	Moderate	Increase
Saudi Arabia	Freedom of Navigation		Moderate	Decline	Low	Decrease
	Marxist-Free Region		High	Decline	Low	Decrease

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On balance, the strategic importance of the Bab el-Mandeb and the Horn of Africa seems to be declining and the threats to these interests may be less serious than many observers earlier assumed. The economic importance of the Bab el-Mandeb as an oil shipping lane has declined with the development and expansion of oil pipelines along the Red Sea coast which bypass this strait.

So far, the threats to maritime traffic through these waters do not appear to have been very impressive. The worst incident was the 1984 mining of the Red Sea, which involved 190 mines, evidently recent Soviet export versions.[52] Although these mines damaged, but did not sink, 19 ships of 15 different nations, the mines were soon cleared by 26 ships from six different states. After dropping to a low of 42 ships per day in early August, maritime traffic returned to normal (about 60 ships per day) within one month of the mining. The voyage of only one ship was cancelled as a result of the mining. Given the limited amount of damage, especially in comparison with the simultaneous destruction of tankers during the "tanker war" in the Gulf, Lloyd's of London never bothered to raise its insurance rates for ships transiting the Red Sea. At worst, the mining incident was a nuisance, not a crippling blow to international navigation.

Whether the Soviets or their allies would mine these waters in wartime, much less how effective the mining would be, remains highly speculative. As indicated above, if the Soviets would opt to expend their combat forces in the region, they probably have higher priority objectives to target, such as Western combat forces, military facilities, oil pipelines and terminals. And even if they did mine the straits, it would probably not be very effective. Gulf oil can now reach the West through far more diverse routes than in the past. Moreover, during the initial phase of a global war, the West would probably depend on more secure sources of oil (e.g., in the United States, Canada, Alaska, Latin America and Nigeria) located closer to refineries in the United States and Europe. (This scenario assumes, of course, that the Soviets are still capable of fighting a protracted general war, an assumption which appears to be increasingly unwarranted in light of the momentous changes that have taken place recently in the Soviet Union and Eastern Europe.)

The military support facilities used by the Soviet Union in Ethiopia, and the United States in Somalia, represent another strategic interest, but their importance to the superpowers seems to be declining. A comparison of the rudimentary and movable installations the Soviets built in the Dahlaks with the far more elaborate ones they abandoned at Berbera points to the declining operational and political significance of naval support facilities in the region for the U.S.S.R. In addition, the rebel victories in Eritrea have jeopardized Soviet use of the Dahlak facilities. Local insurgency in northern Somalia has also complicated U.S. military support operations at Berbera.

Thus far, the Iraq-Kuwait crisis has not increased the value of these support facilities for either superpower. Support from the Arab states of the Gulf has apparently obviated the United States' need for the Somalia facilities. So far, the Soviets have not agreed to participate in the international military embargo of Iraq, and hence have not needed additional local support.

However, if the Soviets eventually decide to contribute their naval forces for this purpose, they might have to rely on support from the Dahlak island installation, since access to facilities elsewhere (e.g. Yemen) would be doubtful. Indeed, it is possible that the current Soviet difficulties in retaining access privileges in Ethiopia and Yemen might be restraining Moscow from making such a military commitment.

It should be noted that other states have found military support facilities in the Horn of Africa useful during the current crisis. The French aircraft carrier *Clemenceau* stopped over at Djibouti on its way to the Gulf.[53]

Given the uncertainties inherent in the current crisis, it would be imprudent to speculate about how the Horn of Africa and the Bab el-Mandeb might factor into the protagonists' near and longer term military plans. It is simply too early to tell whether the Iraq-Kuwait crisis has given the region a new strategic importance. Nevertheless, it is worth bearing in mind that the region's strategic significance has long been viewed in connection to its proximity to the Persian Gulf. It would not be surprising, therefore, if the current Gulf crisis eventually brought about a renewed external interest in the Horn of Africa.

Notes

1. From Odessa to Vladivostok it is 11,000 nautical miles by sea through the Suez Canal-Red Sea and 17,000 miles around the Cape route. At an average speed of 14 knots, it takes 32 days by the shorter route through the Suez Canal and 50 days by the longer route to make this voyage. The time saved in using the Suez Canal is greater for the Soviet Union than for any other European state.

2. See James T. Westwood "Soviet Maritime Strategy and Transportation," *Naval War College Review*, November-December 1985, p. 47.

3. Compare Suez Canal Authority *Suez Canal Reports* for 1981 and 1987.

4. See Admiral Sergei Gorshkov *Morskaia moshch' gosudarstva* [Sea Power of the State] (Moscow: Voenizdat, 1976), p. 152.

5. For further detail, see Lt. Cmdr. Charles T. Creekman, Jr. USN, "Sino-Soviet Competition in the Yemens," *Naval War College Review*, July-August 1979, pp. 79-83, and the author's "The Soviet-Somali 'Arms for Access' Relationship," *Soviet Union*, vol. X, part 1, 1983, pp. 59-81.

6. It is worth noting that the 1979 Soviet treaty with the PDRY is the only treaty the Soviets have signed with a Third World state which contains a thinly veiled anti-Chinese reference. Article seven calls "for the elimination from the practice of international relations of any manifestation of the policy of hegemonism and expansionism." See *Pravda*, 26 October 1989. Salem Rubayyi Ali, the PDRY President deposed and executed in a July 1978 coup, was widely regarded as being pro-Chinese.

7. See Tripoli JANA in Arabic, 17 February 1989; translated in Foreign Broadcast Information Service *Africa Report*, 21 February 1989, p. 4.

8. See the interview with the Soviet Navy Commander-in-Chief Admiral Chernavin in "Flot—rodom iz Oktiabria," [The Navy: Born of October] *Voennyi vestnik*, February 1988, p. 19. In a similar vein, an authoritative Soviet book on the navy favors forward deployments of warships so that they could be ready "to use their weapons quickly when war starts." See Rear Admiral Nikolai P. V'iunenko, Captain First Rank Boris N. Makeev and Captain First Rank Valentin D. Skugarev, *Voenno-morskoi flot: rol', perspektivy*,

razvitiia, ispol'zovanie [The Navy: Its role, Prospects, Developments, and Uses] (Moscow: Voennoe izdatel'stvo, 1988), p. 237; as cited in Norman Cigar "The Navy's Battle of the Budget: Soviet Style, *Naval War College Review*," Spring 1990, pp. 6-30.

9. For further discussion of this contingency, see the author's "Soviet Strategic Military Interests in Africa in the 1980s," *Final Report* (Carlisle Barracks, Pa: U.S. Army College Strategic Studies Institute, 1986), pp. 6ff.

10. See Ruth Lapidoth-Eschelbacher *The Red Sea and the Gulf of Aden* (The Hague: Martinus Nijhoff, 1982), p. 132.

11. The 48-inch pipeline to Yanbu' was completed in 1981. In the late 1980s its throughput capacity was expanded from 1.85 million barrels per day to 3.2 mbd. There are plans to raise its capacity even further to 4.8 mbd and to create an underground reserve of 1.5 billion barrels near Yanbu'. See Roberto Aliboni, *The Red Sea Region* (Syracuse, N.Y.: Syracuse Univ. Press, 1985), p. 77. Iraq is also developing a 1.65 mbd pipeline to a terminal 30 miles south of Yanbu'. See Paul McDonald "Red Sea: The Middle East's Next Troublespot?" *World Today*, May 1988, pp. 76-77. To accommodate the Red Sea oil flow, Egypt has decided to expand its Sumed pipeline, which carries oil from the Gulf of Suez to the Mediterranean, from 1.9 mbd to 2.3 mbd of throughput, as well as to widen the Suez Canal to handle supertankers up to 270,000 dwt.

12. See Geoffrey Jukes, *The Indian Ocean in Soviet Naval Policy*, Adelphi Paper No. 87 (London: International Institute of Strategic Studies, 1972).

13. The point was made in James M. McConnell "The Soviet Navy in the Indian Ocean," in *Soviet Naval Developments: Capability and Context*, ed. Michael McGwire (New York: Praeger 1973), pp. 389-406.

14. See, for example, I. Lebedev "Indiiskii okean-zona mira ili konfrontatsii?" [The Indian Ocean—Zone of Peace or Confrontation?], *Mirovaia ekonomika i mezhdunarodnye otnosheniia*, No. 8, 1985, p. 91. Interestingly, an article on the Indian Ocean published in the professional journal of the Soviet Navy, *Morskoi sbornik*, does not refer to a U.S. SSBN threat, but rather to USAF B-52s operating out of Diego Garcia as a strategic threat to the U.S.S.R. from a southern azimuth. See Captain (First Rank) M. Ovanesov, "K voprosu o voenno-politicheskoi obstanovka v Indiiskom okeane," [On the Question of the Military-Political Situation in the Indian Ocean], *Morskoi sbornik*, No. 1, 1985, p. 25.

15. For further detail, see the author's "The Soviet Naval Presence in the Indian Ocean and Western Security," in *US Strategic Interests in the Gulf Region*, ed. W.J. Olson (Boulder, Colo.: Westview Press, 1987), pp. 83-105.

16. South Yemen's air defense capabilities include SA-2, 3, 6, 7, and 9 missiles, and Mig-21 and Su-20 fighter aircraft. Ethiopia's air defenses feature SA-2 and SA-3 missile batteries and Mig-21 fighters. Ethiopia's naval capabilities are more impressive than those of the PDRY. They include several Osa-II missile boats, two Turya-class hydrofoils, and two Petya-class frigates. See the data contained in *The Military Balance 1989-90* (London: International Institute of Strategic Studies, 1989).

17. See U.S. Congress, Senate Committee on Armed Services, *Disapprove Construction Projects on the Island of Diego Garcia*, Hearings, 94th Congress, 1st Session, 10 June 1975; and U.S. Dept. of Defense, *Soviet Military Power*, 4th ed. (Washington: U.S. Govt. Print. Off., 1985), p. 128.

18. Bear-Ds are also capable of providing targeting data for sea-launched cruise missiles—a valuable asset in peacetime naval exercises as well as in wartime, should, of course, the Bear-Ds survive long enough to be able to transmit the data.

19. See *Disapprove Construction Projects on the Island of Diego Garcia*, *op. cit.* p. 7; and U.S. Congress *Soviet Military Capability in Berbera, Somalia*. Report of Senator Bartlett to the Committee on Armed Services (Washington: U.S. Govt. Print. Off., 1975).

20. See the author's "Soviet Strategic Military Interests in Africa in the 1980s," *op. cit.*, p. 8.

21. See Ia. Ia. Etinger, *Mezhdugosudarstvennye otnosheniia v Afrike* [Interstate Relations in Africa] (Moscow: Nauka, 1972), pp. 71-84.

22. See U.S. Dept. of Defense, *Soviet Military Power*, 4th ed. (Washington: U.S. Govt. Print. Off., 1985), p. 123. Dahlak services about 70 Soviet naval ships per year. Since April 1983, ships from the Soviet Mediterranean Squadron have also called at Dahlak for repairs and maintenance. See U.S. Dept. of the Navy, *Understanding Soviet Naval Developments*, 5th ed. (Washington: U.S. Govt. Print. Off., 1985), p. 10.

23. See *Statement of Rear Admiral Thomas A. Brooks, U.S. Navy Director of Naval Intelligence*, before the Seapower, Strategic, and Critical Materials Subcommittee of the House Armed Services Committee on Intelligence Issues, 22 February 1989, p. 25. The Soviets appear to have shifted all of their naval reconnaissance flights to Aden since two Il-38 May ASW planes were destroyed by EPLF guerrillas at Asmara airfield in 1984. See U.S. Dept. of Defense, *Soviet Military Power*, 4th ed. (Washington: U.S. Govt. Print. Off., 1985), p. 123.

24. The Soviets use port facilities at Aden on a regular basis for logistic and maintenance support and airfields nearby for intermittent staging of maritime surveillance flights. At Aden they also employ a

long-range communications station, which is the same one they had used earlier at Berbera. In addition, the Soviet Indian Ocean Squadron routinely anchors off of Yemen's Socotra island, which provides protection against the monsoons and some relief from the very hot temperatures in the Red Sea-Gulf of Aden area. See U.S. Dept. of Defense, *Soviet Military Power: Prospects for Change* (Washington: U.S. Govt. Print. Off., 1989), p. 121.

25. See Andrei Kolosov "Reappraisal of USSR Third World Policy," *International Affairs*, May 1990, p. 40.

26. See Vladimir Petrovich Mikhailov (pseud.), "Afrikanskii rog: problemy i perspektivy," [The African Horn: Problems and Prospects] *Mirovaia ekonomika i mezhdunarodnye otnosheniia*, no. 6, 1990, pp. 98-99.

27. The Soviet military has advocated Soviet participation in a multinational U.N. military force. See *Krasnaya zvezda*, 14 August 1990, p. 3; in Foreign Broadcast Information Service *Soviet Union Report*, 20 August 1990, pp. 4-5; and *Krasnaya zvezda*, 2 September 1990, p. 3; Foreign Broadcast Information Service *Soviet Union Report*, 4 September 1990, p. 34.

28. See David A. Korn, *Ethiopia, the United States and the Soviet Union* (Carbondale, Ill.: Southern Illinois Univ. Press, 1986), p. 75. The amount of military assistance was later increased. As of 1987 the United States had delivered $80 million worth of arms to Somalia, with most of the deliveries made during the mid-1980s. See U.S. ACDA, *World Military Expenditures and Arms Transfers 1978-82* (Washington: U.S. Govt. Print. Off., 1984), p. 95; and U.S. ACDA, *World Military Expenditures and Arms Transfers 1988* (Washington: U.S. Govt. Print. Off., 1989), p. 111.

29. See Defense Secretary Caspar W. Weinberger's *Annual Report to the Congress on the FY 1986 Budget*, (Washington: U.S. Govt. Print. Off., 1985), pp. 233-234.

30. In fact, the U.S. government has spent slightly less on military construction of facilities in Somalia than on those in Kenya (e.g., dredging Mombasa's harbor and upgrading its airfield with improved navigation aids and maintenance facilities.) By 1985 the costs of military construction in Kenya amounted to $57.9 million. See Defense Secretary Weinberger's *Annual Report to the Congress on the FY 1986 Budget*, p. 233. The Kenyan facilities were developed almost exclusively for peacetime use, primarily for crew rest and liberty and secondarily for logistic support and maintenance. Until the rampant spread of AIDS in the late 1980s, Mombasa was one of the very few attractive liberty ports available to U.S. military forces in the Western Indian Ocean basin.

31. For an excellent description of this mining incident, see Scott C. Truver "Mines of August: An International Whodunit," U.S. Naval Institute *Proceedings*, May 1985, pp. 95-117.

32. *International Legal Materials*, vol. 14, 1975, p. 1468; cited in Ruth Lapidoth-Eschelbacher, p. 147.

33. *Ibid.*, p. 147.

34. See Noah Lucas "Israeli Policy in the Red Sea," in *The Red Sea: Prospects for Stability*, ed. Abdel Majid Farid (New York: St. Martin's, 1984), p. 151.

35. See Mordechai Abir, *Oil, Power and Politics* (London: Frank Cass Publishers, 1974), pp. 138ff. The only shots fired were by an Egyptian destroyer against a U.S. merchant vessel, the Lasalle.

36. See Edgar O'Ballance, *No Victor, No Vanquished: The Yom Kippur War* (San Rafael, Calif.: Presidio, 1978), p. 326.

37. The 1984 mining of the Red Sea was not directed specifically against Israel. Although circumstantial evidence points to the Libyan cargo vessel, the *Ghat*, as the perpetrator, Libya never claimed responsibility for the operation, whose objectives remain obscure. However, if the Libyans were responsible, this action would seem to be consistent with Qaddafi's goal of establishing Arab control from the Atlantic to the Gulf.

38. See Lapidoth-Eschelbacher, pp. 148-149.

39. See United Nations communication NV/78/63, 12 July 1978; quoted in Lapidoth-Eschelbacher, p. 149.

40. See Centre des Hautes Etudes sur L'Afrique et L'Asie Modernes (hereafter CHEAM), *France: Ocean Indien, Mer Rouge* (Paris: F.E.D.N., 1986), p. 324.

41. See David A. Deese and Louis B. Miller "Western Europe," in *Energy and Security*, eds. David A. Deese and Joseph S. Nye (Cambridge, Mass.: Ballinger, 1981), p. 187.

42. Calculated from data in International Energy Agency, *Quarterly Oil Statistics and Energy Balances*. First Quarter 1989 (Paris: OECD, 1989), p. 226.

43. Computed from data in British Petroleum, *Statistic Review of World Energy* (London: BP, June 1987).

44. See Abir, p. 23.

45. Cordesman, p. 96.

46. Over half of Djibouti's population are Issas, a Somali tribe. This ethnic kinship formed the basis of Somalia's irredentist claims to the former French territory of the Afars and Issas. Since Djibouti's independence, Somalia has renounced this territorial claim. As the terminus of the Franco-Ethiopian railway, Djibouti protects Ethiopia's only rail line to the sea, the safety of which is regarded as essential to Ethiopia's security.

railway, Djibouti protects Ethiopia's only rail line to the sea, the safety of which is regarded as essential to Ethiopia's security.

47. See CHEAM, p. 322.

48. For further detail, see John Waterbury, *Hydropolitics of the Nile Valley* (Syracuse: Syracuse Univ. Press, 1979), pp. 74-75. In 1957 Ethiopian Emperor Haile Selassie rejected these protocols in notes to the Egyptian and Sudanese governments, and affirmed Ethiopia's natural rights to Nile waters originating on its territory, *ibid.*, p. 78.

49. Quoted in Waterbury, p. 78.

50. See *ibid.*, p. 238.

51. The Ethiopian delegate to a U.N. Water Conference, held at Mar del Plata in 1977, emphasized the sovereign right of any riparian state in the absence of an international agreement to proceed unilaterally with the development of water resources within its territory, but urged that such international agreements to establish co-riparian benefits and responsibilities should be pursued as a matter of general principle. Cited in Waterbury, p. 238.

52. See Truver, pp. 95-117.

53. See the *Indian Ocean Newsletter*, 1 September 1990, p. 1.

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. . . a nation which wishes to assure a share of control on any theater of maritime importance cannot afford to be without a footing on some of the strategic points to be found there. Such points, suitably chosen for their relative positions, form a base; secondary as regards the home country, primary as regards the immediate theater.

Naval Strategy
A. T. Mahan (1911)
Little, Brown (1918), p. 200

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Call for Papers

The History Department of the United States Naval Academy will sponsor its tenth Naval History Symposium on 11-13 September 1991. The Symposium welcomes papers on all topics and periods of naval history. Proposals should be sent to Associate Professor Jack Sweetman, History Department, U.S. Naval Academy, Annapolis, Maryland 21402-5044. The deadline for proposals is 1 March 1991.

Securing the Barrack: The Logic, Structure and Objectives of India's Naval Expansion

Ashley J. Tellis

Editor's note: This is the second in a two-part article. The first part appeared in the Summer 1990 issue of this journal.

The Dimensions and Structure of the Indian Naval Expansion

When measured against the summary criteria of the previous paragraphs, it becomes evident that despite the large naval expansion currently underway, the Indian Navy is nowhere near acquiring the true power projection capabilities that its critics often ascribe to it. Nonetheless, this section describes how the Indian Navy is currently in the process of inducting the requisite technologies for the creation of a powerful force instrument possessing both sea control and sea denial capabilities, and able to service the critical, albeit more limited, objectives of maintaining complete defensive peninsular sea command as well as some strong extra-peninsular buffer zones of influence adjacent to the subcontinental barrack. The succeeding section will endorse this contention by exploring how the Indian Navy hopes to formalize a sophisticated operational-tactical schema that updates the British Indian *Fortress Indica* objective of being able to destroy a potential seaborne threat or deny it the freedom to operate in the sea spaces proximate to the Indian mainland.

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Submarines. The Indian Navy has operated a submarine force of 8 Soviet Foxtrot-class vessels since 1968, but being bereft of public recognition, operational primacy and, until recently, even flag status (designating it an independent command), the "silent service" came to epitomize the Navy's traditional neglect of subsurface warfare. This inattention has now vanished, and the decision to increase the size and quality of this arm depicts a serious intent to configure and maintain an autonomous submerged forward defense capability. The Foxtrots, built on the technology of the 1950s, are generally noisy boats now reaching the end of their active life. The replacement decision originally consisted of acquiring both Western and Soviet diesel-electric submarines—a diversification reflecting both political considerations aimed at reducing reliance on a single supplier and operational intentions centered on utilizing the two classes for different tactical missions. Consistent with these goals, the Indian Navy contracted with Howaldtswerke-Deutsche Werft AG for 4 type IKL-1500 boats (two each laid down in Kiel and at Mazagon Docks, Bombay) equipped with a sophisticated Singer-Librascope Submarine Fire Control System Mk. 1, active Krupp Atlas and passive Alcatel DUUX-5 search and attack sonars, and the as-yet-to-be-deployed ultra-sophisticated Telefunkin AEG 533mm wire-guided conventional torpedo. With high submerged speeds of some 22 knots, a reputation for enhanced silencing and formidable lethality, these boats were principally intended for both melee warfare and high-speed sprints associated with the submarine-to-submarine killer (SSK) missions in antisubmarine warfare (ASW). Simultaneously, 6 Soviet Kilo-class vessels, the only diesel-electrics still manufactured by the Soviet Union, were contracted for as near one-for-one replacements of the 8 Foxtrots, where their bigger size (2,500 tons), larger crews, and conventional unguided type 53-VA 533mm torpedoes, were deemed suitable primarily for the relatively longer ranged but more leisurely patrols associated with antisurface (ASUW) and commerce raider warfare.

On comparing sea trials data for both vessels, however, the original intent gradually appeared to change: "Discovering" that the Kilo-class was actually quieter at submarine-to-submarine combat than the IKL-1500, the Indian Navy began examining the possibility of expanding the Kilo force, while privately expressing disenchantment with the expansion options written into the HDW contract. Although this "disillusionment" was partly related to technical specifications, it appeared to be a bargaining maneuver designed to secure the two additional vessels, with even more sophisticated sensor and weapons packages, at the original price—a deal now embroiled in a domestic procurement scandal involving official corruption and tainted purchase procedures.[1] Although the Indian Auditor General investigating the matter has allegedly provided a "point-by-point demonstration as to how the HDW offer was inferior to that of its competitors,"[2] the Navy has consistently supported acquiring submarines V and VI of the HDW package, even as the

Kilo-class is expanded to a full eight-boat contingent, simply because the vessels' higher self-noise was (correctly) deemed a tolerable tradeoff, given its high, submerged speed. Thus, although the original desire for as many as 8-10 such vessels may not materialize in the near term (thanks to the severe budgetary crunch the armed services face as they enter the nineties),[3] the numbers programmed above will still bequeath the Navy a fourteen-ship flotilla capable of blue-water operations. If past practices are any indication and if adequate spares and support are available, the Foxtrots may be retained on active duty for coastal barrier support operations well beyond 1991, where their relatively high noise would not only complicate an opponent's antisubmarine warfare (ASW) operations in shallow operating areas close to the subcontinent but would also allow the Navy to maintain a large active submarine force of about twenty-two conventional vessels. Since a twenty-five boat flotilla is considered the optimum size for the subsurface fleet, it seems likely that additional Kilo boats will be procured over the longer term.[4] For both pecuniary and operational reasons, this class is slated to become the workhorse of the subsurface arm, and should the Foxtrot class be completely taken off barrier support duty, the number of Kilos would eventually rise to fourteen and possibly even twenty boats.

While the alleged malpractices relating to conventional submarine procurement have yet to be resolved, the Navy has taken its first steps towards acquiring an atomic-powered fleet, by leasing an obsolete, unarmed Charlie I-class nuclear vessel (renamed INS *Chakra*) from the Soviet Union for training purposes. The actual transfer took place early in January 1988 shrouded in official secrecy, with the Chief of Naval Staff revealing barely a month earlier that the Navy was "thinking" about acquiring nuclear submarines (SSNs), while the Indian Ministry of Defence, exploiting domestic ignorance, insisted that the vessel acquired was actually a Victor-class SSN. While the media responded with more speculation about the Charlie's allegedly greater lethality and sophistication compared to that of the Victor, the really significant questions connected with future SSN acquisition generally escaped serious discussion.[5] The INS *Chakra*, diverted from the only Soviet nuclear class built with a single pressurized-water reactor and single propeller shaft and originally deployed as a short-range tactical SLCM carrier, was acquired with the intent of familiarizing the Navy in the operation of the four to six nuclear submarines that the service hopes to acquire by the year 2000. While there are indications that purchasing the nuclear flotilla will not be unduly rushed until manning, operating and safety routines (as well as budgetary constraints) have been satisfactorily ironed out,[6] the continued Soviet production of the Victor III, despite the availability of the follow-on Mike, Sierra, and Akula vessels, gave rise to speculation in both the Western and Indian press that a contingent of this class with modified sensor and weapon packages would be transferred to the Indian Navy at the appropriate time.[7]

While there is little doubt that the Soviet Union has repeatedly offered both the Victor and Sierra-class SSNs for sale, the Indian Navy has thus far consistently declined these offers. Because nuclear submarines are desired (in Indian calculations) for long-range standoff attacks aimed at threatening extra-regional surface forces rather than as surface group escorts or as antisubmarine warfare platforms, the Indian Navy has sought new generation SSGNs, rather than SSNs, conforming to the following characteristics: They must be late generation nuclear boats built in accordance with the hull design and fire-control technologies of, at least, the 1980s; they must deploy large numbers of conventionally armed tactical cruise missiles in dedicated *external* tubes so that the boat's torpedo and other internal tube-launched ASW weapon and mine inventories remain unaffected; they must be capable of utilizing and integrating intelligence and targeting data provided by external sources, like MR aircraft, satellite, or VLF ground stations, in the execution of launch-and-leave attacks; their cruise missile battery itself must possess large warhead size, be capable of underwater launch, and should possess long range and high speed in order to enhance the survival prospects of the (relatively noisy) mother boat and to minimize the mid-course correction required by the missile for successful attack at maximum effective range.

Given such criteria, it appears that the Indian Navy is headed towards the purchase of an Oscar-type SSGN or (if Soviet generosity is matched by Indian solvency) maybe even an Oscar follow-on vessel, since neither the Charlie nor the Echo SSGNs currently meet all the above conditions. SSGNs of the Oscar variety are extremely attractive to the Indian Navy because, even in small numbers, they represent an economical mode of deploying large numbers of long-range tactical cruise missiles. The long range of such missiles, for example the SS-N-19, allow the small submarine flotilla to be randomly dispersed amid large sea areas (possibly even outside the effective range of enemy ASW forces), while simultaneously retaining maximum threat value. Because of their long-range, high-speed, large-yield weapons, the launching vessels—in principle—need not approach their targets along any predictable axis and, so long as reliable targeting data and facilities for mid-course correction exist, their presence alone serves to severely threaten the safety of any opposing surface group, thereby acting as a deterrent. For this reason, if such a transfer does finally take place, the Indian Navy will acquire an enormous increase in disposable firepower that is certain to complicate the operational planning of both local and extra-regional navies by several orders of magnitude. This judgment, however, stands qualified on several counts: First, transfers of any Oscar-type vessel will proceed extremely slowly since no Soviet facility other than the Severodvinsk shipyard is perhaps capable of constructing it. Hence, a full contingent of 4-6 boats may not be available for at least another decade and maybe even longer. If, for political or pecuniary reasons, a Charlie or Papa-class flotilla is opted for, availability

schedules will be eased considerably, but only at the price of decreased capabilities. Second, the kind of missile system transferred with the boat will determine the margins of operational flexibility bequeathed to the Indian Navy, and should the Soviets choose not to part with the best system (SS-N-19) currently deployed, the value of an Oscar-type vessel will be proportionately attenuated. Given the Indian Navy's requirements, the kind of missile battery deployed may be even more critical than the choice of submarine, since the latter is intended more as a weapons carrier than as an autonomous and independently viable weapons system. Third, the various available SSGN-missile battery combinations manifest difficult trade-offs. For example, the Oscar SSGNs armed with SS-N-19s embody heavily concentrated capabilities and long reach, but come at the cost of extreme dependency on fragile external information collectors. On the other hand, the Charlie SSGNs armed with SS-N-7/9s embody less concentrated capabilities, are generally independent of external collectors, but come at the cost of severely diminished reach. Apart from these differences in submarine platforms, the missile batteries themselves—confined to either the SS-N-3-/12/19 or the SS-N-8/9/22 series—offer complex alternatives. The former are essentially supersonic, large-warhead weapons (approximately 2,200+lb. HE) capable of effective destruction at long ranges of about 300nm. However, they generally have high-altitude flight profiles (SS-N-3: 9,000-12,000 ft. and SS-N-12: 30,000 ft.) and rely on external assistance for targeting and mid-course correction, thus making them highly vulnerable to enemy countermeasures and interdiction. In contrast, the latter series are considerably shorter ranged (approximately 35-65nm), possess smaller yields (approximately 1,000 lb. HE), and are generally subsonic (except for the SS-N-22). Their shorter ranges make for lower altitude flight profiles and greater operational autonomy in the launch regime, but these virtues are, predictably, offset by their shorter effective ranges. Each series, therefore, imposes different and unique tactical demands on the Indian SSGN platform, with the combined trade-offs conspiring to offer a choice between battery effectiveness and submarine survival.[8]

Such concerns have obviously preoccupied Indian naval planners for the better part of the last five years, and it has been fully understood that if a Soviet SSGN transfer finally materializes, it would inevitably signify the demise of cherished Indian plans for design and manufacture of indigenous submarine nuclear reactors (including the top-secret ATV project). Although the general consensus appears to be that a speedy foreign acquisition, efficacious both in sniping operations aimed at extra-regional naval squadrons and in blockades against regional fleets, is more valuable than local designs that may never materialize, the long transfer time associated with acquiring a new Oscar or Papa SSGN and the possibility that the missile battery may not finally be the most puissant available, has forced the Navy to adopt a

two-track strategy of continuing the domestic R&D effort already underway while hoping for a financial and technological window of opportunity to open up with respect to quick foreign purchases. Since the mission-effectiveness of a high-quality SSGN has been clearly appreciated (even if the costs are daunting in an Indian context), the Indian Navy is committed to configuring a formidable three-tiered subsurface line-of-battle consisting of 4-6 SSGNs primarily for open-ocean ASUW, directed primarily against extra-regional adversaries, 14 modern diesel-electrics for deep water ASUW/ASW, and finally 8 aging diesels for coastal barrier patrol. The alternate configuration is just as, if not more, potent: 4-6 SSGNs for open ocean ASUW and about 20 modern diesel-electrics for ASW, ASUW, commerce-raiding, as well as coastal barrier operations. Not only is an autonomous submerged forward defense a viable option with these numbers, but as the following section will describe, it becomes part of a formidable outer ring fence aimed at reinforcing the subcontinental barrack from any seaborne threat.

Naval Aviation. While subsurface vessels may in fact be the Navy's most puissant weapon, disproportionate attention has been accorded to expansion of the Indian carrier arm, in part, because aircraft carriers are such manifestly visible instruments of sea power. The INS *Vikrant*, the service's flagship and sole aircraft carrier for several decades, has been complemented by INS *Viraat* (formerly HMS *Hermes*), a relatively larger carrier of the *Albion* class which saw extensive action in the Falklands. Both carriers have been structurally refitted with ski jumps, and their sensors, weapons, and propulsion systems have been extensively modernized to support the Sea Harrier, now confirmed as the primary aviation battery. The Navy envisages the present carriers as stopgap vessels, helping to maintain the continuity of its navair traditions, until a third indigenously designed 30,000-ton carrier to be laid down at the Cochin Shipyard comes on line in the late 1990s.[9] Based on the capability of that design, a final decision with respect to imports will be made, the ultimate objective being the maintenance of a five-carrier force so that at least three vessels can be deployed on a continual basis.[10] Indigenous production, however, is presently the avowed objective, and toward that end, the French General Armaments Delegation's Naval Construction Direction in Paris was recently awarded a consultancy contract to help the Indian Navy design its new vessel.[11] Without doubt, both the decision to acquire additional carriers and the choice of the Sea Harrier as primary aviation battery have been very controversial, largely because these choices have been perceived as more consistent with bureaucratic desires to continue a tradition long maintained than with the predicates of a coherent, publicly articulated, and clearly understood strategy. Further, the tactical and operational critiques, largely connected with the carrier's utility against India's principal adversaries and the Sea Harrier's efficacy in the principal theaters of

operations, have also prominently figured in the Indian carrier debate, thus resulting in the enunciation of a sharply reduced set of carrier dominant missions.[12]

Indian naval spokesmen have now explicitly confirmed that the decision to indigenously manufacture a third V/STOL (?) carrier implies that ASW, presence, escort, and local patrol, rather than genuine sea command and power projection requirements, are the dominant operational rationales for perpetuating this class.[13] In this conception, the carrier battle group (CVBG) is expected to establish limited sea control around specific nodes of operation and to provide air cover for those high value surface combatants functioning as second-line defenses within the seaborne ring fence. Although the Indian Air Force (IAF) has always considered such capabilities an avoidable extravagance, these investments were nonetheless justified by the naval argument that organic naval air capabilities would be the primary form of at-sea air support, given that the Air Force could not be counted upon to provide fleet air cover in view of its own landward preoccupations during intense future conflicts. Moreover, organic afloat-air could always be considered a synergistic complement to the large investment in land-based aviation already underway, especially since program finances were now committed. It is evident, however, that the Navy has recognized that V/STOL aviation of the kind currently employed will not satisfy Indian operational needs in the decades ahead. Very interestingly, therefore, the design contract for the new carrier includes studies for both conventional steam catapult and ski jump configurations, and the Navy is already considering navalized versions of both the indigenous Light Combat Aircraft (LCA) and the Soviet MiG-29 for future deployment on board the new carrier.[14] Which particular carrier design is finally opted for will thus be determined by a complex function of overall program costs, the availability of combat aircraft for carriers in this weight class, and the specific strategic and operational objectives of Indian naval planning at the turn of the century, but it appears that the Indian Navy is slowly veering towards the belief that only large-deck CTOL carriers will be appropriate as next-generation replacements.

Altogether, the present expansion of naval aviation has resulted in the creation of a fairly large force of influence: Organic air capabilities presently include an attack-interceptor force of 26 Sea Harriers capable of employing a variety of conventional and guided ordnance (including Sea Eagle SSMs), and 35 Westland-Sirkosky ASW Sea King MK 42s (also capable of hosting Sea Eagle SSMs as well as other ASW ordnance), distributed over the two carriers and other land bases. Since rotary assets often share berths on board several other surface combatants, like the *Leander/Godavari* frigates, this force is slated to acquire 20 additional Sea Kings in the near term so that a minimum five-rotary craft contingent can always be maintained aboard each carrier. The induction of a third *Viraat*-sized carrier suggests that Sea Harrier strength

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will eventually rise to approximately 60 aircraft (if the V/STOL option is exercised), but as carrier acquisitions increase over the long term, an even larger force of some 80 aircraft will be required especially if a simultaneous three-carrier deployment at full battle complement is aimed for. When expansion of the surface fleet with additional indigeuous and Soviet boats is accounted for, the Sea King inventory will also rise to similar levels (including possibly 6+AEW Sea Kings),[15] as will the number of Soviet rotary airframes, currently consisting of some 23 Ka-25/28s deployed aboard the Soviet imports.

The growth of the Navy's land-based aviation capabilities has been equally impressive in recent years, with significant investments taking place both in equipment and in basing facilities. The Navy's maritime reconnaissance (MRA) workhorses currently consist of two squadrons of 3 Soviet Il-38 Mays and 5 TU-142s (Bear-F) employed exclusively in the long-range patrol regime. The new TU-142s, scheduled to reach an 8-12 aircraft squadron size, will extend the Navy's surveillance envelope—already reaching well beyond the Persian Gulf in the west and the Straits of Malacca in the east—to the far reaches of the Southern Indian Ocean along an arc tangential to the Madagascar-Tropic of Capricorn-North Australian Basin. They will also bring a new level of effectiveness to the long-range ASW mission: Carrying a comprehensive sensor suite, large number of sonobuoys, and heavy weapons payload, these aircraft make possible a fully autonomous "saturation-search" hunter-killer capability that the Il-38 Mays presently lack. For missions closer to the Indian coastline, the 36 Dornier Do-228 MR aircraft, to be armed with the Sea Skua-Super Searcher missile-radar combination, are complemented by an assortment of 18 BN-2 Defenders, thus assuring complete oversight of the nation's coastline and contiguous waters. Complementing these diverse aircraft purchases, the Indian Navy has already embarked on a large-scale acquisition of British and new-generation Soviet long-range air and surface-launched tactical cruise missiles (ASM/SSM), which are expected to be widely proliferated across all classes of Navy and Air Force aircraft. These weapons will not only enhance the effectiveness of the deterrent forces presently maintained by orders of magnitude, but they will also bequeath the Navy the massed fire capability it has always desired but never possessed before. In time, it may also pave the way for a dedicated contingent of long-range, land-based, all-weather attack aircraft, a capability the fleet sorely lacks in spite of being judged desirable by several civilian and uniformed analysts.[16]

Surface Vessels. While it is generally envisaged that the deployment of aircraft carriers brings in its wake the necessity for fully capable antiair and antisubmarine escorts, Indian naval planning has by and large deviated from the received wisdom. The Navy has stressed the availability of multipurpose

warships carrying a mix of weaponry Soviet-style, rather than the highly specialized platforms common to Western navies. As a result, all carrier escorts are generally multipurpose ships, except for an odd vessel like the *Leander*. This tendency, while not very conspicuous in the early 1970s, has almost become the norm in this decade and clearly suggests the Navy's continued desire to acquire only those surface ships capable of operating independently or in tactically matched pairs. Thus, the surface elements of the fleet will remain cherished weapons irrespective of the presence or absence of the carriers.

The 8 Soviet Petya-class ASW frigates, the 2 British *Leopard*-class gun escorts, the 2 British *Whitby* frigates (1 in reserve), and the 6 indigenously license-produced British *Leander*-class open-ocean ASW frigates, presently constitute the major remnants of the Indian surface arm maintained throughout the 1970s. The weapon and sensor suites of the *Leanders* have been extensively refurbished with Canadian-produced Westinghouse sonar technology both in hull-mounted and variable-depth arrays, as have the *Whitby*-class vessels with new Soviet missile suites and Alouette helicopters. While the rest are essentially maintained as second-line vessels due for eventual replacement, the Indian Navy, in an ambitious redesign of the *Leander*, has added 3 *Godavari*-class frigates with surface-to-surface, surface-to-air, and surface-to-subsurface weaponry (including two Sea King helicopters), to its first-line squadrons. These ships were originally planned as a large class of 6-8 multipurpose boats with the "tailenders" integrating American-produced LM-2500 gas-turbine technology and Soviet and European weapons/sensor suites into an Indian hull, but the project has now been terminated in favor of a larger and heavier *Godavari*-class follow-on frigate which, on current plans, will be constructed at the Mazagon Docks in Bombay.[17]

The propensity to integrate multinational systems into a single hull, carried out rather successfully thus far on the *Godavari* frigates, has not yet extended to the destroyer force, although that is certain to change with the advent of the Project-15 destroyers contemplated for the 1990s. As currently envisaged, the Project-15 class will function as the main surface combatant of the fleet. Built to a Dutch NEVESBU design, it will have CODAG propulsion integrating both American LM-2500 gas-turbines and Soviet MTU diesels, deploy Dutch, Indian and Soviet radars and sonar suites directing a Soviet SSM-SAM battery, and carry 2 British Sea King helicopters. Until the advent of this "multinational" ship, the Navy's destroyer squadrons will remain composed of the successfully modified Kashin class, which is currently expected to peak at a 6-8 vessel strength. The heavily armed Kashins are employed as front-line carrier escorts, given that the Navy has finally decided to forego the contemplated acquisition of the modified Kresta IIs.[18] The general object of these modifications has been replacement of the original

Soviet-design ASW orientation with a balanced multiweapon load emphasizing antisurface (ASUW) and antiair warfare (AAW) capabilities. In line with this tactical reasoning, the Navy has seriously considered the procurement of a 6-8 vessel follow-on contingent of either the modified *Udaloy* or *Sovremennyy*-class destroyers during the next defense plan beginning 1990. These vessels, with almost double the displacement of the Kashins, will carry an enhanced SSM load, will possess greater endurance and range, and will bequeath qualitatively different levels of force technology, including much needed gunfire support, to the Indian Navy.[19] Berthing difficulties at Indian ports are currently the principal technical problem hindering their purchase (a situation destined to change when the Karwar naval base becomes operational), but should the Navy eventually decide against these inductions as well, the fallback option consists of acquiring a substitute 6-8 boat flotilla of modified-Kashins or modified Project-15s with even more sophisticated weapon and sensor suites than are currently deployed or envisaged. When combined with the 10-12 original Project-15 destroyers scheduled to be ultimately produced (6 as replacements for the *Leanders*), these acquisitions will enable the Navy to maintain a decent force of some 28-40 modern, first-line surface combatants (besides the 3 *Godavari* and 6 *Leander* frigates) well into the 21st century. This force size, however, still falls short of the naval requirement of 45 first-line surface vessels to be notionally shared among three carrier flotillas, and which may be combined to form a variety of task forces as are appropriately required.

In addition to the attention lavished on these open-ocean capital vessels, several smaller programs have also been initiated with an eye to maintaining requisite numbers of heavily armed coastal patrol boats. This force presently consists of 3 Soviet Nanuchka IIs, armed with both SSMs and SAMs, 14 SSM-armed Osa I & IIs, together with 14 assorted gun-armed coastal patrol vessels. The Nanuchkas, which have few real equivalents in the West, are reportedly boats with poor sea-keeping qualities, but the Indian Navy finds the combination of heavy armament, small hulls, high speeds, and minuscule crews a very cost-effective choice for patrols over a lengthy coastline—attractive qualities the service hopes to retain by switching over to the modified Tarantul (3 already in service) during the next decade. Future plans include the purchase of 3 additional Nanuchkas, possibly as many as 24 Tarantuls (some replacing the current missile-equipped light forces and scheduled for licensed manufacture at the Mazagon Docks in Bombay, and in Goa), and the construction of as many as 32 indigenously designed DP 25 *Khukri*-class light frigates/corvettes for both ASW (16) and AAW (16) missions. This indigenously manufactured class of heavily gunned-and missile-armed vessels (2-57mm, 2-30mm, 4 SS-N-2c SSMs, multiple SA-N-5 SAMs) capable of speeds in the 30kt class and helicopter-armed, will be deployed in tactically matched pairs and employed primarily for harbor patrol,

surveillance of offshore installations, and other general purpose duties like ensuring the security of coastal commerce and surveillance of the Exclusive Economic Zone (EEZ). The first batch of 8 such vessels is already under construction in Bombay and Calcutta. Two other programs, one involving induction of the Pauk-class antisubmarine corvettes (common Tarantul hull and projected replacement for the Petya-class ASW vessel), and the other involving the production of a light (1800-ton) *Tacoma*-class offshore patrol frigate (which may be shared with the Coast Guard), are also being currently finalized.

Amphibious and Auxiliary Forces. Not having had any blue-water aspirations until recently, the Indian Navy traditionally did not emphasize those amphibious capabilities generally understood to be at the cutting edge of any viable power projection force. The single amphibious mission undertaken along the East Pakistani coast during the 1971 war was a rank disaster, and although several amphibious exercises have been conducted during the last decade, Indian amphibious forces are not the most puissant tools of its defense policy. In part, the problems are structural: the Army furnishes the troops while the Navy provides the sealift, an arrangement taxing the traditionally poor coordination between the two services; the geographic threat environment itself precludes the serious employment of amphibious troops in anger, which relegates them at best to occasional peacekeeping duties that may come their way; the landing ships possessed by the Navy, currently consisting of 18 vessels (of which the 9 Polish Polnocnys and 2 British-inspired *Sir Lancelot*-class *Magar* LSTs are the most capable), have until recently barely sufficed to move battalion-sized units; and lastly, the poor gunfire support capabilities in the fleet are only partially compensated by the notionally available carrier air cover. Amphibious forces have thus been the neglected dimension of Indian naval development. Even today, the small available force of 1,000 Marines is largely trained for protection of the various offshore installations, in addition to their one major present deployment at the Fortress Andaman and Nicobar island (FORTAN). Given the expected need to fortify other Indian offshore bases like those in the Lakshadweep islands and in the Gulf of Mannar, plans for the expansion of the Polnocny flotilla by at least 4 additional vessels and the creation of an entire class of possibly 8 *Magar*-class ships, together with enhanced training of amphibious units, will result in meeting the ambitious objective of being able to transport two tank brigade-sized elements with full supporting arms anywhere in the Indian Ocean—a development strongly conditioned by the desire to be able to respond to requests for aid from any of the island states in the Indian Ocean where a substantial Indian diaspora exists.[20] Although such a force size suggests that the amphibious arm may become a potent power projection and coercion instrument in the near future, a closer scrutiny of these elements

suggests otherwise. As currently conceived, the brigades are not expected to specialize in forcible entry operations, will not possess the equipment required for over-the-beach assault of heavily defended positions, cannot expect sustained supporting fires from either land-based or organic aviation or from escorting surface vessels, and most importantly, are not doctrinally tasked to achieve the high morale, self-confidence, familiarity with unknown terrain, and sheer speed, rapidity, and continuity of assault required by amphibious forces for the forcible entry mission.[21] Hence, the force will be equipped principally for independent defense of isolated bases with some special operations capability, with intervention capacity premised exclusively on the assumption of benign or solicited entry. These amphibious forces will, therefore, for all practical purposes be specialized in positional rather than in maneuver warfare, a character consistent more with the extended defense of a barrack than with a genuine power projection mentality.

Auxiliary forces that include minehunters, support vessels, transports, and replenishment vessels constitute the last element of the Indian modernization. The trouble caused by Pakistani mines during the 1971 conflict has had a salutary effect on the Navy's mine countermeasures plans. Current capabilities rest largely in the highly successful 12 Soviet Natya-class aluminum alloy-hulled ocean minesweepers, the 6 fiberglass-hulled Yevgenya inshore minesweeping boats (6 more expected), and the 4 British Ham vessels. This mine warfare fleet is expected to reach a 40-vessel size (all classes) eventually, once the new Soviet or European fiberglass-hulled minehunters (10) are inducted. Offensive mine warfare hitherto has not been emphasized in Indian naval planning, despite the fact that all Indian submarines have a deep minelaying capability. This deemphasis, however, is certain to be rectified given the Navy's intent to mount intense offensive campaigns against regional threats as well as to contest the crucial entrances in the eastern Indian Ocean and the broad approaches in the West in times of conflict. That its primary supplier, the Soviet Union, maintains the world's largest mine stockpile and minelaying capabilities also augurs well for the future expansion of this arm.

Two other subsidiary elements of the naval buildup that should not be excluded from consideration are the diverse variety of support vessels under indigenous construction and the buildup of the Indian Coast Guard. The impressive *Shakti*-class underway replenishment vessels, together with the assorted *Pradhayak* support tankers and *Midhur*-class troop transports, are expected to provide the fleet with greater at-sea operating time and greater operational autonomy. A special squadron of 18 *Sandhayak*-class naval hydrographic ships will also be acquired by the turn of the century.[22] Should circumstances demand, the 800-odd vessels of the Indian merchant marine and the large pool of trained Indian seamen can also be requisitioned for a variety of wartime transport tasks, but the service's dedicated acquisitions

should suffice for most requirements presently conceived. Although the Coast Guard has been operated as a separate service since 1978, it maintains close coordination with the Indian Navy and in times of conflict will be responsible for the patrol of both territorial waters and the Exclusive Economic Zone. Currently consisting of some 40 vessels of various tonnages, the service is expected to possess close to 100 vessels by the end of the century together with a supporting air element of some 50 fixed-wing aircraft and helicopters.[23]

Facilities and Bases. Any naval growth, unaccompanied by the creation of support facilities and bases capable of sustaining fleet movements in a particular theater of operations, will ultimately be transformed into a brittle expansion that severely impedes deployment and retards operations. In this instance, at least, whatever India lacks in resources, it more than makes up in geography: The peninsular character of the subcontinent results in a huge promontory jutting forth into the Indian Ocean. This geophysical feature not only transforms the Indian landmass into a gigantic aircraft carrier positioned permanently athwart some of the busiest sea-lanes in the world, but also places all the sea zones of vital interest (and 50 percent of the ocean's waters in the east, west, and south) within a bare 900 miles of the Indian coastline. With a view to maximizing these benefits of geography, Indian naval planners have over the years constructed a series of heavily fortified facilities and bases, capable of supporting all the surface, subsurface and airborne elements of the fleet configured to operate within the various ring fences radiating outward of the peninsular periphery.

The western coastline at its northern extremity is dominated by the gigantic naval facility at Bombay, which headquarters the fleet's Western Naval Command and hosts most of the Navy's western force elements, including the HDW submarine flotilla. Besides the shipbuilding and repair facilities at the two dry berths at Mazagon Docks, Bombay possesses a set of excellent airfields available for naval use should that become necessary. Roughly midway along the shoreline, the state of Goa hosts the key base, INS Hansa, supporting the Navy's navair and maritime patrol operations in the southern Indian Ocean and the Persian Gulf. And over the next decade, the port of Karwar, just south of Goa, is to be developed into Asia's largest naval facility (INS Sea Bird) capable of berthing and dry-docking both surface and subsurface forces. Not only will this considerably ease congestion at Bombay Harbor, it will also allow the major fleet strike elements to deploy out of a facility closer to their operating areas in the Arabian Sea and southern Indian Ocean.[24] Tracing the line still further south, the seven minor naval facilities in the offshore island chain of Lakshadweep, currently hosting patrol craft, will be further fortified, possibly even with an airfield and a squadron of strike aircraft. The last major southern facility, Cochin, houses the headquarters of the Navy's Southern Command, currently overseeing all training

establishments in the country, in addition to hosting several auxiliary fleet air elements at INS Vendurthy. The base repair facilities at Cochin are currently in the midst of augmentation and this facility—slated to acquire an operational role with the homeporting of the third aircraft carrier—will only grow in importance as the offshore facilities along the southwestern seaboard are refurbished over the next decade.

The Eastern Command, hosting the bulk of the Navy's "Red Fleet," is headquartered at Vishakhapatnam, roughly midway along the eastern coastline. Vishakhapatnam hosts gigantic repair facilities for the overhaul of the Navy's Soviet-supplied equipment and has a large airfield in addition to supporting the entire Soviet supplied subsurface fleet at INS Virbahu. Since the Navy maintains a general policy of segregating the Soviet equipment and the personnel operating it from the Western elements of the fleet, Vishakhapatnam will grow in size and density as more Soviet equipment is acquired, even though the port itself has lost the strategic location it enjoyed two decades ago. Offshore, the Andaman and Nicobar Islands, operated as a fortress under joint service command (FORTAN), hosts one of the Navy's largest bases at their capital, Port Blair, with surface vessels, a floating dock, an airborne strike component consisting of 18 Jaguar maritime attack aircraft at INS Utkrosh, and amphibious elements, thus transforming the FORTAN into a fulcrum of control over access to the eastern entrances of the Indian Ocean.[25] Besides these major bases, the minor naval facilities at Madras and Calcutta may also be mentioned, but the critical constellation of new naval installations at the southeastern periphery of the peninsula in Tamil Nadu (including the vital VLF submarine communications facility now completed at Vijaynarayanam, the new air station at Ramanathapuram and the major airfield at Arakkonam, which is expected to have the longest runway in the country and host some of the Bear-F MR aircraft), will result in a fortified axis running along the open mouth of the Bay of Bengal (roughly at 10° 0′ N and between 80° 0′ E and 100° 0′ E) where the main surface elements of the new naval ring fence will operate. All in all, the Navy has undertaken an immense infrastructural effort at constructing a variety of fortified facilities along the entire peninsular periphery, capable of supporting all elements of a naval force in very close proximity to their theaters of operations—an advantage similarly enjoyed by just a few other small, mainly island, states.

Exploring Indian Naval Employment Strategies

Reviewing the structure and dimensions of the Indian Navy's expansion leaves little doubt as to its comprehensiveness and balance. Since its pattern of growth has been delineated, the force employment strategies predicated by its present objectives and current capabilities can be inferred and specified.

Given that the Indian fleet can be appropriately classified as a regional navy at the present state of its evolution and will inevitably be transformed into a nascent blue-water fleet by the end of the century, its war plans—designed to meet the operational objective of maintaining zones of dominant naval influence—are inevitably a product of two specific considerations. The first and primary consideration involves the geopolitical requirement of fortifying the southern ring fence in line with the eidetic security model of a barrack, bequeathed by British Indian security administrators and, for a long time now, the leitmotif beneath all Indian security planning. The second derivative consideration implies that the resulting force structure will be tailored to sustaining two antinomic naval postures: On one hand, this includes a "sea control" orientation whereby the Navy can enforce the complete denial of access routes available to its regional competitors like Pakistan, Bangladesh, Sri Lanka, Burma, and Indonesia,[26] and maintain complete control over their contiguous sea zones through which it can bring overwhelming naval power to bear on them either in a coercive or a supportive mode. On the other hand, it seeks to configure a "sea denial" orientation where, despite lacking the capability to destroy extra-regional fleets, it can inflict a level of damage that is disproportionate relative to the political gains sought by an alien power and so can utilize these perceptions to deter extra-regional application of naval power in the first place. Which extra-regional powers are precisely targeted in Indian naval thinking has never been satisfactorily specified, but several senior spokesmen have identified South Africa, Iran, Malaysia, Australia, and China, besides the two superpowers, as potential threats.[27] Thus, refurbishing the oceanic ring fence implies operationalizing two distinct kinds of naval strategy and the mission planning predicated by each of them can now be described in turn.

Dealing with regional adversaries, the Navy believes, requires a surfeit of force carefully massed and critically concentrated upon certain strategic nodes which, if pulverized with incessant application of naval and air power, will soon collapse, leading to a dissipation of the threat. This methodology of achieving "sea control" has led to the creating of flotillas with massed firepower, largely in the form of surface-to-surface missilery, and large numbers of Air Force-operated deep-penetration strike aircraft. These instruments will be synergistically applied against any threat emanating from within the Indian Ocean littoral. In practice, this means that Pakistani, Bangladeshi, Sri Lankan, Burmese, and Indonesian targets will be subject (if conflict occurs) to attrition-doses of naval firepower delivered through surface, subsurface, and naval-air forces. All three modes of firepower delivery are expected to be very successful against local combatants, but the high risk of using carrier aviation against Pakistani coastal targets suggests that organic navair elements may not be pressed directly into the seaborne offensive against that country.[28]

As a result, a combined-arms approach has been carefully developed to contain any future Pakistani threat and in practice will be executed in a combination of the following ways: (1) by destroying the Pakistani Navy at sea; (2) by blockading the Pakistani Navy at its bases; (3) by destroying the Pakistani Navy at its bases, and (4) by destroying key installations with naval air forces.[29] The "spectacular" 1971 Karachi raid exemplified options (3) and (4), yet in tactical terms was a fortuitous victory that is impossible to replicate in identical ways. Its success was entirely due to Pakistan's lack of MR aircraft capable of warning of Indian intruders and the ability of the Indian Air Force to simultaneously draw the firepower of the Pakistani Air Force, thus allowing the naval strike elements a free hand at Karachi Harbor. Further, confusion in the C^3 chain in the aftermath of the IAF's suppressive fire, coupled with Pakistan's lack of accurate cruise missilery, resulted in the exfiltrating Indian naval units escaping Pakistani retaliatory fire. Since the new Pakistani long-range MRA platforms, like the Atlantique and Orion, are capable of independently launching both Harpoon and Exocet cruise missiles, as well as providing over-the-horizon targeting data links for long-range external air, surface and subsurface launches of these munitions, they function essentially as a formidable deterrent to any visible Indian naval intrusion. The possible acquisition of some AEWC&C aircraft in the future, like the Hawkeye or the Sentry, only further assists the dedicated Pakistani defenses in achieving this task.[30] As a result of this effective Pakistani fortification with new naval and aviation strike platforms, a purposeful, unified Indian Navy-Air Force strategy for tridimensional attack has been devised to sanitize these evolving deterrents.

At the subsurface level, the Indian Navy's large submarine force will be pressed into mounting a forward submerged blockade around the major Pakistani naval base at Karachi and at the smaller facilities at Gwader, Pasni and Rasomarah. While land-based Indian navair elements are expected to intensively mine the major shipping channels linking these bases, a submarine flotilla consisting of SSGN and Kilo-class boats will maintain an offensive sea-patrol cordon between 30-100 miles from these ports, attempting to destroy all surface combatants and merchant shipping operating amidst the vicinity. Simultaneously, the HDW boats are expected to engage in antisubmarine killer operations with the intent of destroying the cruise-missile equipped *Daphne* and *Agosta*-class Pakistani submarines which, if allowed to break out of the blockade perimeter into the open ocean, would place at severe risk all Indian surface combatants, including the CVBGs, operating in the Arabian Sea. Since Pakistan intends to expand its subsurface fleet with additional diesel-electric boats (possibly Romeo-class vessels from China), the ASW efforts of the patrolling Indian HDWs (and their airborne companions, the carrier-based Sea King Mk. 42s and the land-based Il-38s/TU-142s operating further out at sea) are likely to become only more urgent. While

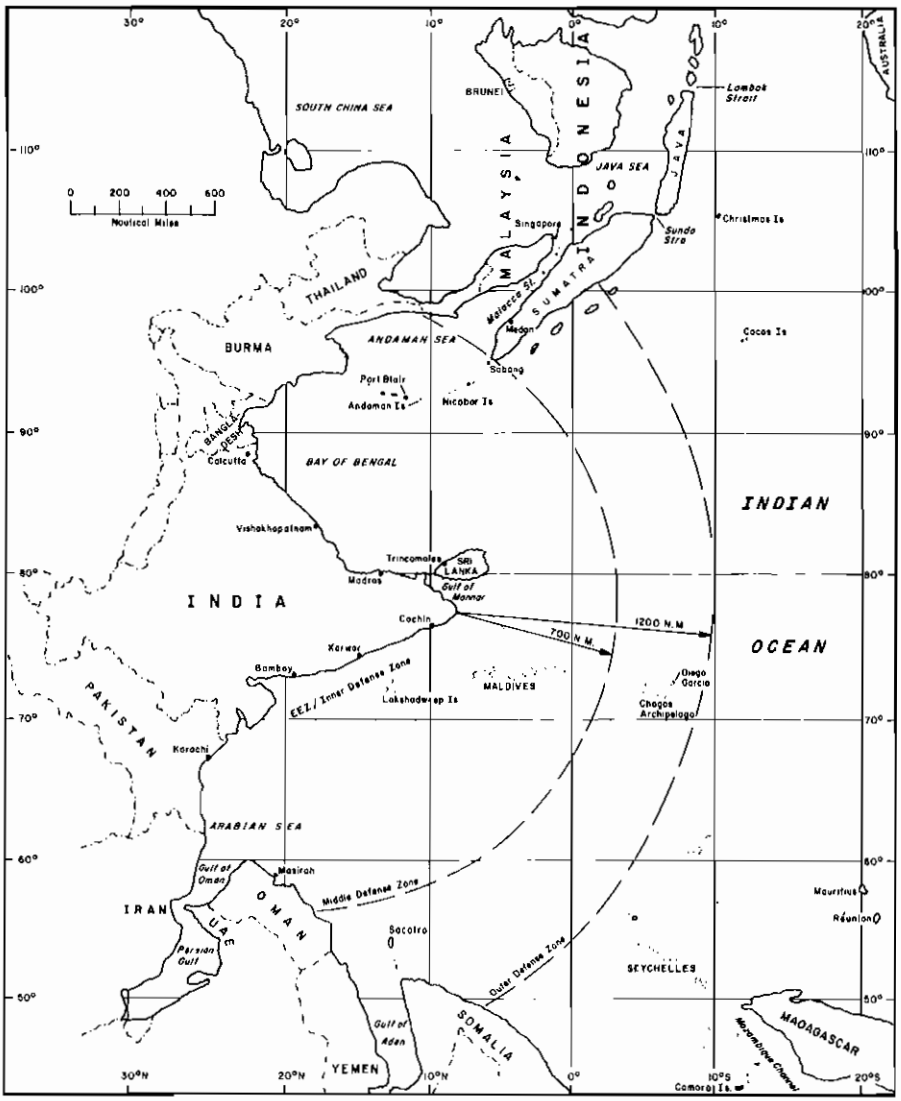
the subsurface elements wage intense antisubmarine and antisurface warfare in the waters proximate to the Pakistani coastline (option 2), the Indian CVBGs on combat station about 300 miles further out (approximately 22° 0′ N and 65° 0′ E) and operating at the extreme range of the two dedicated Pakistani land-based Mirage III/V attack squadrons, are expected to launch their Sea Harrier combat air patrols to aggressively search and destroy those Pakistani MRA platforms on reconnaissance-in-force, surveillance and other tattletale missions (and to safeguard their own heliborne ASW patrols), in order to afford a measure of protection to both Indian submarines operating off the coast as well as to other surface combatants cruising around the aircraft carrier itself.

Since the Pakistani surface fleet will in all probability be withheld from open ocean surface combat, given the gargantuan Indian superiority in this area of operations, the Indian Air Force (IAF) is tasked with sanitizing all Pakistani naval and air installations, dockyards, ports, airfields and other receptacles capable of offering surface vessels and air elements any succor in wartime[31] (options 3 & 4). Intense IAF operations of the kind never before witnessed in any subcontinental conflict, and involving up to 1,500 sorties a day with ordnance drops of about 100,000 lbs. per attack mission are intended to suppress Pakistani naval and Air Force reconnaissance, counterair and strike activity long enough to inflict permanent injury on all Pakistani naval facilities—thus forcing those surviving surface combatants to break out to open sea where they will be systematically ambushed by lurking Indian submarines, interdicted by roving ASW-equipped Sea Harriers, or destroyed by Indian surface elements in a running naval battle where the latter's superior, massed missilery may be brought to bear (option 1). This unified war plan against Pakistan (and, *mutatis mutandis*, against all other regional adversaries) is thus premised on applying attrition doses of firepower in order to trap an enemy fleet with a pincer movement whereby it is confronted with certain death irrespective of whether it chooses to escape or to engage in combat.[32]

Very obviously, such a strategy premised on the direct application of dramatic force is unlikely to lead to very salutary results when directed against an extra-regional flotilla operating in the Indian Ocean. For one thing, the strike intensities embodied by extra-regional fleets are enormous and any attrition strategy will only redound to the disadvantage of the Indian Navy. Even if it is in fact able to engage and best an extra-regional naval squadron, the force reserves, both conventional and otherwise, possessed by these powers are phenomenal and, hence, an attrition approach playing right into extra-regional strengths is not contemplated.[33] In this instance, the primary Indian naval objective is to exploit the political effects of sea power to impact upon the realm of an adversary's perceptions. By building up a combined air and subsurface strike force, together with corollary elements consisting of

heavily armed surface units operating around V/STOL-equipped carriers, the Navy intends to configure a formidable, concentric ring fence of layered defenses sufficient to obstruct any marauding superpower fleet attempting to penetrate it. Although all such force planning is very clearly situation-dependent, the baseline scenario involving such force employment *in extremis* is the assumption that an intense subcontinental war has provoked a show of extra-regional force, clearly dispatched with the intention of being committed in anger against Indian interests. Such scenarios, vaguely resembling the mission of the U.S.S. *Enterprise* during the 1971 war, then become not only the hypothetical baseline for naval mission planning but also the best heuristic device explaining how the Indian Navy intends to preserve a naval zone of dominant influence insulating the country and the power centers within it from any extra-regional coercion.[34] What is critical to this conception of deterrence is that a "sea denial" strategy, calling for the control of certain specified sea areas to forestall extra-regional naval intrusions, is operationalized by means of an extended "citadel" type defense constructed as far out to sea as possible. This is expected to confer sufficient protection should circumstances deteriorate to the point where armed force is actually committed against the Indian state.[35]

Towards this end, a ring fence consisting of three concentric defense hemispheres, radiating outward of the Indian peninsular promontory and divided into eastern and western approaches along the Bombay-Trincomalee-Cocos Islands axis, can be postulated as the arterial foundation of the citadel strategy. The outermost zone running across both approaches would be patrolled principally by the Indian subsurface force in conjunction with TU-142 Bear MR aircraft, providing both surveillance and targeting data relating to all extra-regional naval movement in these sectors. Because both geography and depth of the eastern approach differ considerably from that in the west, the naval strategy utilized in both directions, while identical in intent, are operationalized somewhat differently. Since the entrances to the eastern Indian Ocean are defined primarily by the chokepoints at the Straits of Malacca and the Sunda and Lombok Straits, the Navy anticipates that a mixed squadron of HDW and Kilo diesel-electric submarines (SSK) using a combination of mines, torpedoes and tactical SLCMs will suffice to block the critical nodes of ingress any intruding flotilla might use from the east. These diesel-electric boats, working in tactically matched pairs, utilizing passive sonar regimes, and considerably quieter than the SSN escorts they may encounter, are lethal weapons, especially when used as chokepoint barriers. In such missions, C^3 difficulties are negligible, low-submerged speeds and attenuated acoustic signatures are an advantage, and if anything, such squadrons will be better prepared for the demands of melee warfare given the proximity of their operating areas to friendly tactical support and



the greater in-area expertise acquired by constant training around the ambush area itself.

Those vessels surviving this subsurface cordon and breaking out into the southern Bay of Bengal past the Java Trench would be relentlessly engaged by ASM-equipped strike aircraft, primarily the Anglo-French Jaguar operating out of the air bases at the Andaman and Nicobar Islands, as well as by those MRA and strike aircraft redeployed out of the new airbases at Ramnad, Arakkonam and Ramanathapuram, adjacent to the Gulf of Mannar.

This air offensive would be accompanied by SSM strikes launched from both frontline surface combatants like the Kashin and *Godavari*, as well as by the smaller, but equally potent, attack vessels like the Tarantul, Nanuchka and *Khukri*, sortieing out of both the FORTAN and Vishakhapatnam. These surface attacks would be supported, if possible, by organic navair assets providing local air superiority in the region just northwest of the upper extremity of the Ninety-East Ridge, and augmenting that already maintained by land-based Air Force Mig-21s and Mig-23s scheduled to be deployed to the island airfields in an emergency. Even closer to the Indian coastline, the remnants of the intruding surface group would encounter both the full weight of the modern and extremely capable Indian Air Force as well as second-line naval assets consisting of numerous corvettes and missile patrol craft which, deploying lethal weapon packages on small inexpensive hulls, are capable of high speeds, intense maneuverability, and stunning surprise—often permitting successful attack before the defensive systems can even react. All in all, a combined arms response of this kind, utilizing relentless tridimensional offensives against any intruding fleets ingressing via the eastern entrances of the Indian Ocean, appears certain to meet with reasonable success, in large part because all Indian armed services can bring to bear heavy and concentrated firepower from diverse sources on a small, undispersed target set operating within an essentially enclosed water basin.

While the eastern approaches to the Indian Ocean can thus be easily secured thanks to India's privileged position athwart the chokepoints of ingress and egress, the western and southern approaches offer no such advantage. Yet, because approaches through this direction lie essentially within an open ocean funnel of great depth, the mobile barrier defenses that the Indian Navy expects to configure in this region best depict the contours of a unified citadel defense. As described earlier, the long-range TU-142 MR aircraft, together with a set of widely dispersed nuclear and diesel-electric submarines, will form the outermost cordon along an arc traced 1,200nm away from the southern tip of the Indian subcontinent and running roughly parallel but approximately 300 miles ahead of the Carlsberg Ridge in the west. This allows surveillance of the American installations at Diego Garcia as well as providing targeting information about any vessels sortieing out of the facility or emerging from amidst the vicinity of the Chagos Archipelago or the Mozambique Channel. At these distances, the nuclear submarine flotilla assigned to a *maneuvering* patrol regime will use its high submerged speeds and almost indefinite endurance for the high-speed sprints required to intercept the fast moving formations identified or already engaged by the roving Bears and Mays assigned to patrol quadrants of expected attack. Although the Indian submarine force has traditionally been employed in a lone wolf regime bereft of centralized control, the extremely short-ranged radars (10-12nm) aboard the new Soviet attack and cruise missile vessels make for poor and highly

risky independent surface reconnaissance efforts, especially when committed against a superior intruding fleet. If independent targeting and attack is risked under such circumstances, the maximum feasible missile range of 15-30nm results in severely compromising the survivability of the submarine. Hence, with the intent of maximizing stealth and survivability, target intelligence acquired by external collectors aboard surface ships and aircraft and other submarines will be relayed to and processed at the VLF ground control station at Vijaynarayanam, from which radioed instructions will vector all patrolling SSGNs towards their prospective targets. If the SSGN force is equipped with missiles of the SS-N-3/12/19 series, the success of long-range firing regimes will be crucially dependent on the skill and survival of the external reconnaissance platform that provides both targeting and mid-course correction data. Although such correction requirements are obviated in the case of the SS-N-19, and are generally unrequired by the pseudo-sea skimming SS-N-7/9/22 series (except at the upper limits of their effective range), the disadvantage of the latter lies principally in its short effective range. The range at which the Indian SSGNs initiate missile attacks thus crucially depends on which series of Soviet (or domestic?) cruise missiles is available. Insofar as shortened missile ranges imply more high-speed SSGN sprints, the choice of missile affects the detectability and thus, the survival of the launching vessel. Consequently, the tactical employment of the SSGN will stand appropriately modified.

Since diesel-electric boats possess lesser endurance and cannot engage in sustained high-speed submerged cruises for fear of depleting their batteries and increasing their indiscretion rate, they will be deployed to a *positional* patrol regime where each vessel is assigned independent ambush positions within a small surveillance "footprint" lying roughly perpendicular to the expected path of the intruding surface fleet. Once the intruders appear within the 30-40nm tactical range of the submarines' ESM sensors and passive sonars, tactical fire control for missile and torpedo attack will be processed directly through information collated by on-board sensors. The use of the submarine and MRA force at the farthest reaches of the defensive perimeter is thus premised on the principle that no matter how powerful a surface fleet may be, it is always at a *relative* disadvantage when engaged in the atmosphere and hydrosphere. Exploiting this disadvantage is critical to thinning down an attacker's numbers and so presenting a smaller target set for the V/STOL-equipped CVBGs defending the middle zone of the defensive perimeter.

As a rule, two CVBGs operating in tandem and deploying a navair force of about sixty aircraft are expected to provide local air cover for the twenty or so vessels operating amid the middle defensive zone of the subcontinental perimeter which, given current capabilities, would encompass the entire Arabian Basin bounded roughly by the Owen Fracture Zone in the west and extending about 10° beyond the Chagos-Laccadive Plateau and Trench in the

east. This allows the surface elements to parry a wide range of threats, including those emerging along the Suez Canal-Red Sea axis. The CVBGs and their capable escorts are expected to use primarily an SSM-ASM combination to obstruct those intruding elements that have penetrated thus far, while simultaneously providing vectoring and target intelligence for the Southern Air Command's strike aircraft preparing to mount massed antisurface attacks. Since the CVBGs are expected to operate at the outer extremity of the IAF's combat radius, local air cover for the defending surface groups will be primarily a Navy responsibility, although it may be supplemented by the extended range of IAF interceptors benefitting from the air refuelling capabilities to be acquired in the future. This defensive sea-control effort is designed primarily for at-sea interdiction of those flotillas threatening intervention and hence, no effort involving attacks on any extra-regional naval facility in the area is presently contemplated.

The inner defense zone, closest to the subcontinental barrack and running roughly coterminal with the Exclusive Economic Zone, will be manned largely by missile patrol boats, second-line surface vessels, Coast Guard ships, and other shorter ranged systems that are not expected to see major action merely because the first and second tiers of the defensive order of battle, operating over 800nm of great geographic depth, are expected to sufficiently damage even the most powerful of intruders. Over time, the Navy intends to further reinforce this defensive zone by laying a substantial band of SOSUS underwater detection sensors, consisting of both passive and bistatic systems. When this entire sector and the various chokepoints in the eastern Indian Ocean are so monitored, complete tridimensional surveillance over these critical bodies of sea space will be possible.

Very obviously, this schematic employment plan will mutate considerably, depending on the political and operational circumstances surrounding each specific threat. But, outlining the static version of the citadel concept is useful because it presents a baseline suggesting how the various capabilities currently being acquired may be dynamically utilized in critical situations of potential danger. It bears repeating, however, that Indian policymakers hardly expect to seek recourse to such drastic force responses against any extra-regional power in the policy-relevant future, but creating a force architecture capable of executing such responses, if needed, is perceived as insurance in case a potential adversary embarks on a venture of naval compellance. In moving towards this posture from which the Indian Navy seeks to dominate the contiguous seas, the present expansion constitutes a prolongation of the British Indian strategy of sanitizing the frontiers in order to secure the subcontinental barrack. This is generally confirmed by the fact that the Indian discomfort with foreign fleets is not restricted to one or the other navy, but rather extends uniformly to *all* extra-regional naval operations in the Indian Ocean. Although American naval movements have often been asymmetrically singled out for

criticism, such rhetoric is largely a by-product of Indian discomfort with the continued American support of Pakistan, the repeated intervention and alliance-formation directed at the smaller states on the extended flanks, and often is an echo of the oft-remembered deployment of the U.S.S. *Enterprise* in 1971. This irritation has been exacerbated because the U.S. Navy is currently (though not necessarily permanently) the largest extra-regional operator in the Indian Ocean, thus magnifying it as the preeminent threat. But, Indian policymakers are in principle equally concerned that no other extra-regional navy intimidate or constrain its growing ascendancy, or that these fleets be used by the other littoral states as protective cover while the latter challenge Indian security interests. In that sense, the desire to dominate the local naval cynosure stems from essentially defensive instincts.

Conclusion

There is little doubt that as the Indian Navy continues to grow according to current plans, its overarching strategy of deterrence by denial will be permanently cemented into a drastic alteration of the regional balance of power. Implicitly, that will make India a power broker capable of conditioning all regional political outcomes, even if only to prevent these outcomes from having an adverse impact on its own insular conceptions of security. By the very structure of this objective, an Indian Navy powerful enough to inhibit extra-regional operations in the Ocean also *ipso facto* becomes a force instrument capable of dominating and coercing the smaller regional states. The fears of these states are exacerbated by the fact that current Indian naval instruments hold the promise of developing into capabilities more potent and more suited to offensive operations than they presently are: V/STOL carrier experience can evolve into CTOL large-deck power projection; short-range surface escorts can become the precursors of an independent long-range surface warfare and land-attack capability; barrier control SSGN/SSKs can evolve into weapons useful for autonomous open-ocean seek and destroy missions; and, limited amphibious capabilities can be transformed into full-fledged instruments of naval penetration and terrestrial control. In this sense, the present buildup is intriguing (or frightening, depending on one's perspective) because India has carefully deployed a set of fairly ambiguous military tools. While presently optimized for defensive sea control, they nevertheless embody a *nascent* projection capability (even though power projection is not currently within the compass of intentions) that can hypertrophy at a later date should India's security environment further deteriorate in its estimation. This inherent flexibility—which India has deliberately maintained in all dimensions of its force expansion—lends itself to only one conclusion: It demonstrates *par excellence* that the anarchic international environment traps states within a perennial dialectic of power

and security, and it creates a profound, Janus-faced ambiguity in the political *telos* of all states trapped under anarchy. India's naval expansion is, in this sense, just another case study of how nations, in responding to changing environments of threat, build specific military instruments and particular force architectures to safeguard the prerequisite of survival, even while continually seeking increased possibilities for the advancement of power and influence.

The fear that an obsessive quest for power and influence may in time come to be the dominating imperative beneath further naval distension only ensures that the present Indian buildup will provoke compensating counter-expansions in the region (as the Pakistani and Indonesian navies have already given notice). Further, it may also result in such states soliciting even more extra-regional assistance in order to contain the powerful and possibly threatening neighbor. In such circumstances, the Indian naval buildup will only aggravate the security dilemmas of the region, and far from promoting an insular barrack, may actually submerge it within an ocean inhabited by numerous larger, more capable, powers—thus leaving India no more secure than before.

New Delhi has thus far made little effort to understand the critical political concerns of its neighbors. Instead, the general attitude of senior policymakers has consisted of suggesting that these difficulties are essentially products of a transitory phase, when smaller neighbors faced with the prospect of an awakening local giant become understandably nervous. Once the new naval primacy and the natural balance of power are "accepted" by all concerned, stability, it is argued, will once again return to the region. The weakness of such logic has been amply demonstrated by the subcontinent's history over the past forty years. Not only do most states along the ocean littoral deeply fear for their national survival—some even to the point of risking conflict in its behalf—but equally importantly, the defensive intent underlying India's naval rearmament is hardly as obvious to them as it apparently is to Indian elites. After all, the environment of international anarchy almost certainly conspires to make a parochial Indocentric view on these matters highly suspect.[36]

If present Indian attitudes then lead to a further deterioration of the political environment in the Oceanic littoral, domestic support for the naval expansion may wane over time, and the Indian Navy may once again be faced with a civilian leadership that finds it prudent to eschew any extended naval responsibilities. If this comes to pass, it may only prove that the success of the present buildup carries within it the potential for its own undoing. And it may further confirm what now seems to be a historical verity: that while amphibious powers sometimes embark on the creation of powerful naval instruments, their continental responsibilities are often weighty enough to extinguish their episodic desires at becoming a thalassocracy. As the Indian

sea service should know better than most, a large naval fleet does not a maritime power make.

Notes

1. Ravi Rikhye, "Submarines India has purchased," *The Times of India*, 5 Deeember 1987; Paranjoy G. Thakurta, "Operation Cover-Up," *India Today*, 15 June 1989, pp. 22-24.

2. Editorial, "Tip of the Periscope," *The Statesman*, 19 May 1988.

3. The general effects of the budget crunch have been detailed in Yogendra Bali, "Stagnant Budget hits Navy," *The Times of India*, 14 December 1989; "Navy Budget Strained," *The Times of India*, 28 Decemher 1989; Shekhar Gupta and Paranjoy G. Thakurta, "Heading for a Crisis," *India Today*, 28 February 1989, pp. 42-50.

4. For an instructive comment on the desirable size and capability of the subsurface arm, see the remarks of Indian participants in *India, the United States and the Indian Ocean* (Washington: The Carnegie Endowment for International Peace, 1985), p. 60ff. Also, "Strong Submarine Arm for Navy Urged," *The Times of India*, 1 April 1983.

5. Among the more informed reports on the Indian nuclear submarine are Rita Manchanda, "Nuclear Subs for India," *The Indian Post*, 18 January 1988; "N-powered subs in service by '91," *The Times of India*, 31 Decemher 1987; Rita Manchanda, "Nuclear Ambitions," *Far Eastern Economic Review*, 24 December 1987. The controversy over the vessel's class has been covered in Rita Manchanda, "Is the INS Chakra more lethal?" *The Indian Post*, 8 February 1988.

6. "Balanced Navy Essential," *Frontline*, 13-26 December 1986, p. 118; Prime Minister Rajiv Gandhi reportedly announced in February 1989 that there were "no immediate plans to increase the numbers of nuclear submarines," a statement apparently linked to increasing concerns about radiation safety aboard Soviet nuclear boats. See, Richard Sharpe, "Foreword," *Jane's Fighting Ships, 1989-90*, republished in *Sea Power*, July 1989, p. 43. Also, P. L. Lakhanpal, "Chakra Sub's Safety Questioned," *India Abroad* (Chicago), 2 June 1989.

7. Norman Friedman, "World Naval Developments 1987," U.S.N.I. *Proceedings*, May 1988, pp. 220-221; Rita Manchanda, "Nuclear Subs for India," *The Indian Post*, 18 January 1988; "N-powered subs in service by '91," *The Times of India*, 31 December 1987.

8. Technical data on the missile systems have been collated from Norman Friedman, *World Naval Weapon Systems* (Annapolis: Naval Institute Press, 1989), pp. 89-93.

9. "Stage set for third aircraft-carrier," *The Times of India*, 9 December 1987.

10. "India building a Blue-Water Navy," *The Times of India*, 25 May 1988.

11. "French-Designed Carrier for India," *Sea Power*, April 1989, p. 170.

12. For details of the carrier debate see, Ashley J. Tellis, "Carrier Aviation and the Indian Navy," Original Document Accession Number 231741 (Arlington, Va: Center for Naval Analyses, 1986); Ashley J. Tellis, "Aircraft Carriers and the Indian Navy," *The Journal of Strategic Studies*, June 1987, pp. 141-167.

13. "Indigenous carrier to be on 'tactical lines,' " *The Times of India*, 23 August 1987.

14. "Naval variant of LCA planned," *The Times of India*, 1 December 1989.

15. "Navy to Purchase Warning Helicopters," *The Times of India*, 7 September 1988.

16. Ravi Rikhye, "The Island Scare," *India Today*, 1-15 May 1982, p. 107; A. K. Chatterji, "Indian Navy in the Eighties," *The Chanakya Defense Annual, 1978* (Allahabad: Chanakya Publishing House, 1978), p. 103.

17. "More Indigenous Ships Planned," *The Indian Post*, 16 April 1988; "Naval aircraft strength to be raised," *The Times of India*, 5 December 1989.

18. "The Navy's Sights," *Frontline*, 12-25 December 1987, p. 11.

19. Michael Vlahos, "Middle Eastern, North African, and South Asian Navies," U.S.N.I. *Proceedings*, March 1988, p. 64.

20. The extent of this diaspora, often unrecognized, is detailed in Jerrold F. Elkin and W. Andrew Ritezel, "New Delhi's Indian Ocean Policy," *Naval War College Review*, Autumn 1987, pp. 50-63. The most critical islands from a strategic point of view are Sri Lanka, the Maldives, the Comoros, Mauritius, Seychelles, and Madagascar. India has signed security agreements with some Oceanic states, most recently with the Maldives in 1987, and Indian naval missions have steadily spring up in several island states of the Ocean littoral.

21. The organization for such capabilities has been detailed in Gautam Das, "An Indian Naval Infantry Brigade?" *Journal of the United Services Institution of India*, July-September 1986, pp. 250-265.

22. "Special Ships for Indian Navy," *The Times of India*, 29 December 1989.

23. V. A. Kamath, "The Emergence of the Indian Coast Guard," *Journal of the United Services Institution of India*, July-September 1979, pp. 231-240; Hormuz P. Mama, "Indian Coast Guard Expansion," *International Defense Review*, v. 23, no. 4, 1990, p. 437.

24. The Karwar naval base, to be designed by a Dutch-Australian consortium, will be spread out over 3,650 square kilometers (with berthing facilities reportedly of 4.5 square kilometers), and is expected to cost about $2 billion. See, Rahul Bedi, "Navy Base Contract Signed," *India Abroad* (Chicago), 17 March 1989.

25. The history of Indian policy towards the FORTAN has been detailed in Michael R. Potaski, "The Republic of India's Union Territory of the Andaman and Nicobar Islands," (unpublished research paper, Department of State Foreign Service Institute and Catholic University of America, 1986).

26. In the Indonesian case, the northwesterly approaches adjacent to India are of principal relevance. This area will grow in importance as the Indonesians complete their new naval base in Sumatra, providing quicker access to the Bay of Bengal. See, Ross H. Munro, "Superpower Rising," *Time* (Asian Edition), 3 April 1989, pp. 10-11.

27. S.N. Kohli, "Maritime Strategies and Force Levels," *The Chanakya Defense Annual, 1973* (Allahabad: Chanakya Publishing House, 1973), p. 131. Also, V. Koithara, "India and the Indian Ocean," *Journal of the United Services Institution of India*, July-September 1975, pp. 225-239. The expected Chinese presence in the Indian Ocean, among the more widely echoed of recent threats, is outlined in Dilip Mukerjee, "Exaggerating Navy's Clout," *The Times of India*, 25 April 1987, and Dilip Mukerjee, "China's Naval Build-Up," *The Times of India*, 6 May 1987.

28. A.L. Bery, "Naval View of Navy," *Vikrant*, 4 January 1980, pp. 28-30.

29. This section has been developed from Ashley J. Tellis, "The Naval Balance in the Indian Subcontinent," *Asian Survey*, December 1985, pp. 1186-1213.

30. The Pakistani naval defenses are reviewed in Ashley J. Tellis, "The Pakistani Navy: Analysis and Review," (Parts I & II) *Naval Forces*, vol. VII, no. VI, 1987, pp. 46-55 and vol. IX, no. I, 1988, pp. 52-59, respectively.

31. The nature and logic of IAF strategy in a future conflict has been detailed in Ashley J. Tellis, "The Air Balance in the Indian Subcontinent," *Defense Analysis*, vol. 2, no. 4, 1986, pp. 263-289.

32. Whether the Pakistan Navy will in fact suffer such a demise is clearly a function of both the relative naval balance and the survivability of Pakistani naval defenses in the face of the planned Indian offensive, and it is clear that recent Pakistani acquisitions have been inducted precisely in order to arrest the erosion in numerical balances and to blunt, at least, the Indian subsurface offensive. The consequences of the new Pakistani naval acquisitions have been analyzed in Ashley J. Tellis, "New Acquisitions on the Indian Subcontinent," *Naval Forces*, v. XI, no. II, 1990, pp. 64-71.

33. M. P. Awati, "Emerging Security Issues in the Indian Ocean: An Indian Perspective," in Selig S. Harrison & K. Subrahmanyam, eds., *Superpower Rivalry in the Indian Ocean* (New York: Oxford Univ. Press, 1989), p. 106ff.

34. Another important contingency that clearly disturbs Indian security planners and policymakers involves extra-regional naval intervention focussed not directly against India but employed with the purpose of frustrating the attainment of Indian military objectives. In the context of a war with Pakistan or any other littoral state, such extra-regional naval intervention is envisaged as possibly taking the following form: A strong extra-regional naval squadron steams into the Indian Ocean and acts as an *interpositioning force*, locating itself between India and an Indian military target. Because such intervention does not aim to threaten India or its territory directly, but rather attempts to shield the client state from receiving the full impact of Indian military blows, it poses a particularly ticklish problem for the country's military planners in that it frustrates the Indian political objective of destroying the enemy without presenting the kind of provocation that might otherwise justify an Indian attack on the interpositioned extra-regional naval squadron.

35. Dilip Mukerjee, "Protecting India's Economic Zone," *The Times of India*, 21 August 1987. Discussions about naval architecture for such purposes may be found in Satish Talwar, "Power Struggle in the Indian Ocean," *Journal of the United Services Institution of India*, April-June 1985, pp. 97-114; R. N. Misra, *Indian Ocean and India's Security* (Delhi: Mittal Publications, 1986), pp. 206-241; Subimal Mookerjee, "Indian Naval Development—Need for Review," *Journal of the United Services Institution of India*, April-June 1989, pp. 151-157. How Indian naval forces may be operationally configured to meet such obligations have also been explored in Sojka, pp. 5-12 and Elkin and Ritezel, pp. 55-62. This reconstruction of Indian naval strategy owes a great deal to several conversations with senior Indian naval officers who have discussed this issue off-the-record.

36. See T.T. Poulose's most pertinent comment in "India and the Indian Ocean: Changing Strategic Perceptions," *Asian-Pacific Community*, Summer 1985, pp. 131-139.

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It is true, and has always been insisted upon in these lectures, that on a maritime theater the navy is the all-important factor; but in these days a navy no more than an army can stretch its lines of communication too far from a strong and extensive base. Its communications must be assured, either by overwhelming control of the sea, making it as it were its own territory; or else, by a well-knit line of posts properly spaced from the home country.

Naval Strategy
A. T. Mahan (1911)
Little, Brown (1918), p. 344

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There are many who lust for the simple answers of doctrine or decree. They are on the Left and the Right. They are not confined to a single part of the society. They are terrorists of the mind.

A. Bartlett Giamatti
Baccalaureate address,
Yale University
May 1986

A Carrier Force for the Indian Navy

Captain Arun Prakash, Indian Navy

Which country added an aircraft carrier, a nuclear submarine, a squadron of long-range maritime patrol aircraft and two missile corvettes to its inventory in 1987-88? There are no prizes for the right answer, but many in the West are perplexed by India's growing maritime power and are overcome by a sense of the preposterous that a third world country should begin to assume what has traditionally been the "white man's burden."

India has possessed a million-strong army and a thousand-aircraft air force (respectively, the third and fourth largest in the world) for many years without attracting inordinate attention. Current efforts to bring her navy to an equal strength level are raising hackles in some quarters. This, perhaps, significantly indicates the implications of naval power. In this context, the question most often asked is: What is India's purpose in having two aircraft carriers and plans to build a third?

Before discussing the subject of a carrier force for a third world navy, I will establish the historical and geopolitical context of, and define a role for, the Indian maritime force. The carrier is a weapon system which evokes a great deal of controversy in India's political circles, as well as within the military establishment. We will examine the pros and cons of this debate in today's environment and the various choices confronting the Indian Navy, before offering some recommendations.

Centuries before Columbus sailed the Atlantic and Magellan crossed the Pacific, the Indian Ocean had become an active thoroughfare of commercial and cultural traffic. Indian maritime power was instrumental in the spread of Hindu culture through Southeast Asia to the South China Sea.[1] The decline of India's sea power by the 14th century was to a large extent responsible in the next century for the success of the European adventurers who began

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Commissioned into the executive branch of the Indian Navy in 1966, Captain Prakash volunteered for naval aviation, and carrier qualified in the Sea Hawk jet fighter in 1968. His varied aviation and sea experience includes the command of a fighter squadron, a naval air station, a missile boat and two frigates. A graduate of the IAF Test Pilots School, the Defence Services Staff College and the Naval Command College class of 1990 at the Naval War College, he is now commanding the aircraft carrier *Viraat* (R 22).

to arrive on her shores. The Portuguese arrived first, followed by the Dutch, the British and the French—all motivated by the lure of Oriental spice and specie, and aiming for the domination of India. Unlike other invaders who came overland, assimilation into the fabric of Indian culture and civilization was perhaps furthest from their minds.

That their country had been prey to centuries of invasions and conquests, and that final domination by an alien power resulted not from overland invasion, but by invasion across her shores, is a racial memory embedded in the Indian psyche. The thought processes of common men and intellectuals alike have been conditioned with a deep-rooted fear that the country faces an ever-present threat of losing its independence—whether the menace be military, economic or political.

Geopolitical Background

During the heyday of the Empire, when Britannia ruled the waves through the potent medium of the Royal Navy, the primary preoccupation of the British in India was with their next move in the "Great Game" designed to thwart the Russian Bear's progress towards the warm waters of the Indian Ocean. This British geopolitical thesis became unacceptable to the Indians after Independence. However, the still-perceived threat from the northwest and the north was proved accurate when the Chinese attacked in 1962. The "continental" bias of Indian thinkers, therefore, remained firmly entrenched in their minds till the 1971 war with Pakistan, when two demonstrations of the classical application of naval power dealt it a firm blow.

The first was a bold display of innovative planning by the Indian Navy, which brought the realization that the navy could make a significant contribution towards achievement of national aims. Off the coast of East Pakistan, naval air power from the task force led by the light-fleet carrier *Vikrant* not only interdicted Pakistani lines of communication and damaged air bases and other installations, but also established an effective blockade that prevented resupply and evacuation of Pakistani forces. This accelerated the capitulation of Pakistani forces, and India took 90,000 prisoners of war. In the West, attacks by missile armed surface raiders sank two warships and a merchantman off Karachi, the headquarters of the Pakistani fleet. A second attack with surface-to-surface missiles (SSMs) fortuitously set ablaze a huge fuel dump and played havoc with Pakistani morale.

In the second instance, the significance of naval power was rudely brought home to Indian strategists and politicians when President Nixon attempted to intervene in the war on behalf of Pakistan by despatching Task Force 74 to the Bay of Bengal. In the words of Henry Kissinger, "An aircraft carrier task force that we had alerted previously was now ordered to move towards

the Bay of Bengal, ostensibly for the evacuation of Americans, but in reality to give emphasis to our warnings to India against an attack on Pakistan."[2]

Nixon's deployment of the *Enterprise* task force was a somewhat ill-considered and ill-timed attempt at gunboat diplomacy. The Pakistani forces surrendered to India while the *Enterprise* was still on passage. The task force therefore had no impact on the course of events. The maneuver did, however, convince Indians that they had been subjected to an insulting piece of military blackmail with, perhaps, nuclear overtones. It helped, more than anything else, to solidify a consensus—both politically and militarily—that there was a need to insulate the country against externally applied pressures and laid a firm foundation for India's naval resurgence.

Stereotyped images are not easily dispelled, and even many Indians find it hard to believe the emerging realities of their country. The world's largest democracy has the second largest population, with a middle class of about 100 million earning more income than the average European.[3] India ranks amongst the ten greatest industrial powers in the world and has the world's third largest pool of scientists and engineers, right after the United States and the U.S.S.R. Many are engaged in the high-tech fields of nuclear energy, computer software, missiles, and shipbuilding. The country's 6 percent annual rate of economic growth over the past decade has been nearly double that of the United States, and the GNP is projected to rapidly overtake those of the United Kingdom, Federal Republic of Germany, and Italy in the next 30 years.[4]

When an Indian examines the prerequisites of geography, territory, population and national institutions stipulated by Admiral Mahan as affecting the sea power of nations against the background of these facts, he may well arrive at the reasonable conclusion that a strong Indian Navy not only has a *raison d'etre*, but is essential for the well-being of his country.

The Indian Navy's Mission

With Robert Clive's victory at the Battle of Plassey on 23 June 1757, the Indian province of Bengal fell to the British. The thin end of the wedge was in position, and this date is commonly accepted as the beginning of Britain's 190-year rule of India. Commenting on this historic event, Admiral Mahan remarks, ". . . it may be said that the foundation thus laid could never have been kept nor built upon, had the English nation not controlled the sea. The conditions in India were such that Europeans of nerve and shrewdness, dividing that they might conquer, were able to hold their own against overwhelming odds."[5]

Mahan's statement contains seminal wisdom which retains its relevance even today, albeit with some modification. The Indian subcontinent and its neighbourhood remain volatile and vulnerable entities because the nation

states there are prone to internal disorder and external interference. Her policy of "nonalignment" notwithstanding, the core values of the Indian republic, like democracy and religious freedom, are subject to direct and indirect external pressures. It is obvious that efforts to maintain stability amongst the region's nation states and to ward off threats to India's integrity must be backed by powerful military tools. To ensure that interlopers are never again given an opportunity to divide "that they may conquer," the seas must be secured—and the best tool for this is the Indian Navy.

Assets and Liabilities. The most prominent land feature of the Indian Ocean region (IOR) is India herself, a peninsula jutting two-thousand kilometers into the sea. This configuration brings nearly half of the IOR within a 1500-km arc from Indian territory. Two groups of islands, one off each coast, provide convenient locations for naval and air bases. In a strategic context, the implication is that military power can be projected by India's sea power over a wide swath of the IOR.[6]

Geographical location has given India one of the largest exclusive economic zones (EEZ) in the world (over two-million sq km). India is one of the six nations worldwide that is developing the technology of seabed exploitation. Once the ocean is ready to yield its bounty, India will have important commercial and economic assets to guard in the EEZ.

A burgeoning offshore oil industry generates 30 million tonnes of crude, which is adequate to meet 40 percent of the country's requirements—the rest comes from the Gulf and the U.S.S.R. India has a growing merchant fleet of over 6 million GRT. With 10 major and 190 minor ports, there is an active overseas trade which equals 25 percent of the gross national product and is virtually the country's lifeline.[7] A little-known fact is India's active exploration of Antarctica. Commencing in 1981, India has so far sent eight scientific expeditions and established a permanent base in Antarctica. Should the disposition of Antarctica's wealth become an issue, India will have growing interests to guard in this area too.

Sources of Tension. Having fought four wars (three with Pakistan and one with China) since Independence, India has now been at peace for 19 years. However, the *casus belli* of the past wars have not been removed, and regional tensions persist. Pakistan, considered to be India's primary adversary, is an ally of the United States and receives generous supplies of modern arms in the form of aid which continues in spite of the Russian withdrawal from Afghanistan and of a thinly disguised nuclear weapon programme. China has openly proclaimed its right to administer "lessons" by military means to its southern neighbours, and remains a source of concern to India. Although Chinese naval deployments to the Indian Ocean have been infrequent, that country's navy is a substantial force with a number of SSBNs and SSNs in

commission and must be taken into account in strategic calculations. A new factor in the region is the burgeoning strength of Saudi Arabia. Equipped with IRBMs, the AWACS, an air-to-air refuelling capability, and a long-range Tornado strike force, Saudi forces (or their friends) have the ability to reach the west coast of India. The recent events in Sri Lanka and the Maldives Republic have shown that India's interests lie in her ability to resolve regional tensions without superpower intervention.

The efforts of the Indian Ocean's littoral and hinterland states to eliminate superpower military presence from the waterspread have inevitably met with scant success. The United States and the U.S.S.R. are not likely to modify their policies to suit the convenience of a few third world countries, and the latter will have to learn to live with the reality that overt or covert pressure may be brought to bear in internecine regional quarrels and that the search for regional bases by both sides will continue.

Objectives and Capabilities. Against this backdrop, the naval tasks that emerge from the national objectives of protecting the country's vital maritime interests and of insulating its freedom of action from external pressures can be capsulized as follows:

- To exercise sea control in specified areas of interest in the Indian Ocean when required.
- To ensure freedom of navigation for shipping and safety of sea lines of communications.
- To safeguard interests in contiguous waters, exclusive economic zones, and island territories.
- To maintain capability for limited power projection.

Currently the largest force in the region, the Indian Navy is comprised of nearly 150 vessels of all types, including two aircraft carriers, 15 submarines, 5 destroyers, 28 frigates and corvettes, and a variety of amphibious, mine warfare, auxiliary, hydrographic and coastal forces. A large naval aviation element of 12 squadrons provides embarked and shore-based assets for strike, patrol, ASW, over-the-horizon targeting and other requirements. A substantial programme for building warships and submarines in the country is underway. The Indian Coast Guard, with its own establishment of surface ships, helicopters, and fixed-wing aircraft, would form a useful adjunct in war.

Deployed in two fleets—one off each coast—the navy has built up high levels of technical competence and seamanship, with the ability to operate at considerable distances for extended periods. The service, therefore, rightfully considers itself a "blue water" force and has the capability to deploy anywhere in the Indian Ocean as an instrument of national policy.

The Need for a Carrier Force

If India's navy aspires to exercise sea control or to project power, an essential prerequisite would be the domination of the airspace above and the capability to sanitize the depths below any part of the ocean which may be of interest at a given time. The tactical guided missile carried by a ship, submarine or aircraft exposes a major vulnerability of the surface combatant to which there is no cut and dried answer. Warning times are so small that decoys, electronic countermeasures, and hard-kill measures may prove ineffective. Advances in submarine and torpedo design have further undermined the surface ship's position. The conditions of high temperature and salinity in the Indian Ocean create unusual bathythermal conditions and make ASW a nightmare for ships with fixed sonars. Variable depth and towed-array sonars provide a marginal advantage.

The proliferation of aircraft, missiles and submarines in the IOR navies is already a fact, and it is evident that a surface force could operate in such a hostile environment only at grave peril. The sure countermeasure against a missile is to destroy the platform before it launches—and only a strike fighter can do this. The adversary that a submarine fears most is the ASW helicopter, which approaches with stealth to find and attack with impunity.

The answer to the dilemma of the surface force is air power, integral to the fleet and embarked on an aircraft carrier so that it is available round the clock in the farthest reaches of the ocean. Critics of naval air power often suggest that shore-based aviation can easily replace aircraft carriers.[8] These are the musings of armchair tacticians. Any navy which has operated with or tried to orchestrate shore-based tactical air support for naval units will know that the command, control and communication problems at even slightly extended ranges can be mind-boggling. The consequences of tying down a fleet to operate within shore-based air support range cannot be anything but disastrous.

Survivability and Affordability of a Carrier

Sitting Ducks? Perhaps the most contentious issue regarding carriers is their vulnerability to attack and the question of their viability after sustaining damage. One must start with the premise that the only certainty in a naval battle is that ships will be lost to enemy action. Admittedly a carrier is a high-visibility target of considerable value, but to demand invulnerability of any weapon system is to condemn it to oblivion. On the other hand, a carrier is not a patrol boat and its deployment must be guided with tactical skill in order to exploit its strengths and guard against its weaknesses.

A carrier can travel a distance of 300 nm or more between sunset and sunrise, and in that period can disappear anywhere in an ocean area of 27,000

sq nm. Before the enemy can attack the ship, he must find it. Of course, no object at sea which has a reasonable radar cross section can (yet) evade detection forever. However, by virtue of its size and the aircraft it accommodates, the carrier has more passive and active capability to counter a threat than any other ship afloat. As far as survivability is concerned, because of its larger volume, greater compartmentation, and inherent structural strength, the carrier can withstand far more missile or torpedo hits than any other type of warship and yet continue with its primary mission. This has been proved time and again, not only in World War II, but also off Vietnam.

Therefore, a carrier is not only difficult to find, but it can defend itself better than any other ship; if attacked, it has a tremendous capacity to absorb damage and to continue aircraft operations.

The Numbers and Economics. In 1961 India acquired the *Vikrant*, a 20,000-ton light fleet carrier, from the United Kingdom. It has been operating under the Indian flag for 29 years, initially with the Sea Hawk strike-fighter and subsequently with the Sea Harrier, from a 10-degree ski jump. In 1987 the country acquired a second carrier from the Royal Navy—the 30,000-ton Falklands veteran, HMS *Hermes*, and renamed her INS *Viraat*. This ship has a 12-degree ski jump.

The *Vikrant*, laid down in 1945 as the *Hercules*, is unlikely to last beyond the end of the century, and the *Viraat* for perhaps a further decade. In order to ensure the continuous availability of one carrier at all times. the IN requires at least three vessels of this type, which means that the first would have to be in service by the end of the century, with two more to follow in the following decade.

The purchase of the *Hermes* is understood to have cost under $100 million, which was a bargain price when compared to what an even modest current-day ship would cost. In 1978 it was estimated that a 35,000 to 40,000-ton carrier would cost in the region of a billion dollars to build in the United States.[9] While no firm figures are available, allowing for much lower labour and material costs, a "guesstimate" of $600-800 million may not be too widely off for the cost of building a similar ship in an Indian yard. Therefore, it is evident that rather than buying a carrier from a foreign builder, it would be more advantageous to build it in an Indian yard for economic reasons as well as the technological spin-offs that are bound to accrue. Bigger sums have been spent by the Indian government on military acquisitions ($3.3 billion on the Mirage 2000 deal for example),[10] but an expenditure of this magnitude on a controversial item is likely to provoke much debate in the country and therefore needs to be examined in a broader perspective.

The myth that defence expenditures retard developmental activities and that it is somehow immoral for a poor nation to spend on arms was shattered by the war with China in 1962, which made it obvious that India's

development could only take place within a secure environment and that a certain level of defence expenditure was inevitable. This level was pegged at about 3.5 percent of the gross national product, where it remained for the next two decades. Gradually a view emerged that the increased "aggregate demand" provided by defence taps idle resources in a developing country and promotes a national psyche that encourages saving and investment. Economic studies of countries such as Israel, Taiwan and South Korea show that high rates of defence expenditure are not only compatible with high growth rates, but may even contribute to the latter. Similarly, it is argued that although defence spending does contribute marginally to inflation, an inflation rate of 5-10 percent may be healthy for a country like India, because it draws money into productive ventures.[11]

Against this background it can be argued that in the case of large-scale defence spending on an indigenous project like carrier construction, not only will the shipbuilding and ancillary industries get a fillip, but benefits to industry and technology in the country will far outweigh any adverse economic effects.

The Options Available

Any navy considering the choice of a new aircraft carrier is initially confronted with basically two options. If it chooses to confine the carrier to VSTOL machines, then it can choose a simple design without flight deck machinery and keep it reasonably small in terms of size, weight and propulsion. If it is considering conventional aircraft, then a more complex ship with catapult and arresting gear and of a much bigger size overall must be contemplated.

For a small navy with a limited budget, both options have some merit and deserve consideration. In India's case, since the determination of ship size appears to be contingent on the nature of its aircraft, it may be logical to address that issue before returning to the subject of ships.

A survey shows that countries with small or medium-sized carriers in their naval inventories are limited in their choice of aircraft, because many of the more capable machines are so big and heavy that their operation would impose severe constraints on the smaller carriers. Often, aircraft from external sources which meet all other requirements are unavailable due to political considerations. In other words, even if a dramatic sea change in Indo-U.S. relations made it possible for the IN to obtain, for example, the F/A-18 Hornet, this might require a carrier bigger and faster than the one India is planning to build. On the other hand, Soviet state-of-the-art equipment has normally been available for sale to the Indian armed forces and therefore a brief examination of the new Soviet conventional (as opposed to VSTOL) carrier, *Tblisi*, is germane.

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The* Tblisi *Experiment. For nearly half a century the Soviets scoffed at aircraft carriers as "sitting ducks," and the Red Navy relied on the *morskaya aviatsia* (shore-based aviation) for support at sea. It was only in the 1960s that the advent of the Polaris submarine prodded them to relent in their doctrinaire opposition and put organic aviation at sea. First came the ASW helicopter carriers *Moskva* and *Leningrad* in 1967-68, followed a few years later by the *Kiev*-class flat-tops carrying Yak-36 Forger VTOL interceptors. To Western observers it appeared that, having lagged behind so badly in the esoteric art of carrier aviation, the Soviets had decided to leapfrog a technological age and go down the VSTOL path in a big way.

However, the Forger, a complex three-engine machine, turned out to be far less capable than its Western counterpart, the AV-8A Harrier. Its lack of a short take-off capability (which made it merely a VTOL rather than a VSTOL machine) and its limited payload and endurance detracted substantially from its utility as a shipborne fighter. It also did not have the potential for supersonic performance, and it soon became obvious that the Soviets had backed the wrong horse.

It now appears that, if the reports of the *Tblisi* trials are substantially correct, the Soviets have made two fairly dramatic breakthroughs in a field where they are relative tyros.

Firstly, they have taken current models of land-based aircraft—the MiG-29, the Su-27, and the Su-25—and modified them for carrier operations. These modifications involve changes in aerodynamic configuration to reduce landing speed, as well as strengthening of the undercarriage, and include the addition of a tail hook for deck landing—all of which increase the weight of the aircraft.

Secondly, the Soviets have done away with a catapult and now use a moderately inclined ski-jump for the unassisted launch of heavy, high-performance aircraft.[12] It was previously believed that only VSTOL aircraft with thrust-vectoring ability could be launched from ski jumps.

It remains to be seen whether the modifications and consequent weight increase significantly detract from the capabilities of these aircraft. It is also not clear at what percentage of their maximum all-up weight the aircraft can be launched. Whereas a light aircraft using afterburner, a long deck run, and strong relative wind might leap off the ski jump with ease, a fully armed and fuelled machine might encounter difficulty. Moreover, with this system it appears unlikely that the carrier would be capable of simultaneous launch and recovery operations. It is obvious that the Soviets have some way to go before they have an operational weapon system in the *Tblisi* and her flying machines. Therefore, this option is not at present viable for the Indian Navy.

Aircraft Options. In view of the foregoing, the three options available to the Indian Navy at this moment are:

- The Indian Light Combat Aircraft (LCA) on the design board for the Indian Air Force, which is likely to fly in 1995.
- A VSTOL machine.
- The French Rafale "M" carrier-borne fighter.

Equipped with fly-by-wire controls, a phased array radar, and a U.S.-built General Electric F-404 engine, the LCA promises to be a very capable aircraft. However, it is still in the design stage, and the progress of such an ambitious project is likely to contain many elements of uncertainty. Moreover, it is well known that aircraft designed for shipboard use can be easily adapted for the air force, but the reverse is rarely true because exacting naval demands are often difficult to accommodate in an existing airframe (hence the scepticism about Soviet conversions). In view of this, it may be imprudent to base the ship's design on what is essentially a "dark horse."

At this moment there are only two VSTOL aircraft flying at sea—the British-built Sea Harrier and the Soviet Yak-36 Forger. The IN has been flying the far more capable Sea Harrier for eight years and is most unlikely to consider the Russian aircraft because of compatibility problems if nothing else. The Sea Harrier has often attracted criticism for its perceived lack of performance as compared to carrier-borne aircraft of the U.S. Navy and the shore-based aircraft of India's likely adversaries. Many who criticize its subsonic performance forget, or are unaware, that the pilot of a shore-based aircraft is most unlikely to use the supersonic regime 200-300 nm out at sea because of its exponential rise in fuel consumption. In the subsonic regime, the Harrier can more than hold its own as demonstrated against the Mirages and Skyhawks in the Falklands war. The IN is in the process of arming its Sea Harriers with the Sea Eagle ASM and the all-aspect Matra Magic II AAM. Also in the offing are performance improvements being offered in a mid-life update package. While the Sea Harrier probably will not attain supersonic performance in the foreseeable future, it certainly will remain the most capable machine available to medium navies for some time.

An advanced light combat aircraft designed by Avion Marcel Dassault for service in the next century with the *Armee' de l'Air*, the Rafale is also to equip the *Aeronavale* squadrons on board the new carrier *Charles de Gaulle*. Preliminary carrier trials have been carried out but much of the trials programme remains to be done. If concrete performance data and delivery guarantees can be obtained from the Avion Marcel Dassault and the French government, the Rafale appears to be a very suitable candidate for the Indian carrier.

Ship Options. Apart from the dimensions of the hangar, the size of the propulsion plant, and capacity of fuel tanks and magazines, the most important determinant of carrier design is the flight deck, whose size and configuration depend on the type of aircraft operations intended. It has been found

empirically that to operate all conventional high-performance aircraft, a deck length of 912 feet is the minimum required, and this would correspond to a displacement of about 60,000 tons. If heavier aircraft like the F-14 were excluded, the deck length could be reduced to 813 feet with the ship displacing about 35,000 to 40,000 tons. Lower down on the scale, a 650 to 700-foot deck would suffice for purely VSTOL operations and the ship would displace about 20,000 tons.[13]

In view of these aircraft options, it is obvious that the IN should be looking at only the following two ship options:

- Type A, the 800-foot/35,000 to 40,000-ton carrier equipped with catapults and arresting gear and capable of operating light and medium weight conventional aircraft.
- Type B, the 700-foot/20,000-ton ship fitted with a ski jump and capable of operating VSTOL aircraft only.

Since a ski jump and a catapult compete with each other for the same piece of flight deck, it would appear that the operation of VSTOL and conventional aircraft from the same ship is not feasible. However, if a ski jump is installed in the bows of the ship and the catapult on the angled deck, it may still be possible to operate both types, and this may represent a third option. However, there are likely to be design and operational constraints on such a model, which will need to be studied in depth before arriving at a conclusion.

If either the Indian LCA or the French Rafale appear to be firm prospects within a reasonable time frame, then the choice would obviously be the Type A carrier. Such a ship (not equipped with a ski jump) may perhaps be suboptimal for VSTOL aircraft, but these would then be on the way out. However, if uncertainty persists about the new aircraft, it may be prudent to stay with the Sea Harrier and its successor for some more time. In this case the first indigenous carrier can be a smaller Type B pure VSTOL ship with a ski jump and no flight deck machinery.

The Way Ahead for the Indian Navy

It makes sense for the Indian Navy to plan for the construction of three aircraft carriers over a period of 15 years, commencing in the early 1990s. It should conduct a study into the design and operational feasibility of a hybrid catapult/ski jump-equipped carrier. Should this appear to be a viable option, the first ship could be designed around this concept to operate VSTOL aircraft till a conventional aircraft becomes available, after which both or one type could operate from the ship.

Should the above option not be feasible, a choice will have to be made between a small VSTOL carrier or a larger conventional carrier. The decision will pivot on the availability of a light-weight conventional aircraft such as the French Rafale "M" or the Indian LCA. If the status of the aircraft remains

in doubt, the choice would be confined to a 700-foot carrier with a displacement of about 20,000-25,000 tons, built to operate VSTOL aircraft initially, which could be modified at mid-life for conventional aircraft. On the other hand, if the Rafale becomes available, the option changes to the larger 800-foot/35,000 to 40,000-ton ship equipped for conventional aircraft, but also able to operate VSTOL machines.

Whatever the option for the first carrier, the aim should be to change over eventually from VSTOL to more capable conventional machines. Similarly, when the carrier version of the Indian LCA comes to fruition, it should be assigned to supplement or replace the Rafale. A careful watch on the progress of Soviet developments will be necessary. If the operational deployment of the MiG-29 and the Su-27 from a ski-jump ship becomes a proven and viable proposition, the acquisition of these aircraft could be considered for the IN (the Indian Air force has been flying the Mig-29 since 1986).

Limitations of its VSTOL aircraft and the lack of an early warning capability at sea have for the past decade been used by crirics to castigate the navy's carrier-oriented strategy—two points that need ro be addressed here.

The IN has accumulated a high level of operating skills and tactical expertise in the area of carrier-borne operations over the past three decades. Today it possesses a substantial pool of personnel who are experts in all aspects of aviation at sea. Hardware is easy to come by, but expertise is a function of time, experience and much sweat and blood, as the Soviets will no doubt find out when they work up their new carrier. Criticism of the IN's decision to maintain an air capability at sea through the medium of VSTOL carriers, in spite of their limitations, has an element of validity. However, this was the result of a technology-gap which failed to produce more capable aircraft for small carriers. Technology is not static, and it is vital that the IN keep the art of carrier aviation alive through the means of VSTOL machines, if necessary, rill other options become available.

Lack of airborne early warning (AEW) support at sea is clearly a gap which needs to be filled by the navy to make its carriers more effective and to provide a safer environment for its surface forces. Fixed-wing aircraft, like the Hawkeye, may be too heavy to operate from smaller carriers. Perhaps a combination of helicopter-mounted AEW radar, radar pickets and combat air patrols offset in the direction of the threat may provide a partial solution. Integral AEW effort would eventually have to be supplemented by shore-based, long-range aircraft like the E3A Sentry or the Soviet IL-76 Mainstay.

A final vexing issue in the carrier debate is likely to be the propulsion plant of the proposed ship. Considerable expertise has accumulated in the country with respect to design and fabrication of nuclear power plants, and there is likely to be considerable lobbying, in both the naval as well as the nuclear establishments, in favour of nuclear propulsion for the new carrier. By

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military criteria, the case for nuclear propulsion is fairly strong; the great saving in space and increase in speed and endurance are compelling reasons to adopt this course. However, nuclear propulsion is understood to add 30 percent to the acquisition cost of a carrier, and this alone is a powerfully negative factor.[14] The design and construction of a new carrier will pose a major challenge to India's shipbuilding industry. To this, the design, development, and operational problems of a nuclear plant will add many more imponderables that may jeopardize this pioneering venture. It would, therefore, be prudent to design the first ship around a gas-turbine plant and consider nuclear propulsion for subsequent ships.

India's history, geography, and population, as well as industrial and economic potential, predicate her position in the region. While talk of regional doctrines and spheres of influence would be anachronistic and inappropriate, India has certain legitimate and vital interests in the IOR, which she is bound to safeguard—by political and diplomatic means if possible, and militarily if forced to. In this scheme of things, a strong and capable Indian Navy is a vital factor.

As throughout the rest of the world, the Indian Ocean region has seen a great increase in the number of missiles, aircraft and submarines possessed by the littoral navies. In such an environment, the very survival of a naval force, leave alone the execution of its tasks, hinges on the availability of integral air power. Experience has shown that the only effective way of doing this is to have aircraft carriers at sea.

The Indian Navy has been a practicing adherent of carrier aviation for nearly three decades. As the service looks towards the turn of the century, it becomes obvious that its two vintage carriers will need to be replaced. For the navy to discharge any blue-water missions in its native ocean, it must have at least one deck available at all times to put air power to sea.

With a sound industrial base and a developed shipbuilding industry, it makes far more sense for India to build an aircraft carrier than to order one from a foreign yard or to buy one second hand. For economic and political reasons, India's options in aircraft acquisition, and hence carrier configuration, are limited and must be carefully considered before a final decision is made.

Notes

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Ψ

Landsmen often ask, "When do you say boat and when ship?" A captain I knew used to tell his passengers, "I think in the terms of fleas and their dog."

John G. Rogers
Origins of Sea Terms
Mystic Seaport Museum
1984, p. 19

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When war exists between two nations separated by the sea, it is evident that the one which invades territory occupied by the other takes the offensive, and that the instrument of offense is the arm which carries on the invasion, that is, the army. The navy preserves, and assures, the communications of the army. That the navy alone makes invasion possible, does not make it the invading force. That it alone makes the offensive possible, does not make it the offensive arm. That its own mode of action is offensive does not necessarily constitute it the offensive factor in a combined operation. In the joint action it takes the defensive. That, in pursuit of this defensive role, it takes continual offensive action whenever opportunity offers to destroy an enemy's ships, does not alter the essential character of its operations. It defends by offensive action, wherever its guns reach; but it defends.

Naval Strategy
A. T. Mahan (1911)
Little, Brown (1918), pp. 432-433

Barely in Time: The Successful Struggle to Create the Transportation Command

Andrew E. Gibson and Captain William M. Calhoun, U.S. Navy

With the passage of the National Security Act in 1947, a concentrated effort was begun to consolidate the functions of the U.S. military services wherever possible. One area that seemed appropriate for merger was the several units that were providing ocean transportation for the services. Accordingly, in August 1949 Secretary of Defense Louis Johnson issued a directive aimed at such a consolidation. The directive named the secretary of the navy as the single manager for Department of Defense ocean transportation and directed him to establish an operating agency within the navy. On 1 October 1949, the Military Sea Transportation Service (MSTS) was established to serve as the operating agency.

The basic mission of MSTS was to provide point-to-point sea lift of passengers, fuel, materiel, and supplies to support U.S. military forces. To provide the assets needed for this mission, government-owned vessels, including troop transports, tankers, and cargo ships, were transferred to MSTS from the Naval Transportation Service and the Army Transport Service (ATS).

The budget for MSTS, unlike the ATS, was made available by an industrial fund, which meant that all funding was provided by the user services. The army, requiring most of the ocean transportation, was paying more than 85 percent of the MSTS budget, while at the same time having lost control of the function. The new command, led by navy personnel and operating much of the navy's noncombatant fleet, was maintained at a minimal cost to the navy. In the years that followed, the army continued to oppose navy control over its ocean transport. They argued that the new command was not an improvement and had only added another layer of bureaucracy to the system.

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By 1969, when the Nixon administration assumed office, there was a growing realization that the army's contention had considerable merit. After a period of study the secretary of defense ordered many of the original sea lift functions returned to the army. A leading advocate for this change was David Packard, the Deputy Secretary. As might be expected, the navy strenuously resisted this order. One of the leaders in the fight was Admiral Thomas Moorer, Chairman of the JCS. As the battle progressed it moved from the Pentagon to the Congress where the navy was able to get powerful friends to attach a rider to the defense appropriations bill that prohibited any funds from being used to effect the OSD-directed change. Although there was deep resentment of the navy's ability to thwart the secretary, it was decided that the cost of continuing the fight would be more than the proposed reorganization was worth.

In the fall of 1978 the Department of Defense undertook the first full-scale mobilization exercise since World war II directed toward the support of Western Europe. It was code named "Nifty Nugget." In the war game, Lieutenant General John Wickham, U.S. Army, the Director of the Joint Staff of the JCS, played the role of the Chairman, JCS. General Wickham's deputy for the exercise was Major General James Dalton, U.S. Air Force. In his role, General Wickham was responsible for the overall war game operation. The game involved a thousand players, most from the military services and some others from 27 civilian agencies. One of the players, whose career had yet to attract public attention, was Vice Admiral William Crowe, the Operations Deputy for the Navy, who played the CNO in the exercise.

As the exercise progressed, the flaws that had developed in the post-World War II defense planning quickly appeared. There was an attitude endemic in the Pentagon called "WWWNH"—World War Will Never Happen, and if it did, any general conflict would shortly end in a nuclear exchange. The complexity of marshalling men and equipment and linking them up with forward deployed units was never treated as something that would have to be done in an actual crisis.

"Nifty Nugget" was primarily a paper and computer war game, and no major troop units were actually moved during the course of the exercise. Three separate, incompatible computer systems had been wired together for the game and they quickly proved to be totally inadequate. Much of the information, when it could be obtained, later proved to be wrong.

At one point, DoD Deputy Secretary Stanley Resor, playing the secretary of defense, suggested that a Marine division destined for Norway be redeployed to Iceland. The chiefs agreed, but the plans turned out to be so rigid that it was impossible to use the existing computer models. Logistic requirements had to be developed by hand. Six full days of airlift had been lost by the time the Marine deployment was remeshed with other units of the master plan. Troops already in the field went without supplies, and units

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ready to go had to wait. Few who participated in the exercise would forget the lack of coordination among the services.

The originally classified summary analysis of the exercise issued in April 1979 gave scant evidence of the degree of confusion and communications breakdown that actually occurred. In the customary antiseptic prose of such reports, it was noted that the Military Traffic Management Command (MTMC) and the Military Sealift Command (MSC), "were initially limited in effectiveness because they did not have the assets needed for deployment movements. National policy restricts MTMC ownership of assets to 'peculiar' military needs." (The name of the MSTS was changed in 1970 to the Military Sealift Command (MSC).)

One result of "Nifty Nugget" was the formation of the Joint Deployment Agency (JDA) to be located at Mac Dill Air Force Base, Tampa, Florida. Its purpose was to coordinate war planning among the services and maintain a data base of all the available equipment for joint deployment.

The JDA's fatal flaw soon became apparent. While the need for a vastly improved system of data collection, storage and presentation was readily accepted, none of the services were willing to abandon their own systems or share much of their own data. The JCS had failed to provide the new agency with the necessary authority and resources, succumbing to the pressures of service parochialism.

The computer network set up to provide the JCS with the essential information for emergency operations was called the Joint Deployment System (JDS) and was designed to link peacetime and crisis planning, providing information on such things as unit readiness, movement priorities, lift priorities and the status of needed equipment. But the system never worked because the JDA did not possess the influence to force the services to provide the information it needed.

A new administration assumed office in 1981. President Ronald Reagan had called attention to the need to substantially increase the nation's defenses during his campaign the previous year. He began almost immediately to fulfill his campaign promises. With the massive buildup that was anticipated, the requirement to improve the organization that would project this expanded and modernized force overseas became critical. Further, the "Nifty Nugget" debacle was still fresh in memory.

The new Secretary of the Army, John Marsh, pushed for control of the army's essential logistic support. The Vietnam War had proved once again, if it needed proving, that almost the entire essential lift requirements of the army would move by sea. While previously there had been some willingness to rely on airlift, it was now clear that apart from movement of personnel, the air force could offer the army little support. By that time the Marines, who had always been tied closely to the navy's amphibious shipping which provided for their immediate needs, had succeeded in obtaining dedicated sea

lift for their follow-on needs in addition to other purposes. The army, as well, wanted shipping specifically assigned for its use.

Another newcomer who shared this concern was Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics Lawrence Korb, who had joined the administration after having been a member of the faculty of the Naval War College. In an effort to provide added participation for the army in sea lift, he concluded that the responsibility for all surface transportation, land and sea, should be combined. By this time the Military Airlift Command (MAC) had become a specified command and seemed to be working well. It was generally conceded that it should be left alone. While MAC had some overlapping problems with the army in booking personnel for overseas transport (the army handled the domestic portion of the movement and MAC the international), MAC and the army seemed capable of resolving that problem.

Korb presented his reorganization plan to the new Deputy Secretary, Frank Carlucci. Mindful of the previous successful navy opposition, Carlucci concluded that it was essential to gain the support of the Chairman, JCS, General David Jones, U.S. Air Force. After discussing their proposal with him, General Jones agreed with the concept of a joint command and OSD commissioned JCS to conduct a year-long study to produce a plan for implementing the change. The study was assigned to Major General Dalton, U.S. Air Force, General Wickham's former deputy who was now the head of the Industrial College for the Armed Forces (ICAF). General Jones wrote in the subsequent study that "more integrated management is required to efficiently operate a transportation movement system capable of smoothly transitioning to war." He reasoned that, with a carefully structured plan, he could obtain the support of the other service chiefs. At this time General Wickham was Vice Chief of staff of the Army and, a year later (1983), he became Chief of Staff.

JCS, at the army's urging, decided not to wait for the completion of the study and persuaded Carlucci to approve the immediate transfer of cargo booking and contract administration from MSC to the army's MTMC. Initially the navy did not realize the importance of this change, and so the personnel, together with their functions, were beginning to be transferred before the navy could once again weigh in. The point men were Navy Secretary John Lehman and his Assistant Secretary, George Sawyer. Sawyer ordered MSC to hold back on any further implementation. When it was obvious what was happening, Carlucci confronted Sawyer with this apparent insubordination. In the exchange that followed, Sawyer argued against the change and tried to insist that the entire matter be halted until a further study was made. Carlucci became increasingly impatient and eventually ordered immediate implementation. Soon after, the reorganization resumed and was

completed. However, the navy was now alerted to the possibility of further change.

When the Dalton study was presented to the JCS it concluded that "the current (deployment) system grew through a series of compromises designed to preserve the best parts of the existing systems. While well-intentioned, the result has been a disjointed system that cannot adequately perform the function for which it is intended." The study recommended a unified surface command that included MSC and MTMC, and as such would report to the JCS. (Korb had wanted the command to report to the OSD.) The study recommended that the army and navy would have authority to name the commander in chief (CinC) on a rotating basis. The first commander was to have been Vice Admiral Kent Carroll, then-Commander, MSC. The positions taken by the service chiefs were unanimously for approval. Their endorsements were forwarded to Defense Secretary Caspar Weinberger who later approved the plan.

When Secretary Lehman heard about it, he hit the roof. He was not about to let the consolidation proceed if he could stop it. He contacted Congressman Charles Bennett, who chaired the powerful Seapower Subcommittee of the House Armed Services Committee, to enlist his help. Bennett was a willing ally and sent his assistant Lou Krisen, a retired navy captain, to warn Carlucci of the consequences of attempting to implement the planned consolidation. At the same time Lehman successfully applied pressure on Admiral Thomas Hayward, CNO, and General Robert H. Barrow, Commandant of the Marine Corps, to change their position in the JCS.

Although Chairman Bennett was not able to have the House Armed Services committee amend the budget to withhold funds to stop the reorganization, Lehman was successful in getting Senator John Tower, then-Chairman of the Senate Armed Services Committee, to place an amendment in the DoD Authorization bill to once again prevent the expenditure of funds to bring about the reorganization. When confronted by Carlucci, Lehman claimed that it was his understanding that Secretary Weinberger did not really support the reorganization and that it was merely the work of "the people in Manpower and Logistics [Korb] and that Democrat Jones." This last referred to General David Jones, the Chairman of the Joint Chiefs who had been appointed by President Carter.

Carlucci quickly attempted to control the damage. He asked to appear before the Tower Committee and in forceful and eloquent testimony convinced the senator of the need for this reorganization. Senator Tower agreed to drop the amendment in the Conference Committee where the House and Senate versions of the Appropriations bill would be reconciled. This became important since the House had not passed the blocking amendment. When the Conference Committee met, Senator Tower found that he had other business and did not appear. Congressman Bennett did. He put the full

force of his committee behind supporting the amendment Tower had sponsored in the Senate but now said he wished to kill in conference. Bennett's arguments prevailed and the reorganization failed once again. Years later, when Senator Tower was undergoing confirmation hearings to consider his becoming President Bush's secretary of defense, he was reminded of his failure to fulfill his promise to Carlucci, with the strong suggestion that this demonstrated a basic weakness in his willingness in carrying out prior commitments.

As the years passed and defense procurement skyrocketed, it was inevitable that the fundamental weakness of the entire DoD acquisition system would become increasingly apparent. Both the House and Senate held numerous hearings to expose the latest discovery of alleged exorbitant and careless defense spending. Cartoons showing a worried looking Secretary Weinberger wearing a toilet seat in the form of a collar with a $600 price tag became the source of much Washington merriment. The cries to "do something" swelled. It is in such an environment that Presidential commissions are formed. The result was the formation of a Presidential commission to be chaired by former Deputy Secretary of Defense David Packard to investigate current procurement practices. It was composed of a number of esteemed private citizens, most of whom had extensive backgrounds in defense matters. Former Under Secretary of Defense Frank Carlucci, former Commandant of the Marine Corps Robert Barrow, former CNO James Holloway, and Brent Scowcroft, a former Air Force lieutenant general and National Security Advisor to President Ford were among the commission members. All were highly regarded individuals, recognized as having a wide knowledge in the area of their investigation. Lawrence Korb, who had recently resigned from DoD, was one of the commission's first witnesses, as was General Wickham.

Even before the commission was formed, Packard stated that if there was one thing that was going to happen as the result of the commission's work, it was going to be the creation of a joint transportation command.

The commission's staff was headed by Rhett Dawson, the chief counsel to the Senate Armed Service Committee. It was populated by congressional staffers, most with a preconceived agenda. Much of the staff time was devoted to detailing the alleged failings of the existing military command structure. Two members of the commission, Nicholas Brady, now President Bush's Secretary of the Treasury, and Louis Cabot, the current Chairman of The Brookings Institution, didn't understand many of the details being discussed but were readily convinced that something was terribly wrong. The chairman, David Packard, was also claiming that things in DoD were in such bad shape that they had to be changed.

While the commission's work was proceeding, the House and Senate under the leadership of Congressman Bill Nichols and Senator Barry Goldwater were holding broad-ranging hearings to investigate what many regarded as

a breakdown in interservice operations. The tragedy of Lebanon and the operation in Grenada were repeatedly cited as evidence of the need for much closer cooperation between the services. Many of the recommendations of the Packard Commission were eventually included in legislation that became known as the Goldwater-Nichols Act.

During previous attempts to consolidate the surface commands, Military Airlift Command had remained on the sidelines. This was not to continue. General Duane Cassidy, the MAC Commander-in-Chief, became aware that the Packard Commission was proposing a new unified transportation command that not only would include MSC and MTMC, but would also bring in MAC. He went to the commission to find out why, having been established to make recommendations to improve military procurement, they had also generated a proposal for a new unified transportation command. Cassidy discovered this was a priority for the chairman and for many on the commission who had tried to effect this before. They believed that it was now the time to do so. As one member stated, the system *is* broken and "this time we'll fix it." Cassidy was reminded that there were several members of the commission who resented what they considered to be the navy's high-handed methods in the past. Some regarded Lehman as a partisan player who considered only the parochial interest of the navy. They now had the power and opportunity to override him.

Shortly after the Packard Commission's recommendation had been extensively leaked, General Cassidy received a call from Secretary Lehman. Lehman invited Cassidy to his office where he stated his concern over the commission's recommendations to form a unified transportation command. He acknowledged that he probably could not stop the recommendations, but proposed that the navy and air force join forces to control the implementation and prevent interference with the navy's jurisdiction. At the same time he assured Cassidy of his support for MAC to remain a specified command. He suggested to Cassidy that the reorganization proposed by Packard would not be in either his (Cassidy's) or MAC's best interests. He reminded the general that in a unified command MAC would lose its current independence. Furthermore, MAC would have to provide a majority of the resources required by the new command. Cassidy replied that he would like to discuss this with General Larry D. Welch, the Air Force Chief of Staff and would get back to him.

Lehman's proposal was not altogether wasted on Cassidy. He had no desire to preside over the dissolution of MAC. Cassidy's preference was to expand MAC into an organization in which the army and navy would have senior representation, but the CinC would be an air force officer maintaining full control of MAC. In his meeting with General Welch he related Lehman's proposal. After some discussion both agreed that although a new unified command might be costly to the air force, the Packard Commission's

recommendation was probably in the nation's interest and that they would support it. When Cassidy returned to deliver his decision to Lehman, it was, as he later described, a "curt and very short" meeting.

Lehman didn't quit. He went to work within the JCS and in the Congress. Meanwhile, the new chairman of the JCS, Admiral Crowe, directed the JCS to take a position on the issue and a working group was established, headed by Lieutenant General Al Hanson, U.S. Air Force (J-4), to draft the implementation plan.

Under the established authority, the CinCs sent their recommendations directly to the chairman. Two important expressions of support for the future TransCom came from the admirals at CincPac in Hawaii and CincSouth in Naples. In February 1987 Admiral Crowe called a meeting for final consideration of the issue. All the chiefs were present except Admiral Carlisle Trost, the CNO, who sent his deputy, Admiral James B. Busey. Admiral Trost was in a difficult position since it was well known that Lehman had actively opposed his appointment as CNO and the issue was of obvious personal interest to Lehman.

General Wickham, Chief of Staff of the Army, strongly supported the formation of the new Transportation Command. He said, "It's got to be done," and that this was a "rare opportunity." General Welch, the Air Force Chief of Staff, was also supportive. Admiral Busey, in turn, questioned the need for a unified command and claimed that he could not take a position without specific instructions from Admiral Trost. Admiral Crowe, undoubtedly remembering "Nifty Nugget," reportedly hit the table and said "Surely, in God's name, you are not going to sit here and tell us that there is no problem. Is that the Navy's position?" Admiral Busey still refused to declare himself.

The lone negative position came from the Marine Corps Commandant, General P.X. Kelley. General Cassidy, who had been designated to be the CinC of the new command, had served with Kelley before and they were good friends. Kelley acknowledged that if anyone could do the job it was Cassidy, but he persisted in his opposition. General Kelley was concerned that under such a command the Marine Corps' dedicated shipping could one day be used for joint deployments instead of being reserved solely for Marine Corps operations. It was also suggested that Secretary Lehman had threatened to withhold his support for the Marine Corps acquisition of the V-22 Osprey, a tilt-rotor aircraft needed to replace the aging CH-46 helicopter, if General Kelley supported the reorganization.

Shortly after the meeting, Crowe informed the secretary of defense that it was his decision to support the new command. This was the first time that the chairman's new authority, provided by Goldwater-Nichols, had been used. Instead of presenting five points of view as formerly, he needed to present only his own. Both OSD and JCS passed their endorsement to the

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new national security advisor, none other than Frank Carlucci, who had just been appointed to replace Admiral John Poindexter, following Poindexter's resignation as a result of the Iran-Contra scandal. Carlucci saw to it that the DoD recommendation was passed to the President for approval in record time. Little effective opposition existed. Lehman, who knew that he himself would soon be leaving, finally gave up after once again testifying against the creation of the new command. One of his main concerns was the retention of the Industrial Fund for MSC and in this effort he was successful.

General Cassidy was confirmed as the new commander-in-chief in April 1987. Transportation Command stood up with a nucleus staff in October of the same year. The functions formerly assigned to the JDA, together with the necessary new authority, were also transferred at this time. A year later Cassidy was able to notify Admiral Crowe that the new command was fully operational. In light of the operations which began following the Iraqi invasion of Kuwait on 2 August 1990, the new command's formation was barely in time.

Ψ

Where a navy is largely preponderant over that of an enemy, such oversea expeditions by large bodies of troops proceed in security, either perfect or partial. Great Britain during the Napoleonic wars had troops continually afloat, often in large bodies. So did the United States in the Mexican War and the War of Secession. So France in her conquest of Algiers in 1830, and again Great Britain and France during the Crimean War. Security such as existed in these instances leaves little of a military problem; but the case differs when there is an approach towards equality . . .

Naval Strategy
A. T. Mahan (1911)
Little, Brown (1918), p. 208

My Parents, Rear Admiral and Mrs. Alfred Thayer Mahan

Lyle Evans Mahan
(Edited and Annotated by John B. Hattendorf)

To his contemporaries as well as to later students of his writings, the personality of Alfred Mahan has been remote and difficult to understand. Held in awe by some and ridiculed by others, there has been no consensus. In these previously unpublished recollections, Mahan's youngest child and only son sketches his view of his parents. Despite some minor inaccuracies, these impressions provide useful insights into Admiral Mahan's character and personality.

Lyle Mahan went on to a successful legal and financial career in New York after having graduated from Groton School and Columbia University in 1902. He wrote the recollections of his father in 1935, more than 20 years after his father's death. Then in his mid 50s, he may well have been responding to a request from Captain W.D. Puleston, who was then writing a biography of Mahan. Lyle wrote the reminiscences of his mother in 1936, nine years after her death, apparently in response to a separate request from an unidentified source.

These reminiscences are reprinted by permission of the Special Collections Department, U.S. Military Academy Library. The original typescripts are dated as follows: 11 July 1935 for the recollections of Admiral Mahan, and 30 January 1936 for the recollections of Mrs. Mahan. These documents complement the "Recollections of Ellen Kuhn Mahan," Lyle's sister, which are printed in Robert Seager II and Doris D. Maguire, Letters and Papers of Alfred Thayer Mahan *(Annapolis: Naval Institute Press, 1975), vol. 3, pp. 719-730.*

My Father

At the time of my birth in 1881, my father was over forty years of age. While I was still a baby, he went to sea on the *Wachusett*, which, as I recall,

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was on duty in the Atlantic and for a time was stationed at the port of one of the Central American Republics in which there was a revolution. He did not return from this cruise until I was about four years old, so that my first recollections of him are at about that date.[1]

I remember standing in considerable awe of him, and, as a matter of fact, the same frame of mind continued until I was almost grown up, because, while never unkind, he always insisted on strict and implicit obedience. He was, however, always absolutely just. I never was on the terms of intimacy with him that I could have wished. There was a certain reserve in his character that seemed to prevent this, and the unfortunate situation may have been accentuated by the fact that he was in his later middle age before I knew him at all.

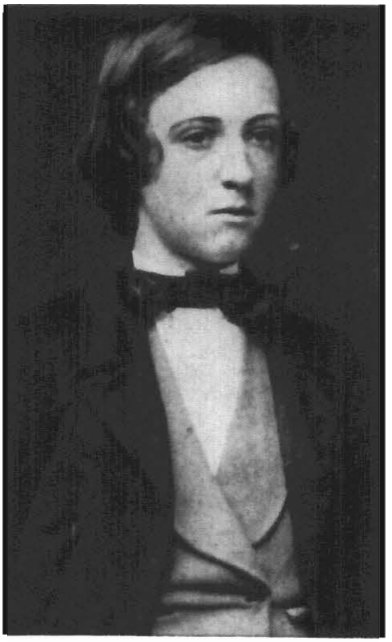
At the time my father returned from the cruise on the *Wachusett*, my mother and sisters and I were living with my mother's mother, Mrs. Manlius G. Evans, at the Hotel Hanover, 2 East 15th Street, New York City. Shortly after that time, my father was appointed to the Naval War College at Coasters Harbor Island, Newport, R.I. In *From Sail to Steam* my father gives an account of his experiences at that time in opening the sessions of the War College and getting the necessary furnishings, etc.[2]

The building, as he said, was formerly an alms house. It was an unpretentious structure and was divided into two separate portions. The westerly one, looking towards Narragansett Bay, was assigned to my father and his family. The easterly portion was occupied by Commander Duncan Kennedy and his wife and son. Just what his duties were, I do not know.[3]

The lower floor of my father's house, if it may be so called, were the living quarters. Of the upper floor, I only remember one room which was a large room with three exposures in which the lectures were given and in which my father worked. It also crosses my mind that one or two card parties were held there.

My principal memory of my father at this period is seeing him make the maps or plans of the various battles which he discussed in the lecture room. He had large pieces of red and green paper or very thin cardboard which he cut out roughly himself in the shape of ships and pasted on to large sheets of heavy paper to show the positions of the ships in the battles. This was something I had to imitate so I always wanted to cut out ships and paste them on paper too, which is undoubtedly why I recall this so well.

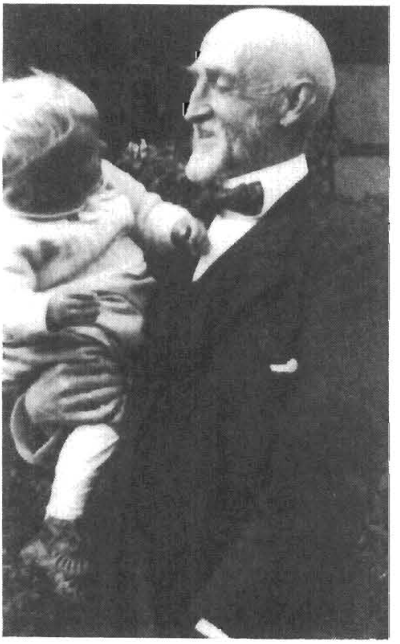
When my father was in deep thought, he would pace up and down the room with his head sunk forward a little bit and generally with his hands clasped behind him. He was slightly over six feet in height and very spare. His weight, I think, averaged between 150 and 160 pounds. His carriage was erect except that his head was apt to be bent slightly forward. On the whole, his carriage was graceful and easy.



Midshipman Alfred T. Mahan

Lieutenant Alfred T. Mahan

Captain Alfred T. Mahan



Rear Admiral Alfred T. Mahan

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I have heard it said, and I believe it is true, that my father was a strict disciplinarian on ship, although entirely just there as at home. My son,[4] who was nine years old when my father died and who could take more childish liberties with him than I ever dared to, and in that way probably knew him better, and who was also very observant, said that there were two people in the world whom he knew who he thought were actuated only by what they believed to be right in their every action. One being his grandfather, and the other the Rector, meaning Reverend Endicott Peabody, Headmaster of the school which both my son and I attended.[5]

I recollect two incidents with regard to my father's disciplinary measures on shipboard which I heard in my childhood and which might have been told to me by him or by my mother who heard them from him. In one instance, there was a sailor who was always late in coming on deck. My father asked him what the trouble was and he said that he did not have time to get dressed. When my father told him that he would be called a half hour before the rest of the watch, the trouble did not recur.

In the other instance, there was a sailor who habitually failed to keep his feet clean. After several warnings, my father had one or two of the other sailors wash them with a broom, which cured this particular failing.

I believe that my father naturally had a violent temper but he had worked hard all his life to get it under control. I can only recollect two incidents of what I should call loss of temper on his part, both occurring when I was a well-grown boy or young man. In the first case, the incident was connected with a stage driver. In Quogue [Long Island], where the family has spent the summers ever since 1893, the station was a mile or so from the village, and anybody who wanted to go to New York before the days of the automobile, went to the station by stage. Each house in the village was supplied with a red flag which was hung up when the stage was wanted. My father wanted to go to the station one day and hung up the flag, but the stage driver did not see it. My father accordingly had to go to the station on his bicycle on a very hot day, and seeing the stage driver when he got about fifty yards from the station, began to berate him in no uncertain language, although not in the least profane. I know that he was very sorry for it afterwards and I believe apologized.

The other incident is connected with myself. We had a new waitress who had done something that startled my mother, I have forgotten just what it was, and my mother started to scold her, which I thought unfair and at which I remonstrated. My father told me to stop talking, which I refused to do, and he raised his voice very markedly to make me stop. These were the only two incidents which I remember of his having lost his temper even momentarily.

I never remember my father using any profane language beyond perhaps a very mild "darn." One of my cousins who recently died, told me that my

father had used such language on occasions and intimated that it might have been usual with him on shipboard. He said that once when his own father or uncle, I forget which, was walking along the waterfront with him, a boat was upset and a man fell into the water, and my father jumped into a boat in which there were some oarsmen, and in order to get them to hurry, swore at them roundly. This is a second- or third-hand account of what happened and I cannot vouch for its truth. I am merely trying to put down everything that may show any sidelight on my father's character.

About 1889[6] we moved to New York City taking an apartment at 75 East 54th Street, which was the northwest corner of 54th Street and Park Avenue. We were on the top floor, the 5th, and there was no elevator. In those days, Park Avenue was very different from what it is now; the railroad tracks not being covered over so that every train that passed was very audible and sometimes in the early morning an engine would stop under our window and let off steam. I was sent to school in 42nd Street opposite what is now the site of the Public Library, which was then occupied by the old reservoir. It was very customary for my father to walk down with me at least as far as 42nd Street. I do not know for what purpose except that it was probably to exercise our dog, who was very much a part of the family. We had owned his mother and could not think of the family apart from the dog. He was a bull terrier, quite a bit larger than the average, and not of the present Boston type, but with a pointed nose. His name was Jomini, after the French General, author of *The Art of War* which exercised a very profound influence on my father's writings. My father either was very fond of walking or thought that he ought to take exercise. At any rate, he took the dog out every morning and afternoon, as far as I remember, and it seems to me in these walks he was more relaxed than at most other times. I remember that there was a small boy, I should say about six years old, who caused him a great deal of amusement. He wore a derby hat and we passed him frequently on the way down. My father also got a great deal of amusement because when Jomini first went out in the morning, he would make a dead-set at the birds in the street, and there were always quite a few of them. Once, to his great surprise, he caught one and immediately let it go. My father always urged him on his usually abortive charges.

My father took great pains with our religious training. He was a very devout Episcopalian himself, not one of the lip-service kind, but one who read the Bible and studied it very, very carefully. This is shown by his book *The Harvest Within*[7] which has been praised by a great many churchmen. We were all taught to catechism, and each Sunday, one year, I had to learn by heart the collect for that day. One day I remember saying that I could not learn the collect and was told that that was all right, but that I would not go out to play until I did. I soon mastered it.

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Not content with the catechism, my father himself got up what might be called a supplementary catechism explaining various things and the meanings of certain words used frequently in the church service, but which would be entirely unfamiliar to children. This I was also required to learn by heart.

When my father again resumed work at the Naval War College, a new building had been built, as narrated by him in *From Sail to Steam*.[8] It was a very nice stone building, as I remember it, very close to Narragansett Bay, that is, on the west side of the island. His quarters again overlooked the Bay.

I cannot remember the exact time that we were in this place, but it was there, I believe, that my father was first urged to publish his lectures in book form. I think it must have been about 1890 and 1891. Of course, I was too young to know much about what was going on, but I afterwards learned that my father sent *The Influence of Sea Power Upon History* to several publishers, I believe about eight or ten, and that it was consistently turned down.[9]

It would be impossible to write anything about my father's life without saying a great deal about my mother.[10] To my mind, they constituted a perfect team. I can never remember a cross word being spoken on either side. The few occasions on which my father ever expressed any annoyance was when he thought that my mother was doing too much work and tiring herself unnecessarily. She was a woman of very strong character and absolutely indomitable determination. She was also a wonderful manager. The problem of bringing up and educating properly three children on a captain's shore pay of $3,500 a year was quite a serious one even in those days. During the early part of her married life, my mother kept a strict account of literally every penny that was spent. My father always turned his entire pay over to her each month and she gave back to him whatever he needed. This was because of no insistence on her part, but because he preferred to have it that way. He knew that she had excellent business sense and was very careful, and the care of money was something that he was glad to be relieved of. I don't think he even had a bank account until the latter part of his life. I remember my mother telling me once that she had never spent more in a month than my father's pay for that month, that is, up to the time that their income was increased from his writings and other sources, but that in one month she spent only seven cents less than the amount of his pay.

In addition to taking care of the house and the children, she was only too glad to turn her hand to anything that would help my father. When he started to write his lectures, it soon was evident that they would have to be typewritten. Without ever having had any experience, my mother bought a typewriter and learned to operate the machine by herself, and I believe that she personally transcribed every word written by my father that he published, certainly by far the greater part of it. This, I am very certain, was her own suggestion. She could deny herself any luxury or even necessity

if the occasion demanded, but she would do anything for her husband and children.

I do not believe that my father's books would ever have been published if it had not been for my mother's determination that they should. He was easily discouraged and had a very humble opinion of himself and his own abilities. She was, as I have said, indomitable and had supreme confidence in him. She was absolutely determined that what he wrote should be published and kept at him to make sure that he left no stone unturned.

Mr. James Russell Soley was Assistant Secretary of the Navy at about this time or shortly before. He was a successful New York lawyer and had published a book which I read with avidity when young called *The Boys of 1812*. It was a history of the naval war of 1812 between this country and Great Britain. My father came to know Mr. Soley when the question of the continuance of the War College was discussed, or he may have known him before, I am not quite sure.[11] At any rate, he happened to tell Mr. Soley of his difficulties in having the books published, and Mr. Soley, who believed in the value of his works, said, "Take them to my publisher, Little, Brown and Company of Boston, and I am sure that they will publish them." My father told me that Little, Brown and Company said that if Mr. Soley said the book was valuable, they would publish it without reading the manuscript. In this way the *Influence of Sea Power* was brought out, and my father always insisted on giving Little, Brown and Company the right to publish any of his books if they wanted to. The sale of books in England was taken care of by Messrs. Sampson, Low, Marston and Company, and Mr. R.B. Marston of that firm in London became a warm friend of my father's.

When my father was ordered to the *Chicago*, we moved permanently to New York. About 1891 or 1892, my father and mother bought a house, 160 West 86th Street, where the family lived until about 1905 or 1906.[12] Both my father and mother had a horror of owing any money except current bills which were always paid promptly on the first of the month. They carried this feeling to the extent of insisting upon paying for the house entirely in cash. The idea of owing money, even when it was secured by a mortgage, was thoroughly distasteful to both of them. The first summer that my father was away, we went to Quogue, Long Island, for the first time. This, I think, was in 1893, and we had a small and by no means water-proof house in what is known as Quogue, which is separated from Quogue proper by a small body of water known as Quantuck Bay. My oldest sister[13] had several friends living there and my mother liked the place so much that she decided to build a house there, even in my father's absence. This shows very clearly the thorough understanding between them, that she should undertake something of this kind without consulting him except by letter. Of course, he approved of everything that she did. I say that the bringing up of the children and all matters relating to the household were always left to my mother without question. My father

considered that his job was to see that everybody did as my mother wanted them to do, although he would never hesitate to make a decision in an important matter where one had to be made, but on the whole, my mother was the manager, my father, the president, and felt that his main duty was to say "yes."

I remember the first summer the house at Quogue was built,[14] my mother's brother came down to stay with her and he used to recall with glee the conversation he had with her at that time. He said, "Ellie, Alfred will hate this place," to which she replied, "Well, then we'll move away." He said, "What will you do with the house?" She answered, "Sell it." My uncle always said, "By jove, she would and would make a profit on it too." He was a successful business man himself, but this showed his confidence in my mother's business judgment. His own opinion as to my father hating Quogue was entirely wrong. He loved the place from the moment he saw it and as the years rolled by, the family steadily spent more time there.

During the years of my father's absence on the *Chicago*, we were naturally very much interested in his letters. Of course, as I remember, he told us about dining with the Queen of England and the Emperor of Germany, and also of some of the other honors which were conferred on him, but I fear that he did not do the various occasions justice. He was by nature an extremely modest man. It was very difficult even for his family to get him to talk about himself or what he had done. I knew, for instance, that he had been in the engagement at Port Royal during the Civil War, but I never could get him to tell me anything about it, nor did he say much of his other experiences. This accounts for the fact that I am able to tell so little about his earlier life.

He was modest too in other ways; for instance, at Quogue the men's bathhouse quarters and the women's were entirely separate and were so built that it was impossible to see into either of them from outside. Most of the men took advantage of this after bathing to take what we always call a sun bath, each man lying in the sun for periods varying from five minutes to an hour, in a state of nature or at the most with only the protection of a small bath towel. I know that my father thought this disgusting, to use his own words, although I am sure that very few men will agree with him. When I was approaching adolescence, he attempted one day to tell me something about the nature of the sexes, but it embarrassed him so that I hardly got any idea at all of what he was driving at and my knowledge had to be obtained from outside. Fortunately, it came in a way that was not at all injurious.

To return to the trip on the *Chicago*, I cannot remember anything of my father's letters distinctly, except that I do recall that he told, either in a letter or personally, after he came home, that one of the undergraduates at Oxford called down from the gallery, where they sat during the conferring of the degrees, "Look at the red man from the West." This was supposed to be very appropriate, since the persons upon whom the degrees are conferred

wear red gowns. If I remember right, my father was the first American who was honored with the degree of D.C.L. by Oxford.

My father had always seemed to me lacking in affection, but I believe that this was due to an inability on his part to show affection or it may have been some idea that demonstrations of affection were not the proper thing. He returned in March or April, 1895. I was just recovering from a very severe illness of which I almost died. My mother had not let him know that I was ill because she was afraid that it would worry him too much on his return voyage, but I remember that when he did return, one evening while I was lying in bed in a room adjoining the living room, that my mother told him about my illness. He certainly was terribly shocked and asked over and over again if she was sure that I was all right now. It was the first inkling I had of the feeling which lay beneath the surface.

The house on 86th Street was bought shortly after this and from that time until my marriage in 1904, our winters were spent there and our summers in Quogue in the house which my mother built during my father's absence. This is not the house in which my sisters live now,[15] which was built in 1908 or 1909, but a smaller one on what is known as Quaquanantuck Lane. The only break in this routine was in 1898 when we took a trip abroad. My father had planned this trip for a long time, having retired from the Navy in 1897, I think it was, after completing forty years of service. War with Spain was in the air, but my father made particular inquiries of the Navy Department as to whether it was proper for him to go under the circumstances and was assured that it was. He had planned this trip with the utmost care. We were to be gone for six months, returning in the latter part of September from Southampton. I believe that all the tickets both ways had been bought before we left, and the itinerary mapped out exactly with each place that we were to stay and the dates set down.

We went by the South Atlantic to Naples arriving there early in April and making a short trip through southern Italy. We returned to Naples after about ten days or two weeks, and either there or at our next stop which was Rome, a cablegram came to my father calling him back to serve on the Board of Naval Strategy. Of course, he left us immediately, travelling through England and from there under an assumed name, taking a liner to the United States, but at his express wishes, the rest of the family finished out the trip as originally planned with very slight variations.[16]

A day or two after my father left, a cablegram came from William Randolph Hearst offering him a dollar a word to write as much as he cared to about the war. My mother immediately cabled back, "No," knowing that my father would not write for Hearst under any circumstances, and I may say that he entirely approved what she did. He was convinced that Hearst was an undesirable citizen and would not, under any circumstances, accept his money or write for his papers, and would never allow a copy of any of

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Hearst's papers to be brought into the house. Sometimes he seemed almost fanatical upon certain subjects of this kind, but his feelings were always based on what he believed to be his duty, and he felt that to aid in any way the circulation of papers which he believed were doing harm was a sin on his part, even if it were to spend a cent, the price of the paper in those days, for a copy of one of the papers or even to seem to give them his approval by allowing a copy in the house.

I remember another circumstance which is not particularly appropriate at this spot, but which just came to my mind, this was during Wilson's administration when Daniels forbade the use of grog in the Navy. My father was highly incensed at this. He was not a drinking man, although he occasionally enjoyed a glass of wine, but to deprive a sailor of his grog was to him unthinkable. In fact, I believe that he strongly disapproved of any legislation designed to control people's private lives beyond preventing them from committing crimes.

The doings of the Naval Strategy Board[17] are a matter of history so that all that I need to remark on is the heat which my father displayed at home with regard to the so-called Sampson-Schley controversy. As I remember it, without referring to any documents, not only did the question arise of whether Sampson or Schley should be given credit for the victory over Cervera's fleet, but whether either or both of them should be made vice admirals. My father, of course, was absolutely convinced that the credit belonged to Sampson as Commander-in-Chief, even though he was not with the fleet at the time that the Spanish ships came out of port. He said that all arrangements for possible contingencies had been made by Sampson before he left on a short trip for a conference, and that his orders were strictly carried out by everybody, except possibly Schley. He had never had any confidence in Schley, who was almost a contemporary of his, and said that he had caused the Strategy Board two days of intense anxiety because of disobedience of orders prior to the time of the battle. He felt that no credit was due to Schley any more than any of the captains in the fleet, possibly even less, although Schley was in temporary command. I remember at the time that he told us that at the Naval Academy in referring to Schley they used to say "Schley by name and 'sly' by nature."

The anxieties of the Strategy Board were not alleviated by the fact that they had an intensely hot summer in Washington that year.

In 1899, my father was appointed as the Naval Delegate of the United States at the Peace Conference at The Hague. With regard to this, the only noteworthy feature that comes particularly to my mind is his account of what happened when the final draft of the document prepared for the signatures of all the powers was submitted to the American Delegation.

That Delegation had agreed, from my father's insistence, that a reservation should be made that the United States would not submit to arbitration any

matter arising under the Monroe Doctrine. When the final draft came in, this had been omitted, and the document had almost received the approval of the American Delegation without noticing the omission, which was apparently due to an error of Holls,[18] the Secretary of the Delegation. My father, however, noticed that it was omitted and in considerable excitement brought it to the attention of Mr. White,[19] the Chairman of the American Delegation, so that the omission was corrected in time.[20]

From that time on, our lives were comparatively uneventful. My father, having retired from the service, was not called to any active duty and spent his entire time at home, either in New York or at Quogue. He had very few amusements. He liked to take exercise, but only in the form of walking in the winter and either walking or bicycling in the summer. He also went in bathing, with considerable regularity, in the summer and thoroughly enjoyed it. Most of the time in the water he spent floating, and particularly enjoyed floating with his head towards the sea and letting the waves break over him. He always wore a jersey cap with a cork sewed on it so that he would be able to retrieve it if it was washed off, which was frequently the case.

He was extremely regular in his habits. Breakfast was supposed to be at 8:00 o'clock in the morning, and all of the family was expected to assemble for family prayers at that time, promptly, after which we had breakfast. Promptness was also the rule for all meals.

One of his regular duties, as he considered it, was exercising the dogs in winter. In summer, of course, they exercised themselves. Having them with him and seeing them play gave additional pleasure to his walks, which were generally along Central Park. He was certainly a home-loving man in every sense of the word, hating to be separated from his family and enjoying trips only if they were along, but if they were with him, he thoroughly enjoyed them.

I was married in 1904 and after this, unfortunately, saw very little of my father. The house in 86th Street was rented shortly after that time, and from then on most of the year was spent in Quogue and the family only came to New York for three or four months in the winter. Owing to the friction that unfortunately existed between my wife and my parents, I did not see nearly as much of them as I should have, for which, of course, I was largely to blame.

I think this concludes about all of my recollections. My father died on December 1, 1914, while in Washington. His death was unexpected and I was not informed of the seriousness of his condition in time to see him before he died. I do not think, however, that even the doctors expected the end to come as suddenly as it did. My father had not been in the best of health for several years, but when I last saw him, in the August before he died, there was nothing to indicate that he might not live for several years longer.

At this particular time, the World War had just broken out, and he was, of course, intensely interested and had written two or three articles for newspapers and magazines. It is well known that within a few weeks of the outbreak of the War,[21]orders were issued that no Naval officer, either on the active or retired list, should write any article commenting on the War. This was to uphold Wilson's policy of neutrality in word and deed. My father was the only officer, so far as I know, who had written anything up to the time of the promulgation of this order, and he considered it a direct slap at him, especially as the order came to him not through the usual channels by way of the Brooklyn Navy Yard, but direct from Washington.

It also was widely known that he disapproved of the Administration's policies with regard to the Navy. He was a very nervous and sensitive man and this direct slap, as he considered it, preyed on his mind, and was, I am certain, the cause of his early death.

While he had been ill, he was quite hardy, and I am sure that he would have overcome his ailments and lived for a long time in the natural course of events. A manuscript which he had started for a new article remained unfinished. He obeyed the order so far that he would not even set pen to paper to write, even though he would not have thought of publishing what he had written.

My father was half Irish, as I believe that both of my Grandfather Mahan's parents were fullblooded Irish people. On his mother's side, however, there is a mixture of blood—English, French and Dutch. With the exception of his mother's father, who was English by birth, the rest of his ancestors had been in this country for many generations . . .[22]

. . . he was related to the Van Countlandts and Jays in New York, but the relationship is not very generally known due to the fact that his great grandfather, James Jay, was never legally married to his great grandmother. James Jay lived in what is now Tenafly, New Jersey, and, as I am informed, took to live with him the daughter of some prosperous farmers in New Jersey. Neither he nor she believed in marriage, although at one time, at the solicitation of John Jay, the first Chief Justice of the United States, acting for himself and other members of the family, James did offer to marry his consort. She refused, saying that she had agreed to live with him as the lady of his household as long as they both wanted to continue the relationship, and that she would abide by that agreement, but that if he insisted upon a marriage, she would leave him immediately. Whether or not one agrees with her ideas, one must admire her courage, and the relationship was certainly far more moral than that of 75% of modern marriages.

James Jay and his consort lived together in love and harmony until her death, but because of the lack of a ceremonial marriage, as I understand, the relationship with the other members of the Jay family was never recognized.

My Mother

My mother's maiden name was Ellen Lyle Evans. She was the daughter of Manlius G. Evans and his wife, who was formerly Ellen Kuhn. She was born on November 27, 1851. She always had a very strong character and will and was positive in everything that she did. She was also, in her younger days, very alert mentally and physically. She was quite tall, about five feet nine inches, and also broad and heavy-set. I know very little about her earlier life except some fragments which she told me and which emphasized what I learned myself in later life. She was extremely punctual and very quick in everything that she did. In her earlier years, certainly she did not have the vice of procrastination to any degree.

Her family used to go to Sharon Springs, New York, in the summer, and I believe that it was there that my father and mother first met. My father, of course, was extremely religious, and he was drawn to my mother not only for her personal attractions, but because he could see the same trait in her. I believe that my mother was quite an attractive woman when she was young and was very popular among the young men at Sharon Springs.

My father was eleven years older than she was. The match, I know, was very distasteful to my grandfather.[23] I believe this was because he did not feel that a naval officer would make a good husband both for financial reasons and also because he would be away from home so much. In any event, my mother has told me that he would not have that damned naval officer around his house. However, when my mother made up her mind to do anything, she generally went through with it and she had made up her mind that she was going to marry my father. I believe that she was not yet twenty when they met. The probabilities are that this was in the summer of 1871 or possibly 1870,[24] although I believe it is the later date. When my grandfather saw that her mind was made up, he finally said that he would consent to the marriage if they would agree not to see each other for a year so that my mother could be sure that she knew her mind. This was agreed to and my grandfather, when he saw that my mother had definitely made up her mind, ended the probation period after six months. They were married on June 11, 1872.

Shortly after the marriage, my father went to South America and took my mother with him. Captain Puleston[25] stated that he was attached to the U.S.S. *Wasp* with headquarters, I believe, at Montevideo.[26] They were there until after the birth of my oldest sister, Helen Evans Mahan, who was born at Montevideo on August 6, 1873.

My mother was, among other things, a very excellent household economist. They were determined that they would not accept any help from her family who, at that time, were in a position to give it if they had wanted to, which they probably would not have done, and always lived on less than my father's pay, keeping account of every cent that she spent. She told me once that the

nearest she ever came to living beyond her income was one month when she spent seven cents less than the amount of my father's check.

Shortly after my oldest sister's birth, but I do not know exactly when, yellow fever broke out in Montevideo and my father felt that my mother and my sister should leave there. I do not know whether he was relieved from the South Atlantic station[27] or just how it occurred, but they crossed the Atlantic from Rio to Bordeaux to spend some time with my grandfather, grandmother, and aunt, who had then moved to Pau, France.[28] It was there that my younger sister, Ellen Kuhn Mahan, was born on July 10, 1877. Some time later they returned to New York, and I was born in that City on February 12, 1881.

Living on a naval officer's salary with three children, even in those days when money went further than it does now, is no joke, but I never have heard of my mother making any complaint about any hardships that she suffered from lack of money. Although she had been brought up in an environment bordering on luxury, she appeared to demand nothing for herself and when clothes were to be bought, she always considered her children first, not to speak of her husband. My father, I know, was frequently very annoyed because she went around wearing shabby clothes. Indeed the only times in his life that I can ever remember his being annoyed with her was because she was sacrificing herself for the other members of the family.

My father was unquestionably a man of very fine character and a great deal of determination, but he did not begin to have the driving power that my mother did. My earliest clear recollections in life were when my father was stationed at the Naval War College on Coasters Harbor Island, Newport, R.I. This was when the War College was in the old insane asylum building. I can remember my mother pounding away on the typewriter. This was done at her own suggestion. My father probably chanced to say that he wished he could have his manuscript typewritten and that was enough for her to undertake to do the typing herself, although she had never touched a machine in her life. She bought one I think secondhand and started to work. I doubt if my father ever wrote a word for publication that she did not type. It has always been a source of amusement to me that frequently my father would ask my mother to read his own handwriting, words that he could not make out himself, but she always was able to do it.

When it came time to publish his books, it was my mother's driving power that kept him to it. After one or two publishers had refused them, he began to get discouraged, but I do not think that in those days she knew what the word meant. She had the utmost confidence in my father's ability, and, in addition to that, the assurances of the officers who had listened to his lectures, and she knew that my father had a message for the naval world that ought to be published. My father just did not seem to feel that people in general

would be interested in what he wrote, but my mother had a decidedly opposite opinion.

My mother's willingness to do anything to lighten my father's burden is shown by the fact that when he was on the *Wachusett*, the rest of us lived with my Grandmother Evans and my aunt in order to save expense. Later on, when my father had returned, we spent a winter with his mother and sister in Elizabeth, New Jersey. This, I know, was a great trial to my mother although I was only six years old at the time, but I am very sure that she never complained about it.

In January, 1894, when I was at boarding school, my father was abroad in the *Chicago*. I was taken very seriously ill with measles and pneumonia. My mother came up and spent about six weeks at the school, leaving my sisters alone in New York. It was a tremendous ordeal for her as it was a very cold winter and she had to live in a boarding house outside of the school grounds. She came over every day, of course, and spent most of the time with me. I can remember one time when the doctors had small hope of my getting well that she fainted on a couch in the room. I was sufficiently conscious to be worried by it, but did not know just what had happened, and they told me that she had fallen. I was so much worried that the headmaster gave her a room in the school building, but in spite of all the anxiety and strain, she did not let my father know that I was ill as she did not want to worry him. The first he knew of it was when he got back to New York in April.

The family's fortunes were considerably augmented about this time because my Grandmother Mahan[29] died in 1893 leaving my father a small amount of money, and my Grandmother Evans, in 1894, leaving my mother a considerably larger amount. Nevertheless, while we were more comfortable, the strain was not entirely eased, as my education was quite a drain. However, about the time I entered college in 1898, an uncle of my mother's died and left her a very considerable amount of money so that after that there was little financial worry. The first house in Quogue was built with my father's inheritance in 1894, and in 1898 a house was purchased in New York.

I presume it may have been largely a reaction from this strain that affected my mother's health. She had always had a certain amount of rheumatism. She was then over forty-five years old. From that time on, she was constantly going to the doctor and had lost a great deal of her alertness. Her will, however, remained as strong as before, although her body was weakened very considerably. I do not think she ever got over the habits of economy which had taken such a strong hold of her during her early married life, as she always seemed to feel that she was hard up, although there was little ground for that feeling. She never would spend any money on herself and always dressed in the simplest possible clothes. She was extremely warm-blooded and would frequently go out in a skirt and blouse when other women were wearing heavy

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coats. This is a characteristic which I have inherited from her. In hot weather, she suffered very considerably.

You have asked me to give you a description of my mother. I believe that her eyes were gray and she had fairly regular features with a rather prominent though straight nose. Her hair was quite dark when she was young, although ever since I have any clear recollection it was gray, being white when she died. Her face and forehead were always very wrinkled since I can remember, which seems to be a family characteristic. Her hair was naturally wavy though not curly.

There is no picture of my mother in existence so far as I know. She had an unconquerable aversion to being photographed, an aversion shared by my father although he had to submit to it occasionally; she never did. I cannot remember ever having seen even a snapshot of her.[30] She did have a tintype taken of her when she was a girl, but I do not know even the whereabouts of that.

Notes

1. Lyle Evans Mahan was born on 12 February 1881 in a house which the Mahans had rented on 11th Street, just off of Fifth Avenue, in New York City. At that time, the forty-year old Commander Mahan was serving as navigation officer at the Brooklyn Navy Yard. In August 1883, when Lyle was two years old, Mahan left New York to take command of USS *Wachusett*, based at Callao, Peru. When Mahan arrived on the South Pacific station, it was the fifth and final year of the War of the Pacific. In March 1885 Mahan and *Wachusett* were at Panama City when the Panamanians revolted against Colombia. The following month he cruised off El Salvador at the time when Guatemala was attempting to annex Nicaragua, Costa Rica and El Salvador. He rejoined his family in September 1885 enroute to assignment at the Naval War College.

2. A.T. Mahan, *From Sail to Steam: Recollections of Naval Life* (New York: Harper Brothers, 1907), see pages 239-300.

3. Built in 1820 by the city of Newport as an alms house, it is now Founder's Hall at the Naval War College. Today it houses the Naval War College Museum. Kennedy, then a lieutenant, was on the administrative staff at the Naval War College in 1887.

4. Alfred Thayer Mahan, II (1905-1989).

5. Groton School.

6. Mahan and his family moved to this address on 1 October 1890, after having spent July through September at Hall Cottage, Merton Road, Newport, RI.

7. *The Harvest Within: Thoughts on the Life of a Christian* (Boston: Little, Brown and Co., 1909).

8. The new building, now named Luce Hall, is mentioned only in passing in *From Sail to Steam*, p. 313. Mahan took charge of the new building on 22 July 1892. The College re-opened for classes on 6 September of that year, having been closed since 1889.

9. Mahan began to look for a publisher in September 1888, offering it first to Charles Scribner's Sons, who had published his first book, *The Gulf and Inland Waters* (1883). Finally, in October 1889, through James R. Soley, Little Brown and Co. agreed to publish it. The finished book appeared in the first week of May 1890.

10. Ellen Lyle Evans Mahan (1851-1927).

11. Soley, onetime Naval Academy instructor and international lawyer, became Librarian of the Navy Department Library in 1882. In 1885 he became the first civilian instructor at the Naval War College, lecturing on international law through 1889. In July 1890 he became Assistant Secretary of the Navy, becoming the foremost spokesman in Washington for the work of the War College.

12. The family remained in the rented apartment on East 54th Street from 1890 until June 1895. They moved into the newly purchased house at 160 West 86th Street in February 1896. They lived there during the winters until September 1905.

13. Helen Evans Mahan (1873-1963).

14. "Slumberside," the house at Quogue, was completed in the late spring of 1894.

15. "Marshmere," built in 1909.

16. Mahan and his family left New York on a six month's leave of absence on 26 March 1898. He received the order to return to Washington at Rome on 25 April, departing Rome on 27 April and arriving in Washington on 9 May, for duty on the Naval War Board.

17. Mahan's "The Work of the Naval War Board of 1898: A Report to the General Board October 29, 1906," is printed in Seager and Maguire, *Letters and Papers*, vol. 3, pp. 627-643.

18. George Frederick William Holls, New York lawyer, non-voting secretary and legal counsel.

19. Andrew D. White, historian, diplomat and former president of Cornell University.

20. This incident involved Article 27, which as originally written would have required *all* nations to become involved in the disputes of any two nations. While others in the American delegation approved the wording, Mahan alone saw that it was a violation of the intent of the Monroe Doctrine, and quickly persuaded his colleagues to introduce a clause exempting the United States and the Monroe Doctrine.

21. On 6 August 1914.

22. Omitted here is a reference to an attached genealogical chart.

23. Manlius Glendower Evans, a Philadelphia businessman.

24. They met in July 1870. Mahan proposed to her 14 August 1871.

25. This may refer to a draft chapter of Captain William D. Puleston, *Mahan: The Life and Work of Captain Alfred Thayer Mahan, USN* (New Haven: Yale University Press, 1939).

26. Mahan took command of *Wasp* on 17 February 1873.

27. Mahan passed on command of *Wasp* at Montevideo on 2 January 1875.

28. In order to reduce living costs following his financial losses in the Panic of 1873, Glendower Evans moved his family to Pau, in the department of Basse-Pyrennes in the south of France. Between duty stations, Mahan and his wife took a six-month leave of absence to visit her family there. They returned to the United States in May 1875 and Mahan later took up an assignment at the Boston Navy Yard. In December 1876, following the disputed election of Rutherford B. Hayes, outgoing Secretary of the Navy Robeson punished Mahan for his outspoken views, and forced him into taking a leave of absence. On half-pay, he could only afford to live with his in-laws in France, so he returned to Pau in January 1877 with his wife, then three months' pregnant. They remained there only until September 1877, when the new administration recalled Mahan to be head of the Department of Ordnance and Gunnery at the Naval Academy. He remained there until July 1880, when he received orders to the Brooklyn Navy Yard.

29. Mary Okill Mahan (1815-1893), widow of Dennis Hart Mahan (1802-1871). There is a brief recollection of her by Lyle Mahan in this same collection, not printed here.

30. A photograph of her, with her daughter, may be found in Robert Seager II, *Alfred Thayer Mahan: The Man and His Letters* (Annapolis: Naval Institute Press, 1977), p. 313.

Ψ

Alfred Thayer Mahan did not always win full praise from his critics. For example, a reviewer from the *Manchester Guardian*, while conceding Mahan's "wonderful power of exposition," also declared that he had "no skill in story telling, no power of color or of humor, no liveliness, none of that delight in detail which makes a memoir great and damns a history." As for his style, it was less attractive "than the style of any man of similar eminence. It is cold, it is heavy, it is unrhythmical; it is without any quality of beauty. But as a historian he compels admiration—he has such a grasp upon his subject; his cold, clumsy, telling phrases go home so deeply. His 'nuts of knowledge' are heavy round-shot."

"The Hedgehog and the Fox": Jomini, Clausewitz, and History

Colonel Richard M. Swain, U.S. Army

Man in his power of reasoning is essentially historical. The similes, metaphors and analogies by which he interprets and seeks to understand the world are at root based on an understanding of the past. Beginning with Sun Tzu's aphoristic *Art of War* and Thucydides' critical history of *The Peloponnesian War*, it has been a characteristic feature of military theories and doctrines that they have asserted an instrumental claim on past experience. The use made of history by military thinkers has not been uniform, however. It is useful, therefore, to compare how two seminal thinkers, Jomini and Clausewitz, sought to employ the experience of the past to create a theory for the future.

Antoine-Henri Jomini and Carl von Clausewitz are often described as two opposing interpreters of Napoleon. Although the greatest influence on their motivation for writing about war was their own experience in the Napoleonic era, neither set out simply to interpret the history of the Emperor of France. Moreover, direct comparison of their greatest works—Jomini's *Treatise on Grand Military Operations* and *Precis of the Art of War*, and Clausewitz's *On War*—can be extraordinarily misleading. In the first place, their purposes were different; the works simply are not comparable on equal terms. In the second, their beliefs about the nature and use of theory and their views about the nature of knowledge, particularly historical knowledge, differed profoundly.

Jomini and Clausewitz were contemporaries. Jomini was born in Vaud, Switzerland in 1779, and Clausewitz the following year in Berg, Prussia.[1] Jomini lived until 1869 and died well respected, the premier military theorist of his era. Clausewitz died much earlier, in 1831, from complications of cholera or simply some sort of stroke or heart attack brought on by illness and overwork. Jomini began his professional life in commercial pursuits in Switzerland and Paris. He was involved with the Revolutionary Swiss

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Republic in 1798 as secretary to the Swiss minister of war, but he moved to Paris in 1802. There he began writing his first didactic essay, which he presented first to the secretary of the Russian legation and then to Napoleon's lieutenant, Marshal Ney, who was to become Jomini's entree into French military circles. In 1805 Jomini became a colonel on Ney's staff, and in 1806 he was attached to the Emperor's staff for the Jena campaign. He returned to Ney as chief of staff in 1807 and accompanied the marshal to Spain. In 1810 he was appointed *general de brigade*. During the Russian campaign Jomini did not serve with the field forces; he was governor first of Vilna and then Smolensk. He rejoined Ney in 1813 and fought at Lutzen and Bautzen, where he distinguished himself, but in August, either consequent to a final falling-out with Berthier, Napoleon's chief of staff, or simply because he was an opportunist and saw the wind was shifting, Jomini went over to the Russians. He was appointed a lieutenant general, and he served the tsar until he retired in 1847.

Jomini was always an outsider—a Swiss in the French army and later in the service of Russia. Clausewitz was also an outsider of sorts, but in his case it was because of his birth. He was the son of a Frederican officer of doubtful, indeed, spurious nobility. His father was forced to leave the military service after the Seven Years' War, when Frederick no longer required the services of non-noble officers, and he lived out his life as a minor civil servant. Fortunately Clausewitz's mother remarried after his father's death, this time to an officer of unquestioned nobility who was able to gain access to officer's status for her sons. Whereas one gets a sense of Clausewitz as intense, proud and reflective, Jomini comes across as quarrelsome and vain.

Clausewitz entered the Prussian service at the age of twelve and served in the Rhine campaign of 1793-94. This was followed by several years of regimental duty. Then he entered the *Kriegsakademie* in Berlin, where he came into the orbit of Gerhard von Scharnhorst. His student years in Berlin were followed by assignment as tutor to a Prussian prince, with whom he was captured and interned by the French after the battle at Jena in 1806. Upon his return to Prussia he assisted Scharnhorst and the reform party in Berlin, taught in the *Kriegsakademie*, and was again a tutor, this time to the crown prince of Prussia. In 1812, rather than serve the purposes of the French, he resigned from the Prussian army and took service with the tsar. If this were not enough to confirm his status as an outsider in court circles, he was a principal in the negotiation of the Treaty of Tauroggen in December 1812, the agreement which took the Prussian army over to the Allies before the king of Prussia was prepared to make that move. Clausewitz was not permitted to reenter the Prussian army until 1815, when he served as chief of staff to the Third Corps and consequently was not present at Waterloo. From 1815 until his death he held a number of staff postings, the longest of which was as director of the *Kriegsakademie* from 1819 to 1830. He rose to

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the rank of major general, but his patent of nobility was not "confirmed" until 1827.

Both Jomini and Clausewitz wrote historical studies all their adult lives. Their later works, Jomini's *Precis* and Clausewitz's *On War*, rested upon a foundation built over long years of active service and study. Indeed, Professor Peter Paret has identified ideas in *On War* dating back as early as 1804.[2]

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The Jominian work best known by contemporary American officers is his *Precis of the Art of War*, begun in 1829, completed and published in 1837, and translated at West Point in 1854 and again in 1862.[3] This work is often compared to Clausewitz's *On War*, but the comparison is invidious. Clausewitz's clear intention in *On War* was philosophic speculation. Jomini's declared purpose was to write a handbook summarizing principles he had discovered in his earlier historical studies, particularly the *Treatise of Grand Military Operations*, written between 1803 and 1810.[4] Jomini's *Precis* is a manual; it is intended to be taken to the field. Indeed, Jomini claimed in a letter to the tsar that "notwithstanding its small compass, this Summary now contains all the combinations which the general of an army and the statesman can make for the conduct of a war: never was so important a subject treated within limits at the same time more compact and more in the reach of all readers."[5] Clausewitz had written such a work, though on much smaller scale, in 1812, a memorandum titled "The Most Important Principles For the Conduct of War to Complete My Course of Instruction of His Royal Highness The Crown Prince."[6] By the time he put away his draft treatise in 1830, Clausewitz would reject out of hand the idea of a positive theory of war, writing, "It is only analytically that these attempts at theory can be called advances in the realm of truth; synthetically, in the rules and regulations they offer, they are absolutely useless."[7] It is apparent that by the time of his death, Clausewitz differed fundamentally with Jomini about the purpose of theory.

Although there is no recorded debate between Jomini and Clausewitz nor any known correspondence between the two, their respective works were known to each other, and each recorded his criticism of the other and his defense of his own propositions—Jomini in his introduction to the *Precis*, and Clausewitz in Book II of *On War*. Clausewitz accused authors of positive doctrinal systems of oversimplification, arguing that wars were too variable to capture in any synthetic system. He argued that such systems aim at fixed values, ignore moral forces, and consider only unilateral action. "They exclude genius from the rule," Clausewitz complained, noting that, in fact, "what genius does is the best rule, and theory can do no better than show how and why this should be the case."[8] In short, the purpose of theory is explanation, not prescription. True theory must account for moral forces,

a reactive enemy of independent will, and uncertainty. Because tactics were determined largely by material factors, Clausewitz believed it much easier for the theorist to address tactics than strategy.

Jomini was clearly stung by criticism from Clausewitz and others who claimed his theories omitted moral forces in war. With what is clearly a tone of injury he wrote, "For an officer [Jomini himself], after having assisted in a dozen campaigns, ought to know that war is a great drama, in which a thousand physical or moral causes operate more or less powerfully, and which cannot be reduced to mathematical calculations."[9] Furthermore, Jomini was critical of Clausewitz's skepticism. In the introduction to the *Precis* he wrote: "One cannot deny to General Clausewitz great learning and a facile pen; but this pen, at times a little vagrant, is above all too pretentious for a didactic discussion, the simplicity and clearness of which ought to be its first merit. Besides that, the author shows himself by far too skeptical in point of military science; his first volume is but a declamation against all theory of war, whilst the two succeeding volumes, full of theoretic maxims, proves that the author believes in the efficacy of his own doctrines, if he does not believe in those of others."[10]

Jomini called *On War* a "learned labyrinth" and noted that "no work would have contributed more . . . to make me feel the necessity and utility of good theories," but he qualified his own purpose by citing the need to establish limits on application and to distinguish between "*a theory of principles* and *a theory of systems.*"[11] Jomini had acknowledged in his *Treatise on Grand Military Operations* that while principles were timeless, their application varied according to circumstances. In the *Precis* he wrote: "If the principles of strategy are always the same, it is different with the political part of war, which is modified by the tone of communities, by localities, and by the characters of men at the head of states and armies. The fact of these modifications has been used to prove that war knows no rules. Military science rests upon principles which can never be safely violated in the presence of an active and skillful enemy, while the moral and political part of war presents these variations. Plans of operations are made as circumstances may demand; to execute these plans, the great principles of war must be observed."[12]

It is notable that for Jomini it was the principles of strategy which were timeless. Tactics change, he believed, as material means of battle evolve.

In spite of the difficulties with the development of a positive theory which Clausewitz had noted, the Prussian philosopher did not reject the idea that war was a phenomenon capable of mastery through study. "This subject, like any other that does not surpass man's intellectual capacity," he wrote, "can be elucidated by an inquiring mind, and its internal structure can to some degree be revealed."[13] What he did demand was a change of purpose and focus. For Jomini the end of theory was a set of principles to serve as a guide for action. For Clausewitz the purpose of theory was the education of the

mind, the achievement of understanding: "It is meant to educate the mind of the future commander, or, more accurately, to guide him in his self education, not to accompany him to the battlefield."[14] Theory's purpose was the understanding of the constituent elements of war, particularly the relationship of ends to means.

In addition to their differences on the purpose of theory, Clausewitz and Jomini differed dramatically on the utility of history as a means for the distillation of theory. Jomini reflected the classical eighteenth-century view that history was a body of empirical data from which one could, by dispassionate observation, derive timeless principles that governed human behavior much in the same way that Newton had derived principles governing the physical world. In short, his method of using history was inductive. Indeed, Jomini asserted that "a series of ten campaigns is amply sufficient for presenting the application of all the possible maxims of war."[15] This was the basis for his *Treatise of Grand Military Operations*, a critical study of the wars of Frederick the Great and the pre-Napoleonic revolutionary wars. Jomini induced his principles of war from his study of Frederick.[16] He only confirmed them, at least to his own satisfaction, in his studies of the revolutionary and Napoleonic struggles written after his assertion of the central framework. Indeed, he was to write in 1837 that he had induced from Frederick's battle of Leuthen the key to *all the science of war.*[17]

In Chapter XXXV of the *Treatise on Grand Military Operations*, "Exposition of the General Principles of the Art of War," Jomini expressed his belief that the principles governing military operations could be separated from the political part of war. "It is not necessary," he wrote, "to remind our readers that we have here merely treated of those principles which relate to the employment of troops, or to *the purely military part* of the art of war; other combinations not less important are absolutely necessary in conducting a great war, but they pertain more to the government of empires than the commanding of armies."[18] This chapter was first published in December 1806.[19] When he wrote the *Precis*, years later, Jomini would devote a chapter to the consideration of "The Relation of Diplomacy to War," without giving up his faith in the essential separability of the two fields of action.

What then does the *Precis* contain? It is divided into seven chapters: the first addresses the relation of diplomacy to war, the second military policy, the third and by far the longest, strategy; the fourth chapter addresses grand tactics and battles, the fifth what Jomini called operations of mixed character, the sixth logistics, and the last tactical formations. This organization corresponds more or less with Jomini's division of the art of war in terms of activity. Curiously enough, although Jomini stated his intention in the first chapter to omit discussion of minor tactics, he devoted a chapter to them nonetheless.[20]

In an essay in the *London Review of Books*, John Sommerville observed that "how war is fought depends, at least in part, on the concepts of war held by those who participate in it: 'the idea of war itself is a major factor in the way in which it is waged.' "[21] Perhaps Jomini's most enduring legacy is a way to look at the conduct of war prescribed not only by his clear belief that the military side of war could be separated from the political, but also within a definitional structure suited to the wars of his day and, to a great extent, to those at least through 1945, when land armies remained an effective strategic weapon. It remains to be seen whether that day is past.

Jomini defined such concepts as theater of war, theater of operations, zones of operations, lines of operations, strategic lines, and interior lines. Indeed, he was perhaps the first to assert that the relationship of interior lines is temporal rather than spatial. He separated military activities into three categories—strategy, grand tactics, and logistics—observing that "strategy decides where to act; logistics brings the troops to this point; grand tactics decides the manner of execution and the employment of the troops."[22] If he went somewhat overboard with his definitional structure, particularly with subcategories of lines of operations, he at least provided a framework for thinking about the operations of large armies in the field.

While Jomini is often regarded as having been obsessed with the idea of interior lines, it was the principle of concentration that most attracted his attention. In the *Treatise* he had concluded that the science of war could be divided into three general combinations:

> The first of these . . . is *the art of arranging the lines of operations in the most advantageous manner*; which is what is commonly but improperly called *the plan of campaign*.
>
> The second branch *is the art of transferring our masses, with the greatest possible expedition, to the decisive point of either the primitive or accidental line of operation*. This is what is ordinarily understood by strategy.
>
> The third branch is *the art of combining the simultaneous employment of the greatest mass upon the most important point of the field of battle*; that is properly the art of combat [tactics].[23]

The principles developed by Jomini from his study of Frederick are all summarized in what to him was the "Fundamental Principle of War." In the *Treatise* he wrote that from the battle of Leuthen he had induced "the principle of all combinations in war, which consists in putting in action, upon the most important point of the line of operations, or of an attack, more forces than the enemy."[24] He would restate this finding in the *Precis* as "The Fundamental Principle."[25] He went on to summarize the "whole science of great military combinations in . . . two fundamental truths." The first was that "the science of strategy consists, in the first place in knowing how to choose well a theater of war and to estimate correctly . . . the enemy." The second explained the art of war as the employment of troops according to two principles:

> The first being, to obtain by free and rapid movements the advantage of bringing the mass of the troops against fractions of the enemy;
>
> The second, to strike in the most decisive direction.[26]

The *Precis* is generally concerned with giving instruction about how to accomplish this.

While it is normal to point to differences between Clausewitz and Jomini, it is useful here to remember that Clausewitz too recognized the importance of superiority of numbers. He wrote in Book III that "in tactics, *as in strategy*, superiority of numbers is the most common element in victory," and that "forces available must be employed with such skill that even in the absence of absolute superiority relative superiority is attained at the decisive point."[27]

* *

As has been noted, Clausewitz's purpose was to master the phenomenon of war, *Das ding an sich. On War* is a very different kind of book than the *Precis*, aside from the fact that, by the author's own well-known admission, it is complete only in its first chapter. The structure of *On War* is rather like a telescoping camp cup. Its first chapter, the one acknowledged complete, comprehends the entire work; its title, "What is War?". Its parent book, Book I, addresses "The Nature of War." Book II is the epistemological testament, "On the Theory of War." Books III through VII address major subdivisions of war: "Strategy," "The Engagement," "Military Forces," "Defense" (the longest and in some ways the most important chapter after the first), then, "The Attack." Book VIII was clearly intended to bring all these explorations back together in practical synthesis with a discussion of "War Plans."

Whereas Jomini viewed history as raw data from which he could draw broad generalizations (induction), Clausewitz began with broad generalizations and deduced further refinements from his general propositions. He used history as a normative check on theory, discarding the products of abstract reason when they did not accord with experience. He urged this as a method in Book II,[28] and gave one of its finest illustrations in Book I, in which he developed his definition of war.

This process reflects Clausewitz's method of philosophic inquiry, which Professor Peter Paret describes as phenomenological abstraction.[29] Dr. Paret explains Clausewitz's philosophic method this way: "Basically . . . he took a single phenomenon, varied it in imagination to see what properties were essential to it and what properties could be removed in thought without affecting its essence."[30] In this way he examined war itself in Chapter 1 of Book I. First he established a theoretical and "pure" definition of war: "*War is thus an act of force to compel our enemy to do our will.*"[31] From this beginning he *deduced* that, left only to its own internal logic, war must rise inevitably to extremes. Then, in section 6 of Chapter 1, he laid this deductive conclusion against reality and found it did not accord with experience. He spent the

final twenty-two sections of the chapter explaining why this was so, arriving in the end at the well-known "trinitarian definition of war,"[32] that war, "as a total phenomenon . . . [is] a remarkable trinity—composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, as an instrument of policy, which makes it subject to reason alone."[33] These aspects he assigned to the people, the commander and army, and the government respectively, noting their variability according to circumstances. His task, he observed, was "to develop a theory that maintains a balance between these three tendencies, like an object suspended between three magnets."[34]

As Professor Raymond Aron shows, this conclusion, which is fundamental to Clausewitz's legacy and current relevance, was the product of growing dissatisfaction with his original draft of *On War*, a dissatisfaction with the fact that history did not accord with theory, a dissatisfaction that came to a head only in 1827, eleven years after Clausewitz began his great treatise.[35] Clausewitz laid out his conclusion in his "Note of 10 July 1827," observing first that war could be of two kinds: one marked by the overthrow of the enemy, and the other leading only to negotiations. "This distinction between the two kinds of war is a matter of actual fact," he wrote. "But no less practical is the importance of another point that must be made absolutely clear, namely that *war is nothing but the continuation of policy with other means.*"[36] This he would reiterate in a letter to a friend, Captain Roeder, in December of the same year, referring to the "so-called science of strategy," and arguing that unless the political relations of belligerents were clearly laid down, "a plan can be nothing more than a combination of temporal and spatial relationships, directed toward some arbitrary goal."[37]

Clausewitz argued that policy will affect the conduct of war throughout its course. Jomini, in contrast, pointed out that the first act of a general when war is declared "should be to agree with the head of state upon the character of the war," after which he selects a base and proceeds with the conduct of the campaign, apparently basing his actions on military considerations alone.[38] Curiously, Jomini implies that the general and the head of state are different persons, whereas Clausewitz, in his famous and oft quoted statement that "the first, the supreme, the most far-reaching act of judgement that the statesman and commander have [sic] to make is to establish . . . the kind of war on which they [sic] are embarking," uses a singular verb [*der Staatsmann und Feldherr ausubt*], thus implying identity.[39] Jomini does note that the system of operations to be adopted will be determined by circumstances, the nature of the enemy army, the character of the nations and their leaders, and "the moral and material means of attack or defense which the enemy may be able to bring into action."[40]

Although Clausewitz recognized many ends in war, from destruction of the enemy army, through occupation of border regions, even to passively awaiting attack, he acknowledged only one means: combat.[41] In the unrevised portion of *On War* (Book IV), he wrote that "we are not interested in generals who win victories without bloodshed. The fact that slaughter is a horrifying spectacle must make us take war more seriously, but not provide an excuse for gradually blunting our swords in the name of humanity. Sooner or later someone will come along with a sharp sword and hack off our arms."[42] In a similar vein, Jomini, having reflected upon Napoleon's favoring of operations directed at the destruction of an enemy's army rather than occupation of any particular piece of terrain, observed that this is likely to continue to be the nature of war for some time: "For the first to renounce it in the presence of an active and capable enemy would probably be a victim to his indiscretion."[43]

Clausewitz called the relationship between attack and defense "the distinction that dominates the whole of war."[44] It was the defense which called war into being, for the attacker would always prefer to take without resistance.[45] Both Clausewitz and Jomini appear to favor the defensive as the strongest form of war *when it incorporates a strong riposte*. Both recognize the defense as a means of buying time to await a more favorable balance of forces. Indeed, it is Jomini who writes, "It seems plain that one of the greatest talents of a general is to know how to use . . . these two systems [attack and defense], and particularly to be able to take the initiative during the progress of a defensive war."[46]

Two other comparisons of Jomini and Clausewitz shed light on their different views of the role and nature of theory. The first concerns the idea of culmination, which is taken from astronomy. It refers to an army (or commander) overreaching itself. Clausewitz devoted two chapters of his book to a discussion of this phenomenon in both tactics and strategy.[47] Jomini recognized its effect and consequence but simply passed over it as obvious.[48] More to the point is their respective treatment of the concepts of friction and chance. Clausewitz wrote that "friction is the only concept that more or less corresponds to the factors that distinguish real war from war on paper,"[49] acknowledging thereby the obligation to include consideration of friction in his theory. Jomini, on the other hand, acknowledged the presence of chance: "An order misunderstood, a fortuitous event, may throw into the hands of the enemy all the chances of success which a skillful general had prepared himself by his maneuvers."[50] But he then places consideration of such events outside theory: "These are risks which cannot be foreseen nor avoided. Would it be fair on that account to deny the influence of science and principles in ordinary affairs?" Jomini concluded that "a general's science consists in providing for his side all the chances possible to be foreseen, and of course cannot extend to the caprices of destiny."[51]

* * *

Sir Isaiah Berlin titled his essay about Tolstoy's view of history, *The Hedgehog and the Fox*, after a classical Greek epigram by the poet Archilochus which says, "The fox knows many things, but the hedgehog knows one big thing."[52] The hedgehog "relate[s] everything to a single central vision"; the fox "pursue[s] many ends, often unrelated and even contradictory."[53] This literary model fits Clausewitz and Jomini. Clausewitz was a "hedgehog." Late in his career, he related everything in war to a central political purpose. Jomini, who observed many regularities in the history of war, possessed no unifying vision. His theory was organized largely on spatial and temporal lines and, as a consequence, Jominian theory is never greater than the sum of its parts. It is not "wrong" so much as limited. Clausewitz's theory, on the other hand, is transcendent so long as the central proposition remains valid.

Based upon his study, Jomini concluded that history was governed by a finite number of principles which, like laws of nature, were timeless. Clausewitz demurred. He too saw regularities in history, but in his case they were phenomenological relationships.[54] He did not deny the possibility that an equation relating all the factors that determined outcomes was conceivable in the abstract. What he believed was that the relationships were far too numerous to deal with in any exact way. This is at the heart of his quotation of Bonaparte that "many of the decisions faced by the commander-in-chief resemble mathematical problems worthy of the gifts of a *Newton* or an *Euler*."[55]

In the *Treatise on Grand Military Operations*, Jomini wrote, "The idea of reducing the theory of war to some natural combinations; to a simple and exact theory, has many advantages. It renders instruction more easy; the judgement of the operations more just, and consequently, faults less frequent; since it will direct all generals in their conduct."[56] This reads very much like the introduction to an American army training text. In his day, Jomini's works satisfied the need filled by doctrine today. Jomini has been superseded not by more modern theorists, but by contemporary doctrine writers. Clausewitz sought to fill another need, one like that Jacob Burkhardt saw for history: "Not to make men clever for next time; . . . to make them wise forever."[57]

Notes

1. For Jomini the best biographical study is John Shy's "Jomini," Ch. 6 of *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, Peter Paret, ed. (Princeton: Princeton University Press, 1986), pp. 143-185. For Clausewitz see Raymond Aron's sympathetic biographical chapter in Raymond Aron, *Clausewitz: Philosopher of War*, trans. by Christine Booker and Norman Stone (London: Routledge & Kegan Paul, 1983), pp. 11-40. Peter Paret, *Clausewitz and the State* (Princeton: Princeton University Press, 1976 & 1985) is a lengthy intellectual biography of the Prussian. Colonel John Alger's *Antoine-Henri Jomini: A Bibliographical Survey*, United States Military Academy Library Occasional Paper Number Three (West Point: United States Military Academy Library, 1975) is also very useful.

2. Paret, *Clausewitz and the State*, p. 78, and Alger, *Jomini*, pp. 1-2. Alger considers Jomini's initial didactic essay the beginning of the *Treatise*.

3. Baron Jomini, *Summary of the Art of War, or A New Analytical Compend of the Principal Combinations of Strategy, of Grand Tactics and of Military Policy*, trans. by Major O.F. Winship and Lieut. E.E. McLean (New York: G.P. Putnam & Co, 1854), hereinafter referred to as *Summary of the Art of War*, 1854, to distinguish it from Baron de Jomini, *The Art of War*, trans. by Capt. G.H. Mendell and Lieut. W.P. Craighill (Philadelphia, J.B. Lippincott & Co., 1862; reprint by Greenwood Press, n.d.), hereinafter referred to as Jomini, *Art of War*, 1862. These are two separate translations of Jomini's *Precis of the Art of War*, the latter of which does not contain Jomini's introductory essay.

4. See "Notice of the Present Theory of War and of Its Utility" in Jomini, *Summary of the Art of War*, 1854, pp. 13-14. *Treatise* is Baron Jomini, *Treatise on Grand Military Operations or a Critical and Military History of the Wars of Frederick the Great, as Contrasted with the Modern System*, 2 Vols., trans. by Col. S.B. Holabird (New York: D. van Nostrand, 1865), hereinafter referred to as Jomini, *Treatise on Grand Military Operations*. For dates, see Alger, *Jomini*, pp. 2-5.

5. "Letter to His Majesty, The Emperor of all the Russias," 6th March, 1837, reprinted in Jomini, *Summary of the Art of War*, 1854, p. 1.

6. Carl von Clausewitz, *Principles of War*, trans. by Hans W. Gatzke (Harrisburg, Pa.: Military Service Division of The Stackpole Company, 1960).

7. Carl von Clausewitz, *On War*, trans. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), p. 136.

8. *Ibid.*

9. Jomini, "Notice of the Present Theory of War and of Its Utility," in *Summary of the Art of War*, 1854, pp. 17-18. See also Jomini's comment in the "Conclusion" in which he acknowledges "war in its *ensemble* is not a science, but an art. Strategy . . . may indeed be regulated by fixed laws resembling those of the positive sciences, but this is not true of war viewed as a whole." *Ibid.*, p. 325.

10. "Notice," in *ibid.*, pp. 14-15.

11. *Ibid.*, p. 15.

12. Jomini, *Art of War*, 1862, p. 15.

13. Clausewitz, *On War*, pp. 149-150.

14. *Ibid.*, p. 141.

15. Jomini, "Notice of the Present Theory of War and of Its Utility," in *Summary of the Art of War*, 1854, pp. 12-13. For Jomini's classical view of the use of history, see *Ibid.*, p. 18.

16. Alger, *Jomini*, p. 6.

17. Jomini, "Notice of the Present Theory of War and of Its Utility", in *Summary of the Art of War*, 1854, p. 12.

18. Jomini, *Treatise on Grand Military Operations*, II, p. 460. (Emphasis added.)

19. Alger, *Jomini*, p. 6.

20. Jomini, *The Art of War*, 1862, p. 11.

21. John Sommerville, "Ideas of War," *The London Review of Books*, 27 October 1988, p. 21.

22. Jomini, *The Art of War*, 1862, p. 62.

23. Jomini, *Treatise on Grand Military Operations*, II, pp. 459-460.

24. Jomini, *Treatise on Grand Military Operations*, I, p. 252.

25. Jomini, *The Art of War*, 1862, p. 63.

26. *Ibid.*, p. 299.

27. Clausewitz, *On War*, p. 194. (Emphasis added.)

28. *Ibid.*, p. 144.

29. Paret, *Clausewitz and the State*, p. 357.

30. *Ibid.*, p. 358.

31. Clausewitz, *On War*, p. 75.

32. The term is from Aron, *Clausewitz*, p. 2.

33. Clausewitz, *On War*, p. 89.

34. *Ibid.*

35. See Aron, *Clausewitz*, Ch. 3, "The Final Synthesis and the Strategic Debate," pp. 61-70.

36. Clausewitz, "Note of 10 July 1827," in *On War*, p. 69.

37. Letter of Carl von Clausewitz to Captain Roeder, December 22, 1827, in *Carl von Clausewitz: Two Letters on Strategy*, trans. by Peter Paret and Daniel Moran (Carlisle Barracks, Pa.: U.S. Army War College Art of War Colloquium, November 1984), p. 9.

38. Jomini, *The Art of War*, 1862, p. 59.

39. Clausewitz, *On War*, p. 88. For the German text, see Carl von Clausewitz, *Vom Kriege: Hinterlassenes Werk Des Generals Carl von Clausewitz* (Bonn: Ferd. Dummlers Verlag, 1980), p. 212.

40. Jomini, *The Art of War*, 1862, p. 45.

41. Clausewitz, *On War*, p. 95.
42. *Ibid.*, p. 260.
43. Jomini, *The Art of War*, 1862, p. 126.
44. Clausewitz, *On War*, p. 94.
45. *Ibid.* pp. 377, 370.
46. Jomini, *The Art of War*, 1862, pp. 66-67; Clausewitz, *On War*, pp. 360-366.
47. Clausewitz, *On War*, pp. 528, 566-573.
48. Jomini, *The Art of War*, 1862, p. 20.
49. Clausewitz, *On War*, p. 119.
50. Jomini, *The Art of War*, 1862, p. 38. For Jomini on friction see *ibid.*, pp. 178-179.
51. *Ibid.*, p. 39.
52. Isaiah Berlin, *The Hedgehog and the Fox: An Essay on Tolstoy's View of History* (New York: Simon & Schuster, Inc., 1953), p. 1. I owe to Dr. Roger Spiller both my introduction to and understanding of Berlin's essay.
53. *Ibid.*
54. Clausewitz, "Unfinished Note, Presumably Written in 1830," in *On War*, p. 71.
55. Clausewitz, *On War*, p. 112.
56. Jomini, *Treatise on Grand Military Operations*, I, p. 254.
57. Quoted by Sir Michael Howard in "The Use and Abuse of Military History," *The Royal United Service Institution Journal* (RUSI), February 1962, p. 8.

. . . Clausewitz, has therefore immediately to qualify his maxim, thus:

"When we say that defense is a stronger form of war, *that is, that it requires a smaller force, if soundly designed*, we are speaking, of course, only of one certain line of operations. If we do not know the general line of operation on which the enemy intends to attack, and so cannot mass our force upon it, then defense is weak, because we are compelled to distribute our force so as to be strong enough to stop the enemy on any line of operations he may adopt."

Manifestly, however, a force capable of being strong enough on several lines of operation to stop an enemy possesses a superiority that should take the offensive.

Naval Strategy
A. T. Mahan (1911)
Little, Brown (1918), p. 279

Law in Support of Policy in Panama

Colonel James P. Terry, U.S. Marine Corps

Operation "Just Cause," the December 1989 military intervention in Panama by the United States to restore order, protect U.S. lives, and ensure the integrity of the Panama Canal Treaty,[1] was the fifth such incursion into that nation by the United States in this century.[2] When this use of force is judged from the dual perspectives of law and U.S. policy, the U.S. initiative, unlike our intervention in Nicaragua earlier in the decade, can be justified under conventional and customary international law as a legitimate use of American military power in defense of U.S. and Panamanian national interests.

Under the best of circumstances, the use of the military instrument will lead to international criticism. Operation "Just Cause" was no exception. The Soviet Union used traditional cold war rhetoric to denounce the action, while all the neighboring Latin American nations condemned the incursion—individually, within the Organization of American States (OAS), and within the United Nations.[3] (Strangely, their criticism was far more vocal than when Noriega nullified the victory of the Endara government over his puppet regime the preceding May.) Britain and other Western nations were supportive of the operation.

This use of military power in Panama emphasized that criticism will be short-lived when both the people of the nation in which the intervention occurs, as well as the opposition party of the intervenor-nation, support the action as within their national interests. For the people of Panama, the intervention represented fulfillment of the ongoing civic movement for democratization, their vital economic interest in political change (they recognized that U.S. economic sanctions would only be lifted if Noriega were

Colonel Terry did his undergraduate work at the University of Virginia, holds a juris doctor degree from Mercer University and the master of laws and doctor of juridical science degrees from the National Law Center, George Washington University. After his graduation from the Naval War College in June 1986, Colonel Terry was assigned to the Judge Advocate Division, Headquarters, U.S. Marine Corps. He is currently the Staff Judge Advocate, III Marine Expeditionary Force in Okinawa.

deposed or surrendered to face U.S. drug and conspiracy charges), and an appeasement of the new critical attitude in the international community over conditions in Panama.

The Threat to U.S. National Interests

For more than two years prior to the 20 December 1989 intervention by U.S. Southern Command (SOUTHCOM) forces, the U.S. government had attempted to resolve the crisis in Panama through negotiation. That effort was directed toward protecting the 35,000 Americans in Panama, combating the drug transshipment trade from Colombia, which was being orchestrated in Panama City, and ensuring that the operation of the Canal remained secure.

Our concern had grown in May 1989 when opposition candidates on a slate headed by Guillermo Endara in the national election appeared to have beaten the Noriega puppet-slate by a wide margin. Noriega quickly nullified the election. Memories remain fresh of Second Vice President-Elect Guillermo Ford's brutal beating by thugs from the "Dignity Battalions" on the day following the national elections.

Harassment of U.S. military personnel and their dependents increased significantly after the election. On Friday, 15 December 1989, General Noriega declared his military dictatorship to be in a "state of war" with the United States. This followed a declaration by his puppet regime that he was "Maximum Leader" of the Panamanian people. Noriega's declaration of war was coupled by not-so-veiled threats against Americans, including statements to the effect that he looked forward to seeing U.S. corpses floating in the Panama Canal.

On 16 December, forces under his command shot and killed an unarmed Marine Corps officer (1st Lieutenant Robert Paz) and wounded another. Both were assigned to U.S. forces in Panama pursuant to the Panama Canal Treaty. Shortly after that incident, a naval officer similarly assigned and traveling with his wife in Panama City was arrested without cause and brutally beaten. His wife was interrogated and then threatened with sexual abuse.

Believing that this pattern of violence against U.S. citizens would continue, President Bush acted to protect U.S. lives and interests and to restore democracy in Panama on behalf of the legitimately elected Panamanian government.

Application of International Law

The law supporting U.S. intervention can be found in both international agreement and custom. The cornerstone of the law regulating coercion between states is found in the minimum world order system represented by Articles 2(4), 2(7) and 51 of the U.N. Charter.[4] The provisions of Article 2

preclude the use of armed force by one state against another. The provisions of Article 51 authorize one exception, the inherent right to use military force in self-defense. The United Nations Charter system requires strict accountability, however, before the projection of force into the territory of another state can be justified.

The U.S. intervention in Panama must be tested against each of the several conditions required to justify the use of military force in self-defense under Article 51. The first condition is the existence of an armed attack, or the imminent threat of armed attack upon the territory or citizens of the United States. In December 1989, U.S. citizens lawfully resident in Panama pursuant to Panama Canal Treaty provisions, their property, and an international waterway vital to U.S. national power projection were all imminently threatened with armed attack. Not only had there been dangerous rhetoric (including a declaration of war) placing the Canal Treaty provisions in imminent risk, but attacks on U.S. citizens, coupled with allusions by Noriega to further "corpses," made more attacks likely. Further, there was every evidence that this threat would continue as long as General Noriega remained in power.

A further condition to be satisfied relates to the possibility of an alternative to military force which might have returned the U.S.-Panamanian relationship to an acceptable status quo. The Charter contemplates a hierarchy of responses with armed force authorized only when other responses have been attempted and have failed, or are obviously without application. In the case of Panama, all other reasonable measures had been addressed. Every form of diplomatic (including the recall of our ambassador), economic (including sanctions) and legal initiative (including indictment of Noriega) had been attempted, yet conditions had only worsened.

Although the use of force has been seriously questioned by some international legal scholars[5] and certain Latin nations, a detailed scholarly analysis brings one to the same conclusion held by President Bush. Sir Gerald Fitzmaurice, former jurist on the International Court of Justice (ICJ), notes that international law "by no means permits [self-defense] in every case of illegality, but on the contrary, confines it to a very limited class of illegalities."[6] Professor Ian Brownlee of Oxford University sets the parameters clearly when he states ". . . provided there is control by the principal, the aggressor state, and an actual use of force by its agents, there is an 'armed attack.' "[7] This view was further expanded by the International Court of Justice in their 1979 ruling Concerning United States Diplomatic and Consular Staff in Tehran (United States v. Iran). The Court found Iranian actions in seizing our diplomats to be an armed attack on the United States.[8]

Professor John Norton Moore of the University of Virginia clearly brings actions such as were carried out by Noriega's forces against U.S. citizens and interests within the scope of an "armed attack" when he concludes that "a

state is entitled to respond against aggressive attack, whether that is a direct attack using armies on the march, or whether it is low intensity conflict or guerrillas or terrorist attack."[9]

The more significant legal issue may not have been whether the United States might respond to attacks on its personnel, however, but whether it could take those actions necessary to preempt reasonably anticipated future acts of violence against its citizens in Panama through removal of Noriega. The U.S. position has always been that Article 51 of the U.N. Charter does not create a new principle, but rather reiterates the inherent right of self-defense recognized by customary international law.[10]

As such, the right of self-defense is not limited to responding to an actual armed attack but also includes preemptive or anticipatory self-defense. Former Secretary of State Shultz reaffirmed this view during the Libyan crisis in 1986 when he stated the United States "is permitted to use force to preempt future attacks, to seize terrorists, or to rescue its citizens when no other means are available."[11]

Four basic arguments in favor of anticipatory self-defense have been advanced and each has application with respect to our intervention in Panama.[12] First, Article 51 of the Charter embraces the inherent right of self-defense (which includes anticipatory self-defense). Second, it is very difficult to distinguish those acts which constitute preparation for aggression (but which might not justify responding coercion under a restrictive view) and those that constitute elements of an attack. Third, the destructive power of modern weaponry makes it unreasonable to expect a state to await a first strike before responding.[13] Finally, a more restrictive position would only benefit an aggressor.[14]

A further requirement of the "minimum world order system," represented by Articles 2 and 51 of the U.N. Charter, against which the U.S. intervention in Panama must be tested is the customary international law principle of proportionality. Although the corresponding requirement of "necessity" [15] is directly embraced, at least implicitly, within Article 51, the same arguably cannot be said for "proportionality of response." Professor Myres McDougal and Dr. F. Feliciano of Yale University Law School have defined the rule as follows: "Proportionality in coercion constitutes a requirement that responding coercion be limited in intensity and magnitude to what is reasonably necessary promptly to secure the permissible objectives of self-defense. For present purposes, these objectives may be most comprehensively generalized as the conserving of important values by compelling the opposing participant to terminate the condition which necessitates responsive coercion."[16] This definition simply requires a rational relationship between the intensity of the attack and the intensity of the response. Although the relationship need not approach precision, a nation subjected to a number of

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state-sponsored attacks on its citizens is not entitled, for example, to destroy in its entirety the capital city of the offender state.

Other canons of military practice, such as conservation of resources, support this principle of restraint in defense. The United Nations has condemned as reprisals those defensive actions which greatly exceed the provocation.[17] Where a continuation of hostile acts beyond the triggering event or events is reasonably to be expected, however, as was the case in Panama, a response which anticipates requirements of a continuing nature beyond the scope of the initial attack would be legally appropriate.

The addition on 20 December of some 9,500 troops from Fort Bragg and Ford Ord, among others, to the 13,000 soldiers within the U.S. forces already in Panama can hardly be viewed as exceeding the parameters established by this rule, given the significant forces under Noriega's control.

Application of Regional Agreements

In addition to the regime established by the United Nations Charter, the United States and Panama are bound by the Charter of the Organization of American States (OAS),[18] the Inter-American Treaty of Reciprocal Assistance (Rio Treaty)[19] and the 1977 Panama Canal Treaty.[20] Our Latin neighbors are particularly sensitive to the provisions of the Rio and OAS agreements because of their view that the United States violated provisions of those agreements during the years 1981-84 when the United States was involved in laying mines in Nicaraguan ports, and in participating in the planning and direction of attacks on Nicaraguan ports, oil installations and naval bases.

The International Court of Justice (ICJ) ruled in the case of Nicaragua v. U.S.[21] that the support given by the United States to the military and paramilitary activities of the Contras by financial support, training, supply of weapons, intelligence, and logistics support, constituted a clear breach of the principles of non-intervention under provisions of the OAS and Rio accords. The ICJ further found in that case that the actions of Nicaragua against its neighbors did not, as the United States maintained, amount to an armed attack which could have authorized the collective countermeasures taken by the United States. In making these findings, the ICJ ruled that the U.S. actions in Nicaragua had resulted in an infringement of territorial sovereignty under both agreements, as well as the U.N. Charter.[22] It is small wonder, then, that the Latin nations expressed concern over the U.S. intervention in Panama.

OAS Charter

The prohibitions against the use of force in the OAS Charter are phrased in language that is even more categorical than that of Article 2(4) of the U.N.

Charter, reflecting the long and painful history of the Latin American states. Article 13 establishes, for example: "No state or group of states has the right to intervene, directly or indirectly, for any reason whatever, in the internal or external affairs of any other state. The foregoing principle prohibits not only armed force but also any other form of interference or attempted threat against the personality of the State or against its political, economic and social elements." Article 20 is equally clear with respect to territorial integrity: "The territory of a State is inviolable; it may not be the object, even temporarily, of military occupation or of other measures of force taken by another State, directly or indirectly, on any grounds whatsoever."

The one exception to these comprehensive prohibitions, and the one relied upon by the United States in taking action to protect U.S. citizens and interests in Panama, is Article 22, which provides: "Measures adopted for the maintenance of peace and security in accordance with existing treaties do not constitute a violation of the principles set forth in Articles 18 and 20." The measures addressed in Article 22 include the right of self-defense under Article 51 of the U.N. Charter, as well as diplomatic and economic actions, to the extent they are not considered regional enforcement initiatives pursuant to Article 53 of the U.N. Charter. Because the U.S. measures in Panama satisfy the self-defense criteria of the U.N. Charter, they likewise trigger the exception specified in Article 22 of the OAS Charter.

Another important article within the OAS Charter is relevant to the U.S. military action. Article 3d provides: "The solidarity of the American States and the high aims which are sought through it require political organization of those States on the basis of the effective exercise of representative democracy." Not only had General Noriega violated this provision in May 1989 when he had refused to allow the Endara government to assume power, but the abuses heaped upon his opponents also violated similar provisions of the 1953 American Declaration on the Rights and Duties of Man.[23] While the ICJ in the past has opined (most recently in U.S. v. Nicaragua) that the commitment of states under Article 3d of the OAS Charter is political, rather than legal in nature,[24] the Court also asserted that there is nothing which precludes a state from assuming a binding and enforceable international commitment of this kind.[25] When Panama committed itself to the multilateral 1953 Declaration pledging to preserve these rights for its people, a binding obligation was created which could be enforced by other states party to the Declaration.[26]

The Rio Treaty

This multilateral agreement authorizes self-defense measures similar to those within the OAS Charter and the U.N. Charter. Article 3 provides that the parties undertake ". . . to assist-in-meeting the attack in the exercise of

the inherent right of individual or collective self-defense recognized by Article 51 of the Charter of the United Nations." This provision reinforces the U.S. right in the U.N. and OAS Charters to take measures in self-defense when the criteria established for an armed attack is met.

Panama Canal Treaty

The strongest tenet underlying U.S. actions was the bilateral Canal Treaty[27] itself. Under Article 4, the United States has not only the right, but the duty to protect the waterway. The basic U.S. responsibility is to operate and defend the Panama Canal until its transfer to Panama at the end of this century. Even after the Noriega regime's illegal seizure of power, the United States continued to do what it has done since the entry into force of the treaty in 1979—provide for the safe and orderly transit of vessels through the canal while assuring increased Panamanian participation in its management and operation.

During 1988 and 1989, however, the Noriega regime engaged in a systematic campaign to harass and intimidate U.S. and Panamanian employees of the Panama Canal Commission and the U.S. forces. In 1989 alone, there were over 300 violations of the U.S. military bases by Panamanian Defense Forces (PDF) personnel, over 400 U.S. personnel were detained, and 140 U.S. personnel were endangered.[28] When this dangerous and provocative behavior reached an intolerable level in mid-December, President Bush was required to act to end the threat to American and Panamanian lives as well as to canal operations.

Meeting the Weinberger Criteria for Intervention

From the perspective of the U.S. Congress, the fact that the initiative met the carefully circumscribed criteria established by former Secretary of Defense Caspar Weinberger for intervention in 1984 was critical. Senate Majority Leader George Mitchell stated immediately after the intervention: "I support the President's decision. It was made necessary by the actions of General Noriega."[29] House Speaker Thomas S. Foley echoed these sentiments when he stated: "I support that decision. The President made a convincing argument. . . . The President asked for my support, and I gave him that assurance. The decision is justified."[30]

These statesmen were two of the principal protagonists in the 1984 debate concerning the use of military force following the Beirut bombing and Grenada intervention. That debate, precipitated by the military services over the appropriate circumstances in which the government may place American military personnel in harm's way, led to the clear articulation of six criteria for intervention by then-Defense Secretary Weinberger before the National

Press Club on 28 October 1984. These tests, applauded then and since by the Congress, require that:

- Any use of force be predicated upon a matter deemed vital to our national interest.
- The commitment be with the clear intention of winning.
- We have clearly defined political and military objectives.
- The forces committed be sufficient to meet the objective.
- There be reasonable assurance we have the support of the American people.
- The commitment of U.S. forces to combat be a last resort.[31]

The intervention in Panama met each of these tests, and because it did, the support of the American people and the Congress was overwhelming. If we have learned one lesson from Panama, it is that legal criteria and political criteria are not unrelated. Where use of military force can be defended as necessary and proportional under the canons of international law, the American people will support its use as a proper exercise of national power.

Notes

1. President Bush cited these as the objectives of the intervention in his speech to the nation at 0740 (Eastern) on 20 December 1989.

2. In 1908, U.S. forces landed in Panama, which had gained independence from Colombia in 1903 with U.S. support, in the first of four landings in that nation in the next decade. (Although not an intervention *per se*, in 1964, 23 persons were killed and 300 injured during "flag" riots against the U.S. presence. U.S. forces assigned in Panama were used to quell the nationalist riots.)

3. See "Many Governments Condemn Use of Force in Panama," *The Washington Post*, 21 December 1989, p. A34; also see "OAS Votes to Censure U.S. for Intervention," *The Washington Post*, 23 December 1939, p. A.7.

4. *U.N. Charter*, 59 Stat. 1031; TS 993; 3 Bevans 1153. Signed at San Francisco, 26 June 1945. Entered into force 24 October 1945. Reprinted in U.S. Department of State Publication 2368, pp. 1-20.

5. Two weeks after the intervention, 69 politicians and political activists, including 1972 Presidential nominee George McGovern, took out a full page ad in *The New York Times* decrying the Panama initiative. The open letter to the President stated: "Your invasion of Panama is illegal . . . a violation of the Constitution . . . the U.N. Charter, the OAS and Canal Treaties."

6. Sir Gerald Fitzmaurice, "The Problem of the Authority of International Law and the Problem of Enforcement," *Modern Law Review*, v. 19, 1956, p. 1.

7. Ian Brownlee, *International Law and the Use of Force by States* (Oxford, England: Oxford Univ. Press, 1963), p. 373.

8. See Concerning United States Diplomatic and Consular Staff in Iran (U.S. v. Iran), merits, 1980 International Court of Justice (ICJ), paras. 17, 24, 25, 57, and 91. See also J. P. Terry, "The Iranian Hostage Crisis: International Law and U.S. Policy," *JAG Journal*, v. 32, 1982, pp. 94-117.

9. John Norton Moore, "International Law and Terrorism," ROA National Security Report 4, no. 10, October 1986.

10. See Article 0915, *U.S. Navy Regulations*, 1973.

11. George P. Shultz, quoted in *The New York Times*, 16 April 1986, p. A8.

12. Richard J. Erickson, *Legitimate Use of Military Force Against State Sponsored International Terrorism* (Maxwell AFB, Alabama: Air Univ. Press, 1989), pp. 138-139 for a full discussion of each of these principles.

13. See George Bunn, "International Law and the Use of Force in Peacetime: Do U.S. Ships Have to Take the First Hit?" *Naval War College Review*, May-June 1986, pp. 69-80.

14. See Marjorie Whiteman, *Digest of International Law*, v. 12, pp. 49-50.

15. "Necessity" embodies the concept that the use of military force to protect or defend vital national interests, U.S. citizens, or U.S. territory from armed attack or the imminent threat of armed attack shall be resorted to only after all other lesser means have been exhausted. See William V. O'Brian, "The

Meaning of Military Necessity in International Law," *World Polity*, v. 1, 1966, p. 166; and William Gerald Downey, Jr., "The Law of War and Military Necessity," *American Journal of International Law*, v. 47, 1953, p. 251.

16. Myres McDougal and F. Feliciano, *Law and Minimum World Public Order* (New London: Yale, 1961), p. 242.

17. See the Security Council's discussion in 36 U.N. SCOR (2232-2285) mtgs; U.N. Docs. S/PV 2285-2288 (1981).

18. *Revised Charter of the Organization of American States*, 2 UST 2394; TIAS 2361; 119 UNTS 3. Amendments, 21 UST 607; TIAS 6847. Entered into force for the U.S. 13 December 1951. Amendments entered into force 27 February 1967.

19. *Inter-American Treaty of Reciprocal Assistance*, 62 Stat. 1681; TIAS 1838; 4 Bevans 559; 21 UNTS 77. Done at Rio de Janeiro 2 September 1947; entered into force 3 December 1948.

20. *Panama Canal Treaty*, with Annex, Agreed Minute, and related letter, TIAS 10031. Signed at Washington 7 September 1977; entered into force 1 October 1979, subject to reservations and understandings.

21. *U.S. v. Nicaragua*, Judgement, International Court of Justice (ICJ) Reporter, 1986; reprinted in *American Journal of International Law*, v. 80, 1986, pp. 785-807.

22. *Ibid.*

23. Res. XXX of the Ninth International Conference of American States (1953), reprinted in *Human Rights: The Inter-American System*, v. 1, pt. 1, Ch. 4, p. 1, eds. T. Buergenthal and R. Norris, 1984.

24. *U.S. v. Nicaragua, supra* note 21, *ICJ Reporter*, para. 259, p. 131.

25. *Ibid.*

26. The United States was certainly entitled to make this claim, as a party to the *Declaration*.

27. *Supra* note 20.

28. These figures are provided in U.S. Department of State, Bureau of Public Affairs, Current Policy No. 1240, 22 December 1989.

29. Quoted in *The Washington Post*, 21 December 1989, p. A35.

30. *Ibid.*

31. Secretary Weinberger's speech was reprinted verbatim in *The New York Times*, 29 October 1984, pp. A1, A4.

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IN MY VIEW . . .

For Naval Arms Control: Mix Apples with Oranges

Sir,

In his article " 'Just Say No!' The U.S. Navy and Arms Control: A Misguided Policy?" (Winter 1990), Mr. Adam Siegel complains that "the uniformed navy has not played a leading role in the [naval arms control] debate." While I, for one, promise to continue attempts to remedy Mr. Siegel's complaint (see my article in the Winter 1989 *Review*), the reason for such a state of affairs is simple: previous proposals, such as declared submarine sanctuaries, bans on ASW platforms, and "zones of peace," are unverifiable, unenforceable or strategically disadvantageous to the United States. At best, they are "symbolic"; at worst, they represent cynical propaganda. Unfortunately, most new proposals—even Mr. Siegel's—contain similar flaws.

As Commander McKenzie points out in the adjacent article, the problem lies in the geographic and political asymmetries between the United States and the Soviet Union. From a strategic perspective, reductions in U.S. naval capability should be matched by corresponding cuts in Soviet land and strategic missile forces, not the Soviet navy. Mr. Siegel errs—in similar fashion to proponents of naval arms control in the 1920s—by assuming that naval arms control, or disarmament (the distinction gets a bit thin when dealing with most proposals), can be conducted in isolation from the other factors that comprise the geopolitical relationship between the two superpowers.

The facts of geography are clear: the United States is inherently dependent on naval forces for self-defense and the defense of its allies; the Soviet Union is inherently dependent on land forces for self-defense. While American naval forces may be capable of interdicting Soviet ocean-borne trade and destroying Soviet naval bases and seaports, these forces are unable to threaten the internal integrity of the Soviet

Union. However, Soviet land forces appear quite capable of threatening the internal integrity of America's European and Asian allies. Quite simply, the Soviets do not need a navy to launch an offensive war. Given these facts, trading U.S. naval forces for Soviet naval forces does nothing to achieve the theoretical aim of arms control: reduction of the potential for a surprise offensive attack.

This is not to say that naval "arms control" should not be attempted. Mr. Siegel has an excellent point: if the Navy is unable to develop proposals attuned to the perception of a "peace dividend" resulting from perestroika, it is likely that Congress will. Such proposals may not be in keeping with current naval strategies and may cause an imbalance in our force mix. Since a significant portion of the American public believes that formal arms control agreements are the harbinger of peaceful relations, it may be in the Navy's institutional interest to propose arms control-like measures. There is no reason that the Navy should not try for arms reduction agreements for those forces threatened by budget cuts. Currently, the Soviets are reaping some propaganda benefit from highlighting the scrapping of obsolete ships. But all that is public relations, not arms control. A real arms control swap would be U.S. sea-launched cruise missiles for Soviet tank, artillery and infantry divisions and hardened command and control centers.

If arms control is to be effective in enhancing the security of the United States it must incorporate American strategy, not simply trade off similar forces. Mutual agreements may actually result in unilateral restraints. In discussing the possibility of a mutual American-Soviet attack submarine build-down, Mr. Siegel makes a critical error by lumping nuclear and conventionally-powered attack submarines together and assuming that both present an equivalent threat to SSBNs. This notion is wrong. Conventionally-powered subs pose a limited threat to SSBNs—or to other naval combatants—in open ocean areas because they are unable to remain covert. With limited high-speed endurance and the need to snorkel to recharge battery power, conventionally-powered subs are submersible ships, not true submarines. The effectiveness of quiet diesel-electric subs in blocking choke points and coastal areas is undeniable; however, neither of these missions falls within current American naval strategy. Therefore, there is little rationale for the U.S. Navy to procure such vessels, nor is there any rationale for trading American nuclear attack subs for Soviet conventional subs.

To summarize, the flaw in naval arms control is that most proponents view it as just that: *naval* arms control. Geography dictates its ineffectiveness: its 1920s version did not prevent Japan from invading mainland Asia or Germany mainland Europe. Unfortunately, we've been taught never to mix apples and oranges. Naval arms controllers want to trade apples for apples or oranges for oranges without realizing that the value of such deals differ based on whether concluded in Florida or Washington state.

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

Maritime Forces "Will Not Operate Alone"

Sir,

Henry C. Bartlett and G. Paul Holman's "Naval Force Planning Cases" (Spring 1990) is a welcome attempt to bring rigor to the formulation of strategic policy as we move into the next century. Their touristic approach to naval strategy and force planning is both comprehensive and highly informative—particularly to students of defense policy who lack specific knowledge of naval forces.

Although their article is impressive and important, I am struck by the degree to which the interconnectedness of modern warfare is downplayed or ignored. One sees this in the literature of all services, but more so in the journals of the sea services and the writings of naval and marine officers—presumably because of the relative independence of maritime forces, with their self-contained land, sea and air components. I find it difficult to envision lare twentieth century warfare with a major opponent as anything less than a multi-service, multi-national effort with inseparably linked air, sea, land and space dimensions. In a given dimension—the "campaign at sea," for instance—maritime forces will clearly predominate. But they will not operate alone, even well out to sea. Ground forces will still be required to seize or defend important airfields, ports and coastal areas. Air forces will conduct strikes against shore targets and even forces at sea which are relevant to the naval campaign. Reconnaissance, both satellite and tactical, will be important to the sea battle. These and many other contributions will be made by sister services and allied forces as well as maritime forces.

In other dimensions, maritime forces will serve in secondary roles. Marine forces, for example, routinely operate in conjunction with army forces ashore in time of war, though in peacetime there is reluctance to train together or produce joint doctrine or procedures. Naval aviation is less effective against ground targets because of its more vulnerable basing mode, smaller bomb loads and more restricted range. The effectiveness of naval gunfire is limited to ranges close to shore, and so on. In short, maritime forces have an importanr role to play in the land dimension, but that role is secondary to ground and air forces in most cases and will normally be exercised in conjunction with, and under the control of, those forces.

Finally, I question the authors' contention that war at sea should be the number one force planning priority for the 1990s, with war on land in last place due to "breakthroughs in U.S.-Soviet relations" and domestic pressures for reductions in defense spending. Surely one must agree that a U.S.-Soviet confrontation, however improbable, is unlikely to take place only at sea. In the same vein, pressures to cut military spending are not synonymous with arguments to target specific capabilities or services. While deep cuts in land forces may be inevitable, one wonders how that leads to the conclusion that conflicts on land are therefore less likely, while conflicts at sea are more so.

In my view the authors do a service in turning our thoughts toward Third World contingencies and sea control and away from the more extreme and high-risk scenarios which prevailed in the mid and late 1980s. Nevertheless, the military services

must strive to develop forces and strategic approaches within an overarching framework which recognizes the close linkages and cooperation demanded by the existing strategic environment. It should not be possible to write about strategy, in any dimension, in terms of a single service. Why do we keep doing so?

Richard D. Hooker, Jr.
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From Mist in the Pulpit to Fog in the Pews

Sir,

I take issue with Claude Buss's description of "Asia-Pacific" geopolitics in "Strategic Choices and Emerging Power Centers in the Asia-Pacific Region" (Spring 1990). His nomenclature seemed to me to be needlessly vague. Perhaps his other readers intuitively knew what he meant by "region" and "power center"; I did not. I found myself in the position of arbitrarily imposing meaning by assumption—an uncomfortable and tenuous position at best.

One wonders what degree of political, social, cultural, or geographical propinquity Buss requires for inclusion in this region. I assume that "Asia-Pacific" refers to lands and peoples of Asia in contact, directly or indirectly, with the Pacific Ocean. There was no indication as to how far removed a land or people must be from the Pacific before it is no longer part of "the Asia-Pacific region." I suspect, from the tenor of the article, that Tibet currently falls outside while Mongolia may well fall within "the Asia-Pacific region." On the other hand, Buss clearly includes member states of ASEAN within the region, no matter how far removed from the Pacific.

Region was most ambiguously used throughout the article. For instance, is "Northeast Asia" a region within Buss's "Asia-Pacific region" (as implied in the last paragraph of page 67)? Or does Japan's "regional predominance" extend to the entire Asia-Pacific region, from Australia to the Northeast Asia power center? In either case, what parameters give Japan "predominance" over the Soviet part of Northeast Asia?

Where is the Northeast Asia power center? Or, for that matter, where are the Asia-Pacific power centers? Is a "center" a concentration of something, like a shopping or medical center? Or is it a focal point around which similar identities cluster, like a center of gravity? What is the difference between a "power center" and a "region"? If Buss means a center of gravity, then do not "emerging powers" (emerging from what we do not know) by their displacement from the "center" skew the center-point of the universe in question?

Buss's centers are akin to Pascal's horrible sphere, with periphery indeterminable and a center that may be anywhere. They are too amorphous to contain information. I realize that in a time of turmoil and change it is best to keep one's options open, to maintain a flexible posture, but if we are to communicate we really must have

a bit more rigor than is offered by Mr. Buss. If in our rush we must do injustice to language, perhaps we should check fire.

It is my belief that unintentional ambiguity is bad. It produces opportunities for misunderstanding. In the case of Claude Buss's discussion of "emerging power centers in the Asia-Pacific region," I sense real mist in the pulpit which distance must transform into fog in the pews.

Tom Magnuson
Durham, North Carolina

Allegations, Conspiracy, and Fabricated Claims

Sir,

In his book review of John J. Mearsheimer's book *Liddell Hart and the Weight of History* (Spring 1990 *Review*), Robert E. Walters certainly made a very significant point by citing German armor warfare proponent Heinz Guderian's reference to Liddell Hart in his conference notes from an important meeting with Hitler in 1943. Mearsheimer's allegation that Liddell Hart had no actual influence upon Guderian and others involved with German armor warfare is erroneous.

Mearsheimer accuses Liddell Hart and Erwin Rommel's son, Manfried Rommel, of having been in a conspiracy whereby the younger Rommel would falsely claim his father thought well of Liddell Hart, and thus boost Liddell Hart's reputation, in return for which Liddell Hart would refrain from criticizing Field Marshal Rommel. Mearsheimer offers no serious evidence to substantiate this amazing accusation. And there is ample data to demonstrate it is absurd.

On p. 203 of *The Rommel Papers*, Rommel mentioned that he had read and agreed with an article by Liddell Hart criticizing the inadequacies of the British command arrangements in the Middle East. This demonstrates that the Germans thought enough of Liddell Hart during the war to follow and translate his writings and Rommel thought enough of him to read and agree with him. On p. 299 of *The Rommel Papers*, Rommel mentioned British military critics whom he thought the British should have paid attention to. Rommel's wartime friend, General Bayerlein, footnoted this statement with the explanation that Rommel was referring to J.F.C. Fuller and Liddell Hart. Mearsheimer does not explain who Rommel really meant if not these two. In this footnote, Bayerlein went on to explain that Rommel had a high regard for Liddell Hart and that he and Rommel had many discussions about Liddell Hart during the war.

This footnote by Bayerlein appeared in the German edition of Rommel's memoirs, published under the title *Krieg ohne Hass* [*War without Hate*] well before Manfried Rommel got in touch with Liddell Hart about having his father's memoirs published in English. Mearsheimer mentions that Manfried Rommel communicated with British Brigadier Desmond Young, who in December 1949 wrote to Liddell Hart, who wrote back to Rommel's wife and received a reply from Rommel's son, who told both Young and Liddell Hart of his father's high regard for the latter. Then in March of 1950,

Desmond Young mentioned in a letter to Manfried Rommel that Liddell Hart might be helpful in getting Erwin Rommel's memoirs published in English. And presto, Mearsheimer asserts that this innocuous suggestion by Desmond Young proves a conspiracy to inflate Liddell Hart's reputation and proves that any claims connecting Liddell Hart with Field Marshal Rommel are falsified. Obviously, Mearsheimer's insinuations can't be taken seriously.

Mearsheimer also alleges that Liddell Hart filled his book *The German Generals Talk* with fabricated claims by Germans regarding how much he had influenced them in military matters. Mearsheimer's allegations about that book are based upon a book review by Captain Frank Mahin, U.S. Army, which appeared in a 1949 issue of *Military Affairs*. However, an examination of the actual text of Liddell Hart's book reveals *only one* statement by a German about Liddell Hart's influence. This is found on p. 91 and is a quote by General von Thoma referring to not only Liddell Hart, but also J.F.C. Fuller. Mahin's claims about the content of *The German Generals Talk* are erroneous. Mearsheimer should have examined the actual text of the book before accepting Mahin's book review.

Joseph Forbes
Pittsburgh, Pennsylvania

The Navy: "Ready for Anything" but . . .

Sir,

In January of 1988, while attending one of the few officer-level mine warfare courses at the Fleet Mine Warfare School in Charleston, South Carolina, I had the uncomfortable task of advising two enthusiastic ensigns that their best bet was to obtain surface warfare officer qualification on their minesweepers as soon as possible and get out of mine warfare with equal haste. Sadly, this recommendation has proven professionally correct for more than 70 years for active duty officers. As a reserve officer, however, it was to my advantage to seek training in this field to support assignments to Inshore Undersea Warfare (IUW & MIUW), Naval Control of Shipping (NCSO), Naval Reserve Force minesweepers (MSO), Craft of Opportunity (COOP) units, afloat staffs, or Maritime Defense Zone (MDZ) units. This can't be the right way to run a Navy, but it may be the Naval Reserve path for the 1990s.

Recognition of mine warfare has been overdue since the 1905 Russo-Japanese War, when major strategic and tactical actions were accomplished without benefit of the "big guns" of either fleet. Although mines have none of the glamor or social esteem of the "Home Fleet," the "High Seas Fleet," or the "Carrier Battle Group," properly employed, mines can thwart any maritime strategy. Unfortunately, the unrestricted line of the U.S. Navy is artificially divided by platform politics, with the possible exception of the Special Warfare (113X) and Special Operations (114X) designators. Surface Warfare was the last platform community to establish a separate designator, which assists officers of a certain background and experience in gaining certain "high value" billets and commands by limiting competition to only those with the correct

designators. This, however, does not help the mine warfare, amphibious warfare, or logistics support specialists within a community which still considers "destroyermen" to be some sort of cut above.

When international laws were enacted in 1907 to control the use of naval mines, there were only "line officers" and a staff corps. The Kaiser's Navy forced the concept of submarine warfare down the throats of many "battle line" admirals during World War I. During World War II the Japanese Navy did the same for naval air, while Doenitz's U-Boats were making destroyer or escort duty the promotion ticket of the future, and Italian frogmen invented special warfare—all to the dismay of the "sea lords" of the Admiralty. Despite solid efforts by North Korea, the Viet Cong, Libya and Iran, no one has done significant damage to apparent Pentagon indifference concerning mine warfare, or other required specialties. It seems reasonable that Surface Warfare might one day entertain the possibility that a balanced fleet and community needs mine warfare specialists (and amphibians, as well as highly skilled logistics support officers). With two dozen mine countermeasure ships, a dozen mobile mine assembly groups and a few mine warfare squadrons, plus many major staff billets, one would think that a viable career path could be established.

In 1987 the Navy declared itself to be ready-for-anything in the Persian Gulf and went about calling in NCSO-qualified reservists to ride reflagged merchant ships. "Anything" did not include mines, and in 1988, although few knew it, the call went quietly out for qualified mine warfare officers from the reserve community to shoulder some of the load of the active duty staff at MINEWARCOM. Here is surely the justification for some of the reserve budget during the forthcoming decade of Gramm-Rudman. This is also a good direction for the whole Naval Reserve Force.

There will always be "holidays" in the personnel and force structure of our peacetime fleet. The maritime strategy of the 1990s will be under sweeping revision, depending on how stable Eastern Europe and the new Soviet policies become. It is time for the Naval Reserve to seek new, unglamorous missions, and to support them fully by building a cadre of "trained and ready" specialists. For example, it was a good thing that qualified NCSO reservists were ready, willing, and able to ship out to the Middle East. The sad fact that many were U.S. Merchant Marine officers out-of-work due to the lack of proper government support for a U.S. flag fleet is worthy of consideration.

Now consider Naval Officer Billet Code (NOBC) 9064: Staff Mine Warfare Officer. How many reserve units have this as a primary or secondary requirement for one of their billets? While I don't know the answer either, I do know that it is less than there could be. There should be an NOBC 9064 billet in every Naval Reserve afloat and major shore staff, MIUW and IUW, NCSO, MDZ, COOP and NRF MSO unit, and maybe a few deep draft ship units as well. There also needs to be a formal, detailed NOBC 9064 qualification program ("career path," if you will) managed by the Naval Reserve MINEWARCOM staff, with billets, school quotas, and a NATO Exchange Program, as required. If the fleet is going to ignore its possible need of qualified mine warfare officers, should it not become a mission of the Naval Reserve to have an available list for recall?

There are probably many reserve warfare specialties which could be discovered by this type of thinking. An outcry was heard against the Third World use of toxic gas, but has there been an increased number of requests for chemical warfare training from active duty officers? I doubt it, primarily because it is not on the main track to promotion and advancement, and besides, the Army runs all those schools in the desert somewhere, and who wants to go TAD to a desert just to get a ticket punched? Is this an area where the Naval Reserve Force of the 1990s could earn its keep?

What of amphibious operations (NOBC 9062), base security, shore patrol, camouflage, and other "low intensity conflict" skills? We watched the NRF MSO's get underway without their reserve crews, but when it came to qualified specialists—shipping control and mine warfare officers—the fleet took volunteers without stirring up a political debate. Shouldn't this be the Persian Gulf "lessons learned" for the Naval Reserve? I suggest it is high time to determine these back burner mission areas, before the budget axe starts swinging.

Once we decide what might be the best reserve warfare specialties of the 1990s, then we must identify the billets which should require them and develop detailed training programs to *master* them. We don't need Navy schools if excellent Army, Marine Corps, Air Force or Coast Guard programs are in place. We do need correspondence courses; there hasn't been one for mine warfare since most of us were commissioned, despite an excellent unclassified publication by the U.S. Naval Institute (i.e., *Weapons that Wait* by Hartmann, 1979). If reservists lack a correspondence course, then let's get a team from our reserve CNET and MINEWARCOM units to develop one and make it available for the professional benefit of the Total Force.

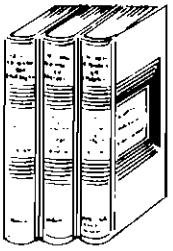
Finally, we must have tracking programs and program managers—not necessarily New Orleans—who can instantly provide the CNO, Fleet CINC, or COMINEWARCOM with complete recall bills of qualified specialists for any number of minor but critical missions. The next time there is a request for merchant ship riders, mine warfare specialists, or whatever, let us be "trained and ready" and *identifiable* for the special needs of the twenty-first century. If we do our homework, then the 90-day recall of specialists can be justified, quiet, quick and easy.

Sankey L. Blanton
Lieutenant Commander, USNR
Chapel Hill, North Carolina

". . . all war consisted in causing trouble without much hope of advantage."

— Evelyn Waugh, *Officers and Gentlemen*. Boston, 1955. p. 324

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

Moral Issues in War

James H. McGrath

Axinn, Sidney. *A Moral Military*. Philadelphia: Temple Univ. Press, 1989. 230pp. $29.95

Clark, Ian. *Waging War: A Philosophical Introduction*. New York: Oxford Univ. Press, 1988. 154pp. $35

Hartle, Anthony E. *Moral Issues in Military Decision Making*. Lawrence, Kan.: Univ. of Kansas Press, 1989. 180pp. $25

Matthews, Lloyd J. and Brown, Dale E., eds. *The Parameters of Military Ethics*. McLean, Va.: Pergamon-Brassey's, 1989. 178pp. $32

"Ethics may well be America's secret weapon" suggests Harry Summers in his introduction to *The Parameters of Military Ethics*. Proficient fighters are physically and morally courageous, honest, resolute, and self-reliant. In effective units, mutual trust and respect flourish amid candor and principled dissent. *Warfighting* (FMFM-1), the 1989 revision of the Marine Corps' philosophy and doctrine, emphasizes that moral forces exert a greater influence than physical forces on the outcome of war. That small book is also reviewed in this issue of the *Naval War College Review*.

However, military effectiveness and moral demands are not always so harmonious. A letter from a distinguished combat veteran voices the tension

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between warfighting and restraint: "Our mission is to train, to fight, and to win. When I saw churches and pagodas being used for salvage depots and gun emplacements located on dikes, was I obliged to observe the laws of war? Not on my watch. Not when one trooper's life was in my hands. Unless it is mutual, restraint does nothing but arm our enemies." Often military morality or ethics seems more akin to an encumbrance than to a weapon or force.

These four books on military professional ethics address such issues as the warfighting importance of moral forces and moral restraints. What, if anything, do these books offer the American fighting man who is concerned with the ethical aspects of his profession? What do they contribute to our understanding of warfighting's moral dimensions?

Anthony Hartle's *Moral Issues* stands out as a warrior-philosopher's exposition of the American professional military ethic. Colonel Hartle, the director of the West Point Philosophy program, returned from two years of combat in Southeast Asia and set out to "sift through the philosophical wisdom of our culture." *Moral Issues* is an elaboration of his 1982 University of Texas doctoral dissertation and belongs on every professional's bookshelf.

Its initial achievement is to provide our first systematic presentation of the ethical code of the American military professional: the rules, standards, and values which actually guide his conduct. The author offers his interpretation of the commissioning oath and warrant, the constitution, the codified laws of war, the Uniform Code of Military Justice, the Code of Conduct, and relevant official publications. He then presents informal traditional military values and the enduring American values taught by socialization. Hartle claims a consensus among professionals for the bulk of this code; junior personnel will profit from his presentation. His treatment of the code's disputed areas will challenge senior officers to test their own interpretations.

A fighting man might well ask "Why should I abide by such a code?" One way Hartle replies is as follows: Regard the military as a profession and yourself as occupying a professional role. The function of your profession is to provide a social need, the systematic application of force. Ultimately your professional obligations and the restrictions on your permissible actions are justified in terms of your independent moral judgments about the enduring values of the American society you have sworn to support and defend. Military ethics may in some sense be grounded in universal moral truth. However, as an analytic technique, your question is more manageable when answered in terms of your role as an American fighting man.

The strategy of Hartle's reply is a methodological coup (for which the reader must forbear some jargon). It bypasses quagmires of fundamental issues and confronts empirically accessible actual American values, rules, and standards. The hands-on payoff occurs in a chapter that challenges the reader to include ethical considerations in his decisions about tough cases.

Moral Issues also makes a sustained attempt to establish two contentious claims: The structure of the American professional military code is consistent, coherent, and free from contradiction (just what such terms mean is not clear). And the ethical code must have such a structure to be battlefield-effective against "paralyzing moral dilemmas." Hartle's claims seem to express a version of a view of moral structure held by Aquinas: the code itself precludes moral dilemmas.

If the first claim means that the structure of the fighting man's professional ethics somehow precludes situations where he has two professional obligations and cannot do both, then it is demonstrably false. The Code of Conduct alone has put men in such a position. (POWs who were legally ordered to accept parole or not to escape *could not possibly* do what the Code of Conduct explicitly required.) As for the second claim, it seems more plausible to allow that such a complex code sometimes creates real dilemmas that a fighting man must deal with, then live with. My misgivings about Hartle's claims find support in Aristotle. This consistency-dilemma dispute is as important as it is controversial and will profitably embroil the thoughtful reader.

The Parameters of Military Ethics consists of 17 essays from the 1974-1988 volumes of *Parameters*, the U.S. Army War College Quarterly. The format resembles three earlier familiar *Parameters* anthologies: *The Parameters of War, Assessing the Vietnam War*, and *The Challenge of Military Leadership*. The essays are well-chosen, thematically grouped and of high quality. Summers' introduction provides a useful summary of each essay, with the exception of one.

Conspicuously absent is mention of General Maxwell D. Taylor's provocative "A Do-It-Yourself Professional Code for the Military." General Taylor argued that the worth of an officer is properly measured by mission success with minimal loss of resources, including men. *Moral Issues* explicitly confronts and rejects General Taylor's position. Facetiously, Hartle asks "Don't we expect our Marines to win no matter what it takes? The answer, of course, is no."

Waging War, the offering of Ian Clark, a Teaching Fellow in Defense studies at the University of Cambridge, is, as its subtitle announces, a philosophical book. Its central thesis is that to understand any specific warfare practice or restraint one must have a theoretical grasp of the nature of the war being fought. (Consider the theoretical baggage behind the practice of waving a white flag.) Conversely, from what one conceives a particular war to be, one can deduce distinctive principles for its prosecution. In turn, restricted conduct makes sense only in the context of those principles.

Such analysis is as old as Plato and as current as The Marine Corps Manual. In the *Republic* and *Laws*, Plato observed that Greek citizens conceived of strife between Greek factions as a different sort of activity than war with foreign

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enemies. Because of their conceptions, he continued, his countrymen adopted different views of how to practice each activity.

Individual chapters of *Waging War* analyze both the just-war tradition handed down by Roman law and the Christian Church, and a political limited war tradition that the author traces from Machiavelli and Hobbes through Clausewitz. Here the most substantial thesis is that the two traditions share similar restraints but have divergent motives. The most provocative claim is that these two traditional concepts of war as an activity between states-at-war erect an intellectual barricade for our understanding of the varieties of contemporary armed conflict short of war between states.

Throughout *Waging War*, Clark argues convincingly that in any goal-directed war some military actions must be impermissible or prohibited; a war must have some restraints if it is goal-directed. Thus, my friend's and General Taylor's emphasis on mission success and winning with minimal loss cannot be the whole story. *Moral Issues* provides a particular example of Clark's general argument about restraints by contending that an American fighting man's action is impermissible whenever it subverts the enduring values of the society he serves. *Warfighting* and its sequel, *Campaigning* (FMFM 1-1), provide another example. They develop the idea that a military action is prohibitive whenever it is contrary to national policy aims. So we now have two particular views about restraints, two distinct ways to decide what is impermissible or prohibitive.

But we might also have problems. (Clark takes a philosopher's delight in suggesting that *Waging War* is more likely to start an argument than end one.) Hartle's enduring American values might or might not coincide with a particular national policy aim. *Moral Issues* and current Marine Corps doctrine may permit and prohibit different military actions.

In fact, things might even be fundamentally worse. *Warfighting* anticipates a dispersed, chaotic battlefield where front and rear and enemy and friendly areas are blurred. Its doctrine of rapid, flexible maneuver thrives by ruthlessly, relentlessly, and aggressively exploiting critical enemy vulnerabilities. Can such a doctrine be put into practice without violating *Moral Issues*' professional code? (Hartle confronts the related challenge of terrorism in *The Parameters of Military Ethics*.) If not, then what?

When questions get this close to rock bottom, *Waging War's* enterprise of relating concepts of war and concepts of restraints becomes an insightful, well-argued resource. Any officer wishing to probe the foundations of his profession should welcome it.

A Moral Military, written by Sidney Axinn, Professor of Philosophy at Temple, aspires to join the dialogue. Mostly it exasperates with platitudes, factual mistakes and muddled arguments. However, two chapters stand out. One presses hard questions about military honor and deception; another

reviews the problem known as the dirty hands of command. Overall, *Moral Issues* covers the same ground and is by far superior.

Each of these volumes, except *Moral Issues*, deals with nuclear morality, a topic I have bypassed in discussing individual military responsibility. None raises either distinctively naval professional questions or issues particular to the enlisted fighting man. Perhaps the next crop will explore an officer's special trust and confidence from the perspective of a seaman.

Weisner, Louis A. *Victims and Survivors: Displaced Persons and Other War Victims in Vietnam, 1954-1975.* New York: Greenwood Press, 1988. 448pp. $55

Modern governments profess that civilians and noncombatants should not suffer unnecessarily at the hands of military forces. The track record since Hiroshima and Dresden however, plainly shows the difference between theory and practice in tragic terms. On one hand, the prospect of indiscriminate death from weapons of mass destruction or terrorism can paralyze policymakers in a pool of pessimism. Yet the fate of innocent bystanders in any conflict, be it nuclear or "low-intensity," injects a sense of urgency into the debate about the role of civilians in war.

Excellent work on the subject has emerged since 1947, much of it from historians. Now we have a contribution from a first-time author with credentials that should appeal to veterans as well as to scholars. Louis Wiesner went to Vietnam in 1968 as a member of the United States Refugee Division. Since then, his life has revolved around the plight of refugees worldwide.

Wiesner knows the civilian side of combat. His book focuses on refugees, but also discusses civil action, "pacification programs," and problems which European experts refer to as "civil-military cooperation." Both professional warriors and laymen with little knowledge of war can benefit from his perspective.

The first third of the book covers events and conditions in Vietnam between 1954 and 1968. Wiesner describes the 1954 exodus from the North, the strategic hamlet program in the South, and the various Montagnard resettlement efforts. Each chapter concludes with an evaluation of the program.

The refugee problem grew in the sixties. Wiesner's description of the Tet offensive, which he witnessed, is affected by his own experiences. Indeed, by the end of the book the reader has witnessed three different writing styles, each appropriate to Wiesner's role in the war.

Wiesner conveys his distaste for the Vietminh and the Vietcong, but the reader still senses that the Government of Vietnam (GVN) did

as much to lose the war as the communists did to win it. "The counterinsurgency programs of the government and of the American military advisers did not address the grievances of the people, which were among the most important factors in the rebellion, but instead added new causes for resentment. . . ." As examples, he cites the abuses in land reform, corruption among GVN officials and the attempts to eliminate non-Vietnamese ethnic groups. The GVN left no blunder untried in its twenty-year history of mismanaging the war. Then there were the atrocities: My Lai in 1968 and the senseless bombing exemplified by the attack on Binh Hoa in 1962. Reporting on the latter, Roger Hilsman noted "that it helped to recruit more Viet Cong than it could possibly have killed."

There were bright spots and lessons for future warriors to remember. Lieutenant General Lewis W. Walt gets high marks for the Combined Action Platoons (CAPs) developed by units of his III Marine Amphibious Force in the mid to late sixties.

Wiesner has filled a gap in the history of the conflicts that have racked Vietnam for over sixty years. He has documented in detail the successes and failures of thirty-one years of refugee management in South Vietnam. The annotated bibliography and detailed notes justify the cost of the book. But more than that, he lists the lessons learned that policymakers and commanders can apply to future small wars. Two examples:

"Some killing, injury and displacement of civilians are inevitable . . . however, the amount of damage to civilian populations and their property . . . are controllable by the belligerents. . . . Furthermore, if the harm done is perceived by the victims as excessive or disproportionate to legitimate military purposes—which people on the spot are often quite capable of judging—it produces resentments that may make an operation or campaign unproductive.

It is generally best to leave people on their land, even in enemy-held areas. Although they will be used . . . by the enemy, such exploitation, especially if it becomes excessive, will probably alienate the people from their oppressors. . . .

Refugees are part of the landscape of war. Wiesner has devoted his life to them. Through his book, he may reach the victims of conflicts yet to come. For their sake, he deserves our attention.

JONATHAN T. HINE, JR.
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Hackworth, David and Sherman, Julie. *About Face: The Odyssey of an American Warrior.* New York: Simon and Schuster, 1989. 875pp. $24.95

This is the story of a soldier who began his career as a 15-year-old, NCO-raised warrior. His early

experience in Trieste after World War II and as a street gang leader in Los Angeles was the bow release that guided the arrow of his life. In watching the U.S. troops occupying Trieste he became imbued with high standards of appearance and the outward signs of military discipline: both confirmed that being tough and willing to risk his neck brought better rewards than education and the inner discipline of character.

About Face reveals a classic example of the military bureaucracy tolerating assertive bad temper and rationalized moral lapses because the author had authentic combat credentials. Perhaps the greatest appeal of this book to a civilian readership is that Colonel Hackworth's killer-instinct extends far beyond foreign enemies; it includes the reputations of those he dislikes—including persons of high rank and political leadership.

There is much use of "barracks room" language and attitudes that might have passed for part of the catechism of a career enlisted man in any era, if it were not for the fact that this language has become common coinage in all walks of life. It no longer shocks—maybe no longer offends.

Not that the language he uses is incongruous. There is a hard practicality in the soldier mind that is suspicious of refinements. It is a mind that simultaneously envies and rejects privilege, and is absolutely contemptuous of anyone of any rank who cannot stand the test of combat. It expresses itself in pungent, aggressive language—an assault with words.

Colonel Hackworth is drawn into the political side of military life by his well-advertised combat performance, and he brings all his critical powers and personal rancor to bear on what he considers to be military stupidity coupled with lust for high rank, abetted by the accumulation of unearned medals for valor. Many of his targets include men of high position and large reputation—some of whom he alleges sought his support and approval.

In the chapter titled "A Law Unto Himself," he describes setting up a unit brothel, a gambling house and other unauthorized money-generating activities. These and illegal transfers of money out of Vietnam led to the end of his career. This chapter is the watershed of the book, for when it is not engraving him as a born leader and bold warrior, it is etching his moral courage with frequent anecdotes of his defiance of those in power and position, and getting away with it because he is right or lucky. In 1971 his luck ran out: the illegalities plus an in-uniform TV interview that was highly critical of every aspect of U.S. political and military leadership led to his retirement.

This is a theatrical book. The coauthor is a screen writer and the maverick turned martyr is a temptation to stretch opportunism to the point of giving occasionally what Poo Bah in the "Mikado" called "verisimilitude to what might otherwise be a bald and outright lie."

However, it would be tedious to untangle the indisputable facts which are interspersed with exaggerations and one-sided recollections of conversations with those once in high place but now conveniently dead.

In the conventional sense, there is nothing new or illuminating in this book. But it is fascinating in its passion, and as a portrait of a wounded warrior—wounded in every sense. While many may consider the book to be Colonel Hackworth's way of getting revenge for having to leave the army under a cloud, it is more than that. Like Hackworth the man, the book has juice and no one who lived through his era in the U.S. Army will be neutral. But what might have been a sensation in the seventies is now just another layer of Vietnam sadness.

Be that as it may, nineteen years after the end for him in Vietnam, Colonel Hackworth's war is not yet over, and he is not letting either the issues or his antagonists rest in peace.

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Newport, Rhode Island

Gray, A.M. *Warfighting: Fleet Marine Force Manual 1*. Washington: Dept. of the Navy, 1989. 88pp.

This small book is a classic on war. General A.M. Gray, Commandant of the Marine Corps, intends its message to be taken to heart. He has issued a copy to each of his officers to read—and reread. "The thoughts contained here," says Gray, "represent not just guidance for actions in combat, but a way of thinking in general." Gray's "way of thinking" can be extended to any field of endeavor where opposing wills conflict.

Military conflict is clearly the focus, however. One is immediately drawn to compare Sun Tzu's *The Art of War*, both in congruence of philosophy and brevity of thought. Sun Tzu teaches "Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness." General Gray, with obvious reference to Colonel John Boyd's often repeated lecture, "The Patterns of Conflict," fully embraces the fluid doctrine of maneuver warfare, "to circumvent the enemy's strength and strike him where he is not prepared." Were it so easy we might all be generals!

In its pithy way, however, *Warfighting* goes much further in defining maneuver warfare, which has both spatial and temporal dimensions. It also includes a moral dimension that must be calculated carefully in order to achieve a focus of effort against the enemy's critical vulnerability. The process—a combination of mental, moral and physical—constitutes Boyd's OODA loop, an acronym for the four-step process: observation, orientation, decision, and action. By observing the enemy and evaluating or orienting to the situation, a decision and ensuing action can present the

enemy—if done swiftly enough—with a "succession of rapid, violent and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."

Warfighting accepts chaos as the norm of battle and proposes maneuver warfare as a means of exploiting it. Leaders at all levels are expected to be speedy, bold, and enterprising—the elements of maneuver—so they can achieve their commander's intent. Mission-type orders and a clear picture of the *purpose* of the commander's intent, two echelons up, are essential to permit the decentralized decision making required of the OODA loop. The aim is to concentrate all available force at the decisive time and place. Victory depends on repetitive concentration, so a competitive rhythm, or tempo, must be created in order that the greatest combination of concentration and speed can be brought upon and sustained against the enemy.

By contrasting attrition to maneuver in style, operational to tactical in level, offense to defense in form, and general war to low-intensity conflict in spectrum, *Warfighting* presents the reader with a thoughtful analysis of the Marine Corps' requirements. The four chapters, entitled "The Nature of War;" "The Theory of War;" "Preparing for War;" and "The Conduct of War," are short and easy to read. They offer no prescriptive solutions.

Though this book has been widely discussed within the Corps, it deserves more analysis and debate for its potential contribution to naval operations. It will be interesting to see how the Navy-Marine Corps team implements the maneuver warfare concept. In *Warfighting*, the Marine Corps has added philosophical meaning to its tactical doctrine.

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Smith, Charles R. *U.S. Marines in Vietnam: High Mobility and Standdown, 1969*. Washington: History & Museums Division Headquarters, U.S. Marine Corps, 1989.

One of the criticisms we frequently hear about U.S. participation in the war in Vietnam is that we didn't know what we were doing. I never agreed with that argument and this book doesn't either. It begins with a lucid discussion of U.S. strategies in Vietnam followed by a detailed account of how III MAF (and other forces in I Corps) planned and fought the war in accordance with the broad goals of Vietnamization, Pacification, and continued pressure on the enemy.

U.S. Marines in Vietnam is not limited to the role of the III MAF Marines. It includes all of the forces operating in I Corps, as well as the contributions of other Marines: the Special Landing Force, advisors, ANGLICO, MACV staff officers and the embassy guards.

The heart of the book is the detailed account of the day-to-day

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operations of the 1st and 3rd Marine divisions. Quite often the operations are discussed at the rifle company level. That is as it should be; that is where much of this war was fought.

In general, the 1st and 3rd Marine divisions were fighting different kinds of war. This becomes clear in the text, where the author and his assistants have done a very good job at the tactical level without overwhelming the reader with too much detail at the very small unit level. The contrast between the two divisions is very important. As many observers of war have said, "No two wars are alike." "Within a war," one could probably add, "no two campaigns are alike and no two battles are alike." The lesson is that there are no panaceas; successful techniques in Quang Nam province (1st Marine Division) probably would not have fit Quang Tri Province (3rd Marine Division) and vice versa.

The author does not avoid controversial subjects such as single manager control of air assets, disagreements between Marine air and ground commanders about the employment of helicopters, and changes in operational concepts after General Abrams replaced General Westmoreland. Similarly, drug abuse, racial conflict in the Marine Corps, and "fragging" are not ignored. Rather, Smith cites examples and discusses the attempted solutions.

Air, artillery and logistics are covered in separate chapters that highlight their contributions. It would have been very easy to weave them into the ground-war story, but I think their importance would have been lost.

I cannot testify to the accuracy of the entire volume, but I will go on record by saying that the operations in which I participated or had knowledge of are accurately and correctly described. Furthermore, comments I submitted on the "draft" edition have been incorporated, including an uncomplimentary remark I made about our Korean allies.

The U.S. Marines in Vietnam, 1969 should prove valuable as an accurate and detailed history, a compendium of lessons (good and bad), and a reminder that war can be more dirty and dangerous and less exciting than the novelists would have their readers believe.

WENDELL P.C. MORGENTHALER, JR.
Naval War College

Taylor, John M. *General Maxwell Taylor: The Sword and the Pen*. New York: Doubleday, 1989. 457pp. $22.50

When John M. Taylor initiated this biography of his father, he stated that he wanted to strike a balance between portraying the General Taylor that he knew, and the soldier-statesman whose life merits close examination. Clearly, he achieved that goal. Even so, *General Maxwell Taylor: The Sword and the Pen* certainly is not the definitive biography of the general.

John Taylor is an award-winning author who has written extensively on U.S. and Asian affairs. During his research for the book *General Maxwell Taylor*, he relied heavily on the general's personal letters and contacts with many friends of the general. Taylor's writing experience, research, and knowledge of his subject allows for many interesting anecdotes. Yet the book fails to provide much in-depth analysis of, or insight into, the general's activities.

An example is Taylor's discussion of the general's pre-war years. He describes an officer who is concerned with his career development after having spent most of his time away from conventional military duties. The reader is given a good look into the general's decision-making process, but as the discussion progresses it lapses into a mere presentation of facts, and the analysis fades away. Moreover, discussions of critical stages of the general's career are very limited. For example, little is mentioned of General Taylor's successful reorganization of the Army in order to expand its war-fighting capability to meet contingencies across the spectrum of warfare. Only brief coverage is given to the rift between General Taylor while he served as Army Chief of Staff and Chairman of the Joint Chiefs, Admiral Arthur Radford. Further, Taylor could have devoted more space to the general's stand against the policy of massive retaliation and how his alternative, which was flexible response, was accepted by the Kennedy administration and changed the complexion of the U.S. defense.

The book does have its bright spots. Among those of special note is the discussion of the general's command of the 101st Airborne Division. Taylor devotes attention to staff activities during the Normandy Invasion, the tragedy of Arnhem, and the heroic stand of the division at Bastogne. The discussion of the general's activities from the period of his assignment in Berlin to his assignment with the U.S. Far East Command is interesting. It provides a clear demonstration of how his knowledge of languages and foreign affairs and his diplomatic skills played a vital role in his success, and how such abilities have become invaluable to the professional soldier in post-war command assignments.

In spite of its deficiencies, *General Maxwell Taylor* does manage to illustrate the accomplishments of an extraordinary military officer. The book should serve as an excellent illustration of the important role of military leadership in U.S. national security and foreign affairs.

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Palmer, Bruce, Jr. *Intervention in the Caribbean: The Dominican Crisis of 1965*. Lexington: The Univ. Press of Kentucky, 1989. 226pp. $23

Any book on U.S. intervention anywhere in the Caribbean Basin has a special timeliness these days. As in the case of Panama in 1989, the 1965

intervention in the Dominican Republic illustrates how planning errors endure and how certain historical themes also endure in such actions. But General Palmer's recollections as *de facto* intervenor-in-charge contain great value and relevance for the present and future.

Like his better-known Vietnam era colleagues, William Westmoreland and Creighton Abrams, Palmer was in West Point's Class of 1936. He was Acting Chief of Staff of the Army in the long interim between Westmoreland's and Abrams' tenures as Chief of Staff. Inclined to introspection, he is also the author of a well-received book on Vietnam, *The 25-Year War*. His latest book is primarily about his experiences as the American Military Commander in the Dominican Republic in 1965.

Intervention in the Caribbean is replete with the planning inadequacies of the expedition. It peeks occasionally at the human side of its top-level actors—protagonist, antagonist and unknown alike. But mostly, General Palmer presents us with terse and realistic benefits and hazards of the historical U.S. role as the neighborhood cop-on-the-beat in the hemisphere. At the same time Palmer sees the region for what it is: ". . . I found myself more and more looking at the Caribbean Basin as an entity; that is, the Caribbean Sea, the Gulf of Mexico, and the land region that encompasses Mexico, Central America, the northern littoral of Colombia and Venezuela, and all the islands in the Caribbean. The importance of this region to the United States has been recognized by U.S. leaders since our beginnings as a nation. In my judgement . . . no geographic area of the world outside our borders is now or will be more important to the United States—strategically, economically, and sociologically—than the Caribbean Basin."

He laments his inability to develop these ideas more concretely, though acknowledging their importance in U.S. strategy. The growing Hispanization of America's population and culture will make this region even more significant in our future policy-making. Within some of our lifetimes, the population of the United States is projected to reach 40 percent *hispanohablantes* with equally heavy political influence.

In late April 1965, when we intervened in the Dominican Republic, we were also deep in planning for the Americanization of military operations in Vietnam. (Palmer admits that perhaps contemporary Pentagon planners were too concentrated on Vietnam to pay sufficient attention to the immediate news from the Caribbean.) Still, policy-makers and professional soldiers alike were sensitive to such buzzwords as "counterinsurgency" and "wars of national liberation" and the fears that they evoked. The geographic proximity of the island of Hispaniola (which the Dominican Republic shares with Haiti) to Cuba, and all that Fidel Castro represented, spurred Lyndon Johnson's decision to intervene. The President of the United States was determined to

permit no other Communist island nation to spring up volcanically from the Caribbean Sea.

Intervention in the Caribbean is no rewritten operational report; Palmer makes a concerted effort to tell his tale with appropriate spicing. When, late that summer, Hector Garcia Godoy became provisional president, a potential stumbling block to normalizing Dominican conditions was the rightist General Elias Wessin y Wessin. This most fearsome of Dominican military officers ran an autonomous military training center that formed his substantial power base. Going to Wessin, Palmer convinced him to submit to a voluntary exile to clear the way for Godoy. As Palmer stood witness, Wessin transferred his command to his deputy, Colonel Perdomo; "the ceremony consisting of Wessin's placing around Perdomo's neck, a leather necklace holding about half a dozen large keys, accompanied by a flood of tears and vigorous *embrazos*" — meaning I assume *abrazo*.

Since the assassination and ensuing political chaos of longtime Dominican dictator Rafael Trujillo four years before, rumors abounded of imminent U.S. military intervention to stabilize the country. To play down these rumors, Palmer writes, the Johnson administration kept the Joint Chiefs outside any planning discussions until five days before the actual operation. When the Dominican situation finally boiled over late in April 1965, the White House ordered the intervention. The standing contingency plan for intervention in the Dominican Republic had been devised by CINCLANT in 1963 under orders from President Kennedy. But the plan provided only for a landing, not the nuts and bolts of occupation. The initial operation consisted of airlanding elements of the 82nd Airborne Division in support of Marine units already ashore, supported by the offshore Navy task force. All this was a *fait accompli* without advice or formal support from the hypersensitive Organization of American States. The usual hue and cry was raised about U.S. saber-wielding in the region; they did have some historical justification. Our acting unilaterally lent an ugly cast to the action. Lyndon Johnson benefited from the thinnest of legal justifications to cover the intervention. Three generals loyal to the Dominican government had created a ruling junta; their leader, Colonel Pedro Bartholeme Benoit, wrote an official request for U.S. military support because local forces were incapable of keeping order. But Benoit's official request was tendered *after* the U.S. had landed.

Probably the most positive lesson of the intervention came later. When embassies of other Latin American nations in Santo Domingo were threatened by rebel gunfire, six OAS member-nations cooperated in forming the Inter-American Peace Force. Contributing military and policy units of their own were Brazil (the largest contingent), Paraguay, Honduras, Nicaragua, Costa Rica, and El Salvador. Commanded by the

Brazilian General Hugo Penasco Alvim, with Palmer as deputy, the IAPF lessened the negative perception of U.S. intervention and, ironically, inspired signs like "Brazilians Go Home" and "IAPF Go Home" alongside the traditional anti-American sentiments. The lesson here is that such actions of ours in the hemisphere should, in the future, have broader OAS support, including national military commitments. This would reduce the damage to an American national image that is always shaky at best among its southern neighbors.

Intervention in the Caribbean is a sound memoir by a wise soldier-scholar, with some pertinent lessons for American policymakers and military planners eyeing both the Caribbean Basin and its neighbors farther south.

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Yates, Lawrence A. *Power Pack: U.S. Intervention in the Dominican Republic, 1965-1966*. Ft. Leavenworth, Kan.: U.S. Army Command and General Staff College, 1988. 225pp.

Military interventions in the Third World are chancy affairs at best, as countries great and small have learned to their dismay in recent decades. During the post-World War II era, the American experience with such interventions has been especially spotty.

Power Pack is a study of the U.S. intervention in the Dominican Republic in 1965, and Lawrence Yates has added laurels to his position as a historian with the Combat Studies Institute of the U.S. Army Command and General Staff College. He has provided an eminently readable work that tells us a good deal about the Dominican intervention. More significantly—and more disturbingly—he has highlighted certain characteristics of the American way of intervention (to paraphrase Russell Weigley) that existed before the Dominican affair, contributed mightily to our failure in Vietnam, and persists today. If anything, Yates understates the problem when he remarks of the intervention that "Some of the general problems continue to arise in joint contingency planning operations today."

This state of affairs quickly becomes apparent to the reader who moves through the chapters dealing with the evolution of U.S. interests in the Caribbean, the onset of the crisis in the Dominican Republic, the initial U.S. intervention in 1965, the subsequent "regionalization" of the intervention by the Organization of American States (OAS), and the termination of the crisis. Deciding that it was impolitic to rationalize an American military intervention in terms of what was known briefly as the "Johnson Doctrine" (essentially no more Cubas in the Western hemisphere), "the president . . . justified the Marine landings solely in terms of 'protecting

American lives'." In keeping with the theories of limited war prevalent at the time, politicians and political appointees asserted the primacy of civilian control "not only over policy determinations but over military operations as well." One consequence was that the Joint Chiefs of Staff "found themselves locked out of several critical meetings where military operations were discussed by Lyndon Baines Johnson and his civilian advisers." Another consequence that became apparent as the crisis developed was a tendency for those making operational decisions in Washington to forget that "Just because the intervention had entered a political phase did not eliminate the military dangers."

Operational difficulties that could not properly be laid at the door of Washington-based politicians quickly compounded the burdens with which those politicians encumbered *Power Pack*. As Yates points out, "many of the deficiencies in joint planning, command and control, coordination, intelligence, communications and deployment for Lebanon [1958] plagued the Dominican venture as well. . . ." The Marines deployed to the Dominican Republic functioned efficiently, relative to "the confusion that characterized the coordination and control of the troop commitment all along the chain of command," further raising doubts about the operational requirement for Army contingents, given "the ability of the marines to carry out the ISZ [International Security Zone] mission by themselves."

There are fascinating vignettes, such as that about a company of the 82nd Airborne Division "receiving withering fire" which "cost the paratroopers five casualties, none of them serious" that makes one wonder how they would have described fire that inflicted a single fatality. There is a depressing description of "a plethora of . . . directives, guidelines and rules of engagement" that arrived incrementally not "in a single package, but . . . in response to specific situations." And there is an ominous foretaste of Vietnam in a Dominican intervention where "for the first time in historical memory . . . U.S. troops in the field became the subject of adverse commentary [from American correspondents]."

What makes this tale so disturbing is that virtually the same criticisms could be directed at subsequent U.S. interventions in situations as different as Vietnam, Beirut (1982-1983) and Grenada as well. But the Dominican intervention was one the United States could not lose. Where failure *was* possible, as in Vietnam and Beirut, it came home to roost with a vengeance—and not all the medals and unit citations showered on the military, nor all of the rhetorical justification from politicians, could manage to dilute the acid taste of defeat.

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Fortunately, *Power Pack* suggests some lessons that should be taken to heart. One, the intrusion of politicians into *operational* matters is certain to be an invitation to disaster, just as the intrusion of the military into political questions (e.g., should an intervention occur at all) might be equally counterproductive. Second is that tactical commanders need to have the latitude to exercise that initiative in practice that is encouraged in field manuals and constrained in actual operations. One of the problems with "leading from the rear" is that commanders (in or out of uniform) lose the essential urgency of decision fueled by the urge to survive. Third is that the principles of economy of force and unity of command mandate giving complete operational control of any intervention to a single, unified command and to using ground forces from a single service in the intervention. Putting both Marine and Army formations on the ground for the sake of interservice harmony is not at all wise in such limited interventions, as both the Dominican Republic and Grenada demonstrated so aptly.

It would be reassuring to believe that these and similar lessons derived from *Power Pack* would be acted on in practice. Regrettably, there is little chance of that, barring an attitudinal revolution of sorts in the Pentagon. Nonetheless, Yates has given us a sound, thoughtful, well-researched, well-written and judiciously argued piece of scholarship. I would have liked to have seen a "lesson learned" section developed at length, but that can be the next task for this thoroughly competent military historian.

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Mazarr, Michael J. *Semper Fidel: America & Cuba, 1776-1988.* Baltimore, Md.: The Nautical & Aviation Publishing Co. of America, 1988. 521pp. $24.95

Other than a rather catchy title, Mr. Mazarr offers us nothing new in this piece that is brazenly referred to in the dust jacket as "the first comprehensive history of Cuban-American relations." The book is essentially a chronological review of major events in the last three hundred and fifty years of history as it pertains to events that affected both Cuba and America. The first half dutifully ticks off the high points between the arrival to the New World of Christopher Columbus up to the socialist revolution in 1959. It is as though the author constructed a timeline of significant events and then fleshed it out with a paragraph or two for each event listed. To be sure, some topics deserve, and receive, greater coverage than others; Mr. Mazarr is comparatively generous with the Monroe Doctrine, according it nearly two full pages.

Of course, there's nothing wrong with history by chronology, even if the analysis is often lacking. Unfor-

tunately for Mr. Mazarr, Hugh Thomas' encyclopedic *Cuba: The Pursuit of Freedom* is, and will be for some time, the reigning chronological narrative of Cuban history, weighing in at a truly impressive 1,696 pages. (To his credit, the author generously quotes from and refers to Thomas' important work.) Of course, Mr. Thomas devoted a separate work of 771 pages to the Cuban revolution itself, a topic to which Mr. Mazarr devotes less than one-tenth of his book, in an apparent desire not to stray too far from his timeline by actually analyzing something.

It is probably unfortunate that the author was unable either to limit his subject matter adequately or devote the necessary time to interpret properly the subject matter he decided to include. In those rare instances when he does comment rather than simply chronicle events, he provides generally balanced and non-ideologic insight, a difficult feat with a topic of this volatility. For example, his discussion of the root causes of the revolution and the nature by which Castro radicalized it provides a fairly complete review of the major positions in this continuing debate. But in this portion of the book where the author is arguably at his best, he emerges as something of a synthesizer, summarizing the literature without really contributing to it.

The concluding chapter expresses Mr. Mazarr's hope that "the reader has not discerned any blatant political bias, or any attempt to foster one particular view of Cuban or American policy." Small chance of this. Indeed, the author scrupulously avoids exposing any particular viewpoint at all. In a literature deeply tainted by the arresting hues of the political extremes, this is the book's sole achievement. However, one is left with simply an almanac of Cuban-American history, supported by prose that does little more than summarize the works of others. If one desires an encyclopedic reference of Cuban-American relations, this book provides that, but there are better available. If it is historical analysis the reader is after, look elsewhere.

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Newhouse, John. *War and Peace in the Nuclear Age*. New York: Alfred A. Knopf, 1989. 427pp. $22.95

War and Peace in the Nuclear Age is a companion book to the highly acclaimed, thirteen-part television series of the same name, produced by the Public Broadcasting System. It is both a historical work that chronicles the development of nuclear power from its earliest days, and a strategic guide that offers insight into dealing with nuclear power. Organized into thirteen chapters and an epilogue, with extensive notes and an outstanding bibliography, the book is doubly useful as both a fast-paced narrative and a significant

reference work for issues in the nuclear age.

It is difficult to imagine anyone more qualified to write this book than John Newhouse. He was a staff member of the Senate Committee on Foreign Relations in the late 1950s and early 1960s, and served as counselor and subsequently as assistant director of the U.S. Arms Control and Disarmament Agency in the mid and late 1970s. He was intimately involved with America's maturation as a nuclear power and the efforts to develop a coherent nuclear policy. As a staff writer for *The New Yorker* and a guest-scholar at the Brookings Institution, he has had unique access to many who have been, and are, key decision makers in the United States. Additionally, he has had access to newly released documents and has conducted exhaustive research on nuclear issues.

It is impossible, in any short review, to capture the essence of the entertaining and thought-provoking narrative that Newhouse presents. He relates a fascinating account of world events that is much deeper than a mere recounting of headlines. He manages to put events into context and focus. His examination of successive presidential administrations offers insight into why each president and his advisors were, or were not, equipped to deal with the awesome nuclear issues. Throughout this fast-moving account, Newhouse explains how the superpower struggle for strategic supremacy and the ongoing interual conflict over methods of managing nuclear weapons has had a profound impact on international events for the past half century, such as how nuclear weapons have never been used and how they have altered relations between allies and enemies.

It is only after much reflection that the reader realizes how much he has learned about the extraordinary impact that nuclear weapons have had on world history, intergovernmental relations and our day-to-day lives.

This is a wonderful book. It is easy to see why the PBS documentary of the same name was so critically acclaimed. It has the excitement of a "whodunit" and yet is able to serve as an excellent historical work chronicling the past five decades. Its weakness, if it can be called one, is that it covers some important subjects in little depth. It could easily have been twice as long.

War and Peace in the Nuclear Age is a valuable resource book for the national security community. It offers policymakers valuable acumen into how the awesome weapons that we live with today have affected world events, and in so doing may enable them to more effectively deal with these weapons tomorrow.

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McInnes, Colin and Sheffield, G.D., eds. *Warfare in the Twentieth Century: Theory and Practice*. Lon-

don: Unwin Hyman, 1988. 239pp. $9.95

This book is another collection of essays by professional historians and scholars who have attempted to reconcile the theory and the practice of warfare in this century. Touted by the publisher as "essential reading for all students and teachers of strategic and war studies," the book falls short of anything "essential."

The editors, Colin McInnes and G.D. Sheffield, have, at one time or another, been lecturers at the Royal Military Academy at Sandhurst. They and six other noted authors, all university scholars from Great Britain, have produced nine essays, each one about a different aspect of warfare in the twentieth century. One, Geoffrey Till, will be recognized by Naval War College students as a prolific writer on naval affairs. The others will not be so well known to them.

The book is targeted for the "intelligent general reader," and is intended to bridge the gap between academic tomes and more sensational works on warfare and its impact in the 20th century. In examining the theory of war in relation to its practice, each author arrives at the same conclusion—"that in war things rarely go according to plan." Theory, then, has little to do with the practical reality of war. That is hardly a new conclusion.

The surprises, however, come in three of the nine essays. They are surprising not because they contain anything new, but because they are written with great clarity and smooth, flowing format. They are not only informative, but also entertaining.

The best essay is Geoffrey Till's, "Naval Power." In thirty pages, Dr. Till takes the reader on a delightful cruise from the Kaiser's navy in 1904, to the modern "Maritime Strategy." He, of course, includes Mahan, Corbett and Mackinder with a refreshing dose of Admiral Gorshkov. Till's writing is fluid and highly readable. His underlying conclusion is that, despite the continual development of technology, the established functions of naval warfare have not changed and are as valid today as they were ninety years ago.

Two other essays well worth reading are Sheffield's "Blitzkrieg and Attrition: Land Operations in Europe, 1914-1945," and McInnes' "Nuclear Strategy." Sheffield's essay focuses exclusively on land operations in two world wars and is purely historical in nature. His premise is that most military innovation in the 20th century originated in World War I, not in World War II. Despite the accepted wisdom that the two world wars were vastly different from each other, one characterized by attrition, the other by maneuver, Sheffield argues that there was actually little difference and that the Second World War represented continuity, not change! McInnes' essay on nuclear strategy gives a concise history of global nuclear strategy in just twenty-one pages. Brief it may be, but it provides an excellent explanation of point and

counterpoint among the nuclear family of nations.

The remaining essays are interesting, but certainly not "essential." As a text the book has great limitations, one being its lack of relevance to today's world. With the exception of the three essays mentioned, the book has limited use for the student of warfare or strategy. The "intelligent general reader" may find the book of interest, but others will be disappointed for its lack of forward-thinking. Perhaps it is true that historians are best at predicting the past.

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Blackburn, Tom. *The Jolly Rogers*. New York: Orion Books, 1989. 260pp. $22.95

Ah, for the good ol' days, back to the last one that we won, when real fighter aircraft had 6X.50s, and real fighter pilots wore leather helmets and Marine Corps issue field shoes, and cooled their beer at 30,000 feet in the wing-ammo-cans and went to Australia for R&R.

Tommy "Big Hog" Blackburn, a real ace of a WWII fighter pilot, recounts his memories as skipper of VF-17, in his book, *The Jolly Rogers*. His memories are unusually sharp and detailed—nearly 45 years after the fact, with the authentic ring of sea stories often told over many beers at happy hours, and at the inevitable tail-hookers' reunions in Las Vegas. Blackburn focuses on two main points: "Big Hog," the beautiful F4U-gull-wing-Japanese-Zero-killing-machine, which he and his squadron can bring aboard any U.S.S. Boat around; and his combat training/screening system, implemented in the VF-17 Jolly Rogers squadron to select and develop the type of fighter pilots required to win a war.

Blackburn's system was to select pilots for their aggressiveness, intelligence, endurance and loyalty, then put them in their "offices," i.e. the cockpits, and "drill"; that is, to fly simulated-combat and low-level missions, day, night and in all weather conditions, until the man becomes part of the machine and all apprehensions about night and weather disappear. For seasoning, throw in the typical fighter pilot's disdain for spit and polish, a pilot's "*de rigueur*" abhorrence of the mud and wrenches of aircraft maintenance and logistics, add a dozen nonconforming individualists (NCIs) who might last 5 minutes in the polished passageways of the admiral's flagship, perhaps less in the pompous portals of today's Pentagon, and slow-cook in the 20-20 hindsight of the author who was ". . . horrified [and] . . . incredulous at the ineptitude of our Pacific commanders [following Pearl Harbor]."

Proof of the pudding, they say, is in the eating, and the resulting VF-17 Jolly Rogers had Japanese Zekes, Hamps and Tonys for breakfast, lunch, dinner and snacks: 154.5 kills

in 76 days of combat. The dozen plus 3 NCIs, including the author, became fighter Aces (5 or more kills), but 13 pilots didn't come home (MIA/KIA). The impact on the Japanese war plans resulted in the evacuation of all remaining Japanese aircraft from Rabaul, which up till then had been a major threat to U.S. ships and ground forces. The disintegration of an empire had begun.

Aircraft logistics and maintenance, Blackburn's second theme of this shoot'em-up, were, of course, crucial to the Pacific victory. As the author points out, VF-17 and their F4U-1As were flown off the *Bunker Hill* (CV-17) upon arrival at Pearl Harbor in October 1943 because of logistics and provisioning problems, not because of carrier landing problems. *The Bunker Hill* had been the only carrier with F4Us aboard. All other carrier-based fighter squadrons had F6F Hellcats or, in the case of smaller ships, F4F Wildcats. Even so, the Jolly Rogers in November '43 launched from Ondongo, New Georgia, to provide combat air patrol for the carriers *Essex, Bunker Hill* and *Independence* while those ships' air groups pounded Rabaul, landed aboard to rearm and refuel, and launched again to provide fighter cover while the air groups returned from the Rabaul strike, scoring 18 kills, blunting the Japanese counterstrike, and recovered back to New Georgia. The lesson is to make the fighters simple, make lots of 'em, and keep the parts coming: a lesson lost in 1990 with $500M bombers and $50M fighters.

One of the ironies that Blackburn discovered at the end of his combat tour was that he had occasionally lost fighters in the extreme effort to protect the bombers being escorted, only to discover later that the bombers were primarily bait to draw Japanese fighters, the primary targets. The effects of bombing land targets were minimal in the southwest Pacific in 1943-44 and in southeast Asia in the 1960s-70s. The effects of shooting down Japanese fighters were maximal in 1943-44 and in shooting down U.S. fighters over North Vietnam in the 1960s-70s. An airplane in 1943 was a weapon to protect the ships and divisions of soldiers and marines who won the last one that we won.

Well done to the Jolly Rogers of 1943-44 who did their job. And a Hail Mary for the ships and divisions of soldiers and marines of Korea and Vietnam, and to those of the 1990s.

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Hickam, Homer M., Jr. *Torpedo Junction*. Annapolis, Md.: Naval Institute Press, 1989. 367pp. $24.95

This is a great book! Homer Hickam has done a thorough job of researching his subject—reviewing U.S. and German records and logs, reviewing newspapers from the era as well as other books on the subject, interviewing participants and, as a skilled scuba diver, even visiting some of the wrecks.

While the short title *Torpedo Junction* may conjure up visions of a paperback thriller about night actions off Guadalcanal, this book is really a definitive history of the U-Boat campaign against U.S. East Coast shipping from January to August 1942, complete with charts, tables and notes. It is history written with a novelist's style—which makes for great reading.

Hickam covers this campaign from three sides and two levels. At the command level there is Admiral Dönitz, the attacker, arguing for more assets to commit to this profitable killing ground, but being told there are higher priorities in the Mediterranean and Norwegian Sea. And there is Rear Admiral "Dolly" Andrews, Commander Eastern Sea Frontier, the defender, arguing for more assets to stem the tide, but being told of higher priorities in the Pacific. (Hickam seems to share Admiral Andrews' frustration and doesn't even give an "Oh by the way . . ." to the fact that the Doolittle Raid on Tokyo and the battles of the Coral Sea, Midway and Guadalcanal were occurring during this time.) Even so, when America's oil companies told the President they would not be able to provide the fuel to support the American war effort if tanker losses continued, "Dolly" Andrews got his forces.

At the ship level on the defense there is the 350-ton Coast Guard cutter *Dione* (the only large ASW ship committed to the entire campaign), any number of destroyers coming and going, the hapless merchantmen, and ultimately a plethora of small craft, but most importantly aircraft. On the offense there are *U-66, U-123, U-103, U-108, U-504, U-124*, etc. Hickam takes us aboard many of those ships and aircraft and allows us to watch the deep frustration and anger of the Americans in January, change to grim satisfaction in August. At the same time the arrogance of the Germans in the late winter and early spring turns to frustration, caution and fear as the hunters become the hunted during the summer. There is even comic, but tragic relief—*U-352* attacking a small freighter three times at point-blank range and missing all three times, giving up the chase as the crew of the freighter abandon ship; then several days later, in frustration, attacking another vessel without identifying it. *U-352* misses again, but the torpedoes detonate on the bottom in the shallow water—alerting the intended victim, an American sub-chaser, which exacts a terrible retribution.

But *Dione*, all 165 feet of her, is the centerpiece around which the story at sea is told. Time and again we return with her to fight the weather, the merchantmen who refuse to take safer transit routes, the citizens who refuse to turn off lights along the coast, thereby providing excellent silhouettes for the U-Boats, and of course the U-Boats themselves.

Beyond being a splendid sea story and history, there are some lessons underscored here that make this a candidate for wardroom libraries

and Pentagon offices as well. Ships, including warships, were lost due to a lack of vigilance or even routine precautions such as zigzagging in known submarine waters. There is a hauntingly familiar ring to Admiral Andrews' initial theory that enough ASW ships patrolling the East Coast shipping lanes (while the merchantmen conducted independent transits) could defeat the submarine threat. Though the requisite number of ASW ships called for in the analysis did show up, the ASW campaign still faltered. Only when convoys were formed and escorted with the ships, while aircraft did the area patrolling, did the tide turn. I do not so much wish to remake the argument for convoys, but to raise caution over the lure of the siren of technology and *a priori* analysis of the next ASW campaign. It's never easy to predict this sort of thing; if it were, many wars probably would not have been fought. (But maybe others would have.) *Torpedo Junction* is a firm reminder that in spite of the best analysis we should be ready for some unpleasant surprises.

In summary, I would recommend this book to a wide audience—from those who simply enjoy a gripping story of life at sea in wartime to the serious student of naval history. This is truly a book to satisfy all interests.

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Villa, Brian Loring. *Unauthorized Action: Mountbatten and the Dieppe Raid*. Toronto; Oxford; New York: Oxford Univ. Press, 1989. 314pp. $27.50

The Dieppe raid took place on 19 August 1942. It involved about 5,000 Canadians, of whom about 1,000 seem never to have landed and of whom 3,367 became casualties. The Canadian army lost more prisoners (1,946) than it did in the eleven-month North-West Europe campaign or the twenty-month Italian campaign. British army and Royal Marine casualties were high as well. There were serious naval losses, especially in landing craft, and the air force (RAF and RCAF units took part) suffered its heaviest one-day loss of the war. It was a humiliating defeat.

Defeats, according to the cliché, are more instructive than victories. The claim has been made for nearly fifty years that Dieppe was an important—some have suggested indispensable—prelude to Normandy. Churchill once wrote in the draft of a letter to Lord Mountbatten: "and I said to Stalin at Moscow, 'It will be like putting one's hand in a bath before getting in to feel how hot the water is,' or words to that effect." Professor Villa argues that Dieppe in fact taught no lessons that had not already been learned in 1942, but that Dieppe tells us a lot about why governments do what they should not do. He even devotes an appendix to the subject.

Nineteen forty-two was a bad year for the Allies. Villa's assertion

that they were losing the war is debatable, but they certainly appeared to be losing. Apart from Midway, and some successes in the Pacific later in the year, defeats like Hong Kong (at the end of 1941 but, still, another Canadian tragedy) and Singapore, were the order of the day. Perhaps most significant to the decision makers responsible for Dieppe was the cancellation of convoys to Russia following the losses suffered by PQ-17 (24 of 35 ships) when the First Sea Lord ordered it to scatter on the 4th of July.

Churchill badly needed a success. Without a Second Front he was hard pressed to convince his U.S. allies that Britain merited American aid, and to persuade Stalin that something would be done to take pressure off the Soviet army. His Chiefs of Staff gave him cold comfort. The efforts of Bomber Command were not enough. Lord Louis Mountbatten, the newly promoted head of Combined Operations Headquarters and a brilliant apologist for Britain in the American camp, proposed bold raiding operations. Churchill grasped at the idea. All of Mountbatten's plans, however, were coming to naught. When weather forced the cancellation of Operation *Rutter*, the raid on Dieppe, nothing remained. In the view of Professor Villa it was principally to serve his own ambitions that Mountbatten secretly engineered the revival of the raid under the new code name *Jubilee*.

The evidence for Mountbatten's scheming is impressive. Villa has seen a wider range of documents than any previous historian of these events, and he shows that there was never any formal approval for the revived raid. After the event, to have acknowledged such a situation would have compromised the Chiefs of Staff and the Prime Minister, led to even worse recriminations than actually took place, and placed unacceptable strains on the alliance.

The scapegoat for Dieppe was Major General J.H. Roberts, commanding the 2nd Canadian Division, who Villa rather charitably suggests questioned the merit of the plan but loyally attempted to carry it out anyway. The villain of the piece was not Mountbatten, as the title of the book might lead one to believe. Villa goes out of his way to praise Mountbatten's qualities, and seems to excuse his overweening ambition. His principle explanation for Mountbatten's actions is immaturity. At the age of 41, suddenly to be elevated from the rank of captain to vice admiral, and to have Churchill envisioning a decisive role for him in the Chiefs of Staff Committee, forced him to propose operations beyond his capacity. Villa apportions blame to Churchill, each of the Chiefs of Staff, Prime Minister Mackenzie King of Canada and the Canadian generals Harry Crerar and A.G.L. McNaughton.

This is a very good book. It is often brilliant. It suffers from some unfortunate howlers that sailors in particular will notice, but these do not detract seriously from the substance of the argument. Villa

gives other historians, especially the Canadian official historian C.P. Stacey, their due. I have to say, nevertheless, that he has not always done justice to Stacey.

In demonstrating that Canadian authorities had previously refused to send their forces to the Middle East, and thus had a morale problem on their hands, Villa has not apparently recognised the centrality of Stacey's argument that McNaughton, above all else, resisted piecemeal commitments of Canadian troops and that this was a clear political requirement established by the experience of the First World War. Villa wonders if Stacey's affection for General McNaughton has led him to underplay the part played by that officer in involving the Canadian army in Dieppe. This is a charge that Stacey, who read the manuscript shortly before his death in November 1989, would not have allowed to go unanswered. Stacey played no favourites, and he was scrupulous in his use of evidence.

In one instance Villa takes Stacey out of context, suggesting that he thought the Russian situation had no bearing on the Dieppe decision. Stacey actually says that at Combined Operations Headquarters, which worked mainly at the tactical level, he could find no evidence that the Russian situation was a large direct factor. He then points out that Churchill welcomed the prospect of a large raid in view of his forthcoming talks with Stalin. When Churchill decided not to include in his letter to Mountbatten the passage quoted in the second paragraph of this review, it was evidence that, like Mountbatten, he did not want to acknowledge such influence on his war policies. Villa has verified that aspect of Stacey's argument. He has thereby made a contribution of the first importance to the historiography of the Second World War.

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Barnhart, Michael. *Japan Prepares for Total War*. Ithaca, New York: Cornell Univ. Press, 1987. 290pp. Paperback $9.95

According to conventional wisdom, the prewar breaking of Japanese diplomatic ciphers ("Magic") by the U.S. government was an unqualified blessing. It is said to have made President Roosevelt and his aides aware of at least the broad intentions and purposes of the Japanese leaders in the years and months preceding the outbreak of war. Using both Japanese and U.S. sources, Michael Barnhart has written a detailed account of the events leading up to Pearl Harbor, discussing the successes and failures of the crypto effort. Misreading of Japanese intentions because of incomplete information must be acknowledged as one of the failures.

The author argues that there were other intelligence lapses, particularly the failure to see and exploit the

deep divisions between the Japanese army and navy leadership. The U.S. ambassador to Japan, Joseph Grew, consistently failed to pick up the telltale traces of such tensions because his antennae appeared not to have been tuned to that possibility. Nor was the State Department hierarchy always very perceptive, although they did acquit themselves better than Grew.

Following the seizure of Manchuria in 1931, Japanese activity against China was one of slow but steady encroachment in the north. Not until 1937 did full-scale fighting erupt. Then, in the words of Barnhart, "For the next four years the Japanese Empire labored to win the war in China and become self-reliant. The task was impossible. . . ." Dependence on outside powers, particularly on petroleum products and steel scrap from the United States, constantly plagued the Japanese in their efforts to build their economy while satisfying the rapacious appetites of the two armed services. Truly a case of "imperial overstretch," in the words of contemporary historian Paul Kennedy. It was the conflicting claims on resources that led to interservice acrimony. The navy especially, required vast increases in steel allocations if it was to achieve supremacy over the U.S. Fleet. The U.S. sources had become very unreliable. Long association of the American public with a "romantic China," established in the public mind by missionaries and traders, had led to a strong animosity in this country toward everything Japanese. Even the U.S. President indulged in it. These emotional elements eventually resulted in the embargo of materials crucial to Japan's war effort.

The desirability of expansion beyond the bounds of China had been expressed within Japanese ruling circles from the early 1930s onward. Certainly that was the wish of the army. The navy, according to Barnhart, was less enthusiastic about such an advance. Acquisition of part of Siberia would not justify the maintenance of a powerful fleet. It would not even be of much use in the fighting because of the Soviets' naval weakness. One crucial resource was needed by the navy, however, and it lay to the south: the oil in the Dutch East Indies. Moreover, the army was beginning to feel the petroleum pinch as well. Its campaign in China had bogged down and was becoming a serious strain on the logistics system. The army therefore acquiesced in the "Southward Advance," but insisted that only British and Dutch possessions be attacked. The navy, however, strongly believed that an intact U.S. Fleet constituted an unacceptable threat on the flank of the operation. Hence, its leaders countered with the proposal to attack U.S. forces as well. So events stood in mid-1941 when a decision had to be made. This decision culminated in the attack on Pearl Harbor.

It is worth remarking here that had the United States continued to be a reliable supplier of petroleum products and scrap iron, the Japa-

nese would probably not have undertaken the Southward Advance. Instead, they would have attacked the Soviets. In the words of Colonel William V. Kennedy (*Naval War College Review*, Winter 1989), "More than any other single strategic decision, Japan's attack on the United States rather than the Soviet Union, determined the outcome of World War II. The Soviets could not have survived such an attack. Consider what it would have taken to defeat a Nazi Germany and an Imperial Japan that had established a combined hegemony over Eurasia."

On the basis of the numerous Japanese sources to which he gained access, the author clearly establishes the desire of the leaders of that country to avoid war with the United States. Similarly, the United States had no real wish to go to war with Japan. However, inadequate knowledge of not just the intentions and thinking of one side by the other, but also of the opponent's culture, led to inevitable clashes. Barnhart chronicles those clashes exhaustively, analyzing each from the standpoint of the objectives each party and the misunderstandings which arose. His book is an excellent primer on the ways in which two nations can drift into war without any desire on either side. For that reason, it is a very important contribution to the literature of serious "peace studies." My only criticism of the work is that following its enormous detail becomes tedious. If the reader is willing to accept that limitation, he will be well rewarded.

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Reckner, James R. *Teddy Roosevelt's Great White Fleet*. Annapolis, Md.: Naval Institute Press, 1988. 221pp. $26.95

The Great White Fleet made its spectacular cruise around the world between 1907 and 1909. James Reckner believes that the voyage by the sixteen battleships of the U.S. Atlantic Fleet has too often been portrayed as an episode in diplomatic history (more especially in troubled American Japanese relations), without adequate appreciation of its real significance to the U.S. Navy. This perception led Reckner to reexamine the cruise within the context of American naval development during Theodore Roosevelt's second term in the White House. Reckner by no means ignores the international aspects of the cruise. Indeed, in surprisingly short space, he narrates in compelling detail the fleet's reception in every port of call and establishes the naval scene in which the cruise took place.

By 1907, Reckner argues, the fleet had finally reached a size that made it natural, if not inevitable, that a long cruise ensue to test and perfect its capabilities. The State Department, he points out, was not involved in the initial decision by Roosevelt to send the fleet to the Pacific. Prepa-

rations for the cruise were essentially naval, not diplomatic. The fleet's greatest triumph was the fact that, far from breaking down, it ended its 45,000 miles of steaming in better trim than when it began. Its major vulnerability proved to be its dependence on foreign colliers that nearly brought the fleet to a halt when three of these vessels failed to appear on schedule in Australia. For that fleet, war in the western Pacific would have been a logistic nightmare.

Though the cruise may have been conceived as a fleet exercise, one cannot ignore the international, even diplomatic ramifications of such a major naval demonstration. When Roosevelt rejoiced that the cruise had been a "knock-out for mischief-makers" in both the Atlantic and the Pacific, he obviously had in mind the evolving informal system of naval power in which the British Navy concentrated against the German fleet in the North Sea while the United States built naval power sufficient to restrain Britain's Pacific ally, Japan.

Reckner is undoubtedly correct in concluding that the Americans and Japanese would probably have worked out accommodations on immigration, China, and Pacific security even had there been no world cruise. On the other hand, the friendly outpouring by the Japanese to welcome the fleet to Japan notwithstanding, we may never know how significant the cruise may have been in strengthening the conviction among Japanese naval men that Japan needed a navy 70 percent the strength of the American navy to assure the island empire security in the western Pacific.

Papers of Rear Admiral Charles M. Thomas, Midshipman (later admiral) H. Kent Hewitt, Midshipman Louis Maxfield and others provide fresh insights into the actual conditions in the fleet during the cruise. Reckner's thoughtful, carefully prepared monograph is a valuable addition to the surprisingly slim literature on Theodore Roosevelt's navy.

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Hagerman, Edward. *The American Civil War and the Origins of Modern Warfare.* Indianapolis: Indiana Univ. Press, 1988. 366pp. $37.50

In a classic formulation in the history of ideas, Isaiah Berlin contrasted the "fox," who knows many things, with the "hedgehog," who knows one. Edward Hagerman, of Canada's York University, brings a hedgehog's perspective to his analysis of the Civil War. That conflict has been described as ushering in the era of modern war in so many ways that its key, according to Hagerman, has been overlooked. He argues that the essential problem of mid-nineteenth century warfare was the threat of stagnation created by firepower—specifically, the rifled musket. Its introduction created an interrelated, comprehensive network of tactical, operational, and

strategic problems, and the solutions represented the beginning of a new military age.

This technological change was particularly significant in the context of the civilian mass armies raised by both the Union and the Confederacy. The individualistic ethos of "democrats as soldiers" meant that these uniformed civilians expected reasonable conditions of employment in war as well as in peace. Hagerman leaves little room for any concepts of *furor celticus* or a northern equivalent. His soldiers, and their officers as well, emerge as military businessman concerned with calculations of risks, profit, and loss; and clearly recognizing their own vulnerability to minie balls.

One solution to the problem emerged on the battlefield itself—an emphasis on entrenchment. The rifled musket dominated American battlefields from 1861 to 1865. It reduced artillery to the status of a defensive weapon. It prevented cavalry from playing a tactical role. Civil war tactics, in short, were infantry tactics. And Hagerman demonstrates that these tactics depended increasingly on the spade, whether in fortifying positions to the point of impregnability or in supplementing the quick rushes that increasingly became the preferred form of attack.

Entrenchments, however, only exacerbated the problem of tactical mobility. Another reply to the challenge of firepower was on the operational level. In a sparsely settled land where distances were exponentially greater than those of Europe, armies that could be kept supplied had corresponding opportunities to go around positions that could not be forced, save at disproportionate cost. Hagerman perceptively supplements Martin von Creveld's *Supplying War* by demonstrating the development—by both the Union and the Confederate armies in the eastern and western theaters—of logistic structures based on railroads, steamboats, and a carefully reorganized system of animal transport that acted as a flexible link between railheads and landings on one hand, and ammunition pouches and nose bags on the other.

A third key factor in responding to tactical deadlock involved organization. Hagerman credits both combatants with a common-sense willingness to abandon the mechanistic traditions exemplified in Jomini for a more flexible, empirical approach that stressed problem solving at the expense of formulas. The Union in particular, beginning with McClellan, developed a staff system able to coordinate grand-strategic planning, bureaucratic organization, and operational control. And if the Confederacy never quite matched its rival, Southern armies were nevertheless able to keep the field for four years against an enemy exponentially superior in the sinews of war.

Tactical stalemate generated a fourth consequence as well. With decisive battles an impossibility, total war developed as a practical

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alternative. Sherman in particular, according to Hagerman, fulfilled the predictions of Clausewitz by making war against his enemy's will and resources. But he did so through maneuver rather than direct attrition, by going around Confederate armies to strike their more vulnerable rear areas and ultimately their heartland—a case of compensating for the absence of shorter roads to victory.

Hagerman's view of the Civil War is strongly ethnocentric, stressing indigenous responses to indigenous problems at the expense of any European influences. Comparison with the experiences of Prussia, France, even Austria, suggests that Americans were not alone in their search for intellectual and institutional structures for a developing industrial society. Any limitations of scope in this work are, however, more than balanced by Hagerman's demonstration of the importance of tactical factors in shaping the responses of military systems to changes in the circumstances of warfare. War's sharp end, so long neglected by practitioners of the "new military history," is coming into its own as a subject of analysis as well as description.

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Eisenhower, John S.D. *So Far from God: The U.S. War with Mexico 1846-1848*. New York: Random House, 1989. 436pp. $24.95

The Mexican War abounds with colorful incidents appropriate to narration by a military historian of the literary skill and forcefulness of John S.D. Eisenhower. Beyond that, however, this reviewer confesses that he opened *So Far from God* with skepticism over whether we need another one-volume survey of the war, when an excellent and relatively recent similar work is at hand in Karl Jack Bauer's *The Mexican War 1846-1848*, a volume in *The Wars of the United States*, Louis Morton, general editor. Yet reading Eisenhower's latest book offered at least some measure of reassurance that the effort was worthwhile.

Particularly, the time is probably right to survey the war with Mexico from a perspective different from Bauer's. His 1974 book was written under the shadow of the Vietnam War, so that the Mexican conflict emerges from it largely as a forerunner of subsequent military confrontations of the United States with underdeveloped countries. John Eisenhower by no means neglects that aspect, and he is much troubled by the moral dimensions of the war. Significantly different, however, Eisenhower suggests a strategic parallel between the course of the Mexican War and the course of World War II, remarking near the outset that the campaign in northern Mexico might be considered the equivalent of the North African campaign of 1942-1943, while Major-General Winfield Scott's

march to the City of Mexico matched the grand offensive from Normandy toward Berlin. We have here, then, an embodiment of the shift of American military thought away from the emphasis on unconventional war engendered by the Vietnam experience, toward a renewed interest in conventional war. This shift obviously might go too far, but it springs in part from a healthy wariness about involvement in guerrilla and low-intensity conflicts.

The return of the focus to the elements of classical warfare in the Mexican War permits Eisenhower to better focus on the military figure he sees as towering above all others in 1846-1848, General Scott, "who may well have been the most capable soldier this country has ever produced . . . [but who] has never received the credit that was his due." Both of Eisenhower's assessments of Scott are on target. At the very least, he was the most capable American military commander between General George Washington and General Ulysses S. Grant. But he failed to receive acknowledgement, largely for reasons that lend a touch of irony to the praise he receives from the son of General of the Army Dwight D. Eisenhower. Scott's personality offended virtually everybody who came in contact with him.

John Eisenhower praises Scott not only as a strategist and tactician but also as a logistician. In general, Eisenhower is mindful of the logistical achievements of the United States in conducting a war so far from the national center of gravity in the 1840s. The emphasis on logistics also helps Eisenhower give proper attention to the navy's role in the war, although the book is primarily an army historian's study of what was mainly the army's war.

When it ventures beyond military history to the moral issues of the Mexican War, the book does not condemn the war out of hand as a simple act of aggression, as some conscience-stricken Americans have done. The author acknowledges Mexico's responsibility for bringing on the conflict: weak governments that failed to grasp the opportunities for a negotiated settlement of differences that President James K. Polk offered. Still, such opportunities did not amount to much, because there was never much over which Polk, his government, and the American public were willing to compromise in their territorial ambitions in the Southwest. "To the student of today the fate of Mexico is sad," Eisenhower writes, because Mexico represented a power vacuum that someone else was sure to fill. Eisenhower's sense of sadness over the grim realities of international power struggles, as exemplified by the United States against Mexico, underlies this book—rousing good military narrative though it is.

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Kaufmann, William W. and Korb, Lawrence J. *The 1990 Defense*

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Budget. Washington, D.C.: The Brookings Institution, 1989. 51pp. $8.95

McNaugher, Thomas L. *New Weapons, Old Politics: America's Military*. Washington, D.C.: The Brookings Institution, 1989. 251pp. $14.95

Pilling, Donald L. *Competition in Defense Procurement*. Washington, D.C.: The Brookings Institution, 1989. 50pp. $7.95

The works reviewed here are all offerings of The Brookings Institution's studies in defense policy, and the authors are all experienced defense analysts. William Kaufmann is currently a lecturer at Harvard University's Kennedy School of Government and served as a consultant to Secretary of Defense Robert McNamara. Lawrence Korb, currently a senior fellow in the Brookings Foreign Policy Studies program, has been an assistant secretary of defense and a faculty member of the Naval War College. Thomas McNaugher is also a senior fellow in the Brookings Foreign Policy Studies program and a lecturer at the Johns Hopkins School of Advanced International Studies. Donald Pilling is a captain in the U.S. Navy and the former head of the Plans and Programs Branch of the staff of the Chief of Naval Operations.

The combination of *glasnost* in the Soviet Union and Eastern Europe, federal budget deficits and the Gramm-Rudman-Hollings Act requirements to reduce the deficit means that the defense budget will decline. The only questions are how much should it decline and which programs should be funded? Kaufmann and Korb's study of the 1990 defense budget presents one way of answering these questions. They review the Reagan era defense build-up through the budget proposed for FY 1990 by Secretary of Defense Carlucci as modified by the Bush administration. This exercise helps put in perspective the budget and program status of the U.S. military establishment.

Kaufmann and Korb then outline a defense program which could be sustained within a no-growth budget. This is described as a "nominal freeze" program on the assumption that the defense budget will be kept constant in nominal terms and decline in real dollars (adjusting for the effects of inflation). Developments since Kaufmann and Korb's monograph was published suggest that future defense budgets may be lower than present ones even in nominal terms.

The Kaufmann-Korb program would maintain the basic present size and composition of U.S. military forces, but defer the purchase of next generation weapon systems for five years. They would also make some cuts in the strategic nuclear program where they find duplication or impracticability, e.g. "Star Wars." The Kaufmann-Korb program would allow for some modernization but would cut procurement more heavily than funds for research, development, testing, and evaluation relative to the Carlucci plan. Over a five-year period, they estimate that

their defense program would be about $340 billion cheaper than Carlucci's FY 1990-94 defense program.

The Kaufmann-Korb proposal, or something like it, will be essential if the United States is to avoid making defense budget cuts that weaken readiness by trying to sustain procurement at the expense of operations and maintenance. A substantial R & D program should also be kept as a hedge against the possibility of a deterioration in relations with the Soviet Union.

Thomas McNaugher's book addresses a perennial problem, how to acquire complex, technologically advanced weapons for the armed forces without waste and inefficiency. Scandals in defense procurement threaten public support for essential military programs. Minimizing these adverse effects is important no matter how generous the overall defense budget is, but has become vital in an era of budget stringency.

McNaugher provides an enlightening review of the history of the weapons acquisition process. He argues that a major problem with it, as presently constituted, is that American politics more than technological needs and opportunities have shaped acquisition strategies. One of the strengths of this book is McNaugher's use of a number of case studies such as the TV-Maverick air-to-ground missile to demonstrate how the present weapons acquisition process "errs systematically in the way it chooses new technologies, develops them into weapon systems, and rushes them prematurely into the field."

Efforts have been made to reform the weapons acquisition process, but McNaugher argues these reforms have failed to solve the problem. Some reforms, such as Robert McNamara's efforts to eliminate wasteful duplication, may have made the situation worse by making project management more political. McNaugher proposes to reform the weapons acquisition process through the use of extended competition. He would extend the competition between defense contractors beyond the design stage, directly into the early production models of a new weapons system. The winning contractor would be chosen only after the system was passed through operational as well as technical testing.

McNaugher's acquisition process would create a situation in the defense sector more comparable to the incentives working in competitive markets in other areas of the economy. R & D efforts would be improved by avoiding the rush for production presently created by organizational and political pressures as well as profit incentives. McNaugher argues that his proposed acquisition process would also give policymakers more real options in choosing among weapon systems. However, he notes that this reformed process would make R & D more costly, partly by recognizing the real costs of military R & D which are presently understated.

Donald Pilling's monograph is the narrowest of the three works reviewed here. Pilling analyzes whether Pentagon policy and Congressional legislation, which mandated competition in weapons procurement, have actually generated the cost savings often claimed. Pilling shows that it cannot be demonstrated statistically that competition in procurement (generally by having a second source bid on part of a production program) has reduced program costs. The problem lies in the quality of the data available, and also in the fact that the learning-curve model used to estimate cost savings from procurement competition is inadequate for that task.

Pilling suggests an alternative model for assessing the benefits of competition in defense procurement. Pilling's model, though interesting, is still too narrow to provide ar adequate way of measuring the benefits of competition. The dynamics of defense contracting are too complex to be captured by a simple, cost-based model.

The Brookings Institution program in defense policy studies continues to produce quality work. These books should be of interest to anyone concerned about the economics of national security.

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Miller, Steven E. and Van Evera, Stephen, eds. *Naval Strategy and National Security*. Princeton, N.J.: Princeton Univ. Press, 1988. 389pp. $40

If you're a long-time *International Security* subscriber, the contents of this book might be familiar. All the essays in *Naval Strategy and National Security* have previously appeared in that publication. That said, the articles chosen for inclusion in this book do adequately define the title. Aspects of past and present naval technologies as well as disputes over the Maritime Strategy are discussed by the acknowledged experts: Linton Brooks, John Mearsheimer, Barry Posen, Joshua Epstein, Michael MccGwire and Karl Lautenschlager, to name a few.

Divided into three parts, *Naval Strategy and National Security* first examines "Naval Strategy" with a quintet of articles that describe the case for and against the Reagan administration's Maritime Strategy. Part II, "Naval Technology," looks to the past and future with four articles discussing aspects of naval technology that bear on naval policy questions. Two articles by Karl Lautenschläger are most interesting; in the first, "Technology and the Evolution of Naval Warfare," he makes a strong case that the fears of technological surprise are largely misplaced. Change can be dramatic, but it is usually evolutionary. The author warns against either projection of radical change or detailed rejection of anything but gradual change, suggesting a balanced

approach. The second article, "The Submarine in Naval Warfare, 1901-2001," Lautenschläger traces the dramatic evolution in submarine missions since 1900. Along the way he notes enough mistakes and capability shortfalls to warm a surface warfare officers heart (but not give him cause to put away his life jacket).

The final part of this collection is titled "Naval Operations: Controlling the Risks." Here Desmond Ball looks at the various ways nuclear war at sea might arise, and how the potential causes of such conflict might be avoided. Barry Posen's "Inadvertent Nuclear War?" explores the risk of escalation that would arise if, during a conventional war, U.S. submarines attacked Soviet SSNs in ways that also led to Soviet SSBN destruction. (Editor Von Evera notes that Posen's article led to Navy acknowledgment that in a conventional war, it will deliberately search out Soviet SSBNs. If such operations create risk, Van Evera says, that risk will arise deliberately, not inadvertently.)

Like most collections, *Naval Strategy and National Security* has something for every interest. But in this case, I would add "even more so," because both the quality of the articles and the authors' credentials are impeccable.

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Zhilin, P.A. *Isotriya voyennogo iskusstva* [History of Military Art]. Moscow: Voyennoye Izdatel'Stvo, 1986.

The Soviet military work with the uninspiring title, *History of Military Art*, warrants examination by those seeking evidence of recent change in Soviet military thought—or the lack thereof. The main thrust of the book centers around what Soviet military writers term "periodization." In a broad sense, periodization, as used by General Lieutenant Zhilin, correlates military art to the economic and technological growth of society. In a narrower sense he attempts to fit the events of a particular war into what Soviet military art defines as war's four periods. Neither of these exercises is of much interest, however, to anyone who is not a committed Marxist-Leninist.

The book was prepared under the editorial direction of the now-deceased General-Lieutenant P.A. Zhilin, Director of the Institute of Military History of the U.S.S.R. Ministry of Defense. It was actually written by a "collective" of nine authors, including M.M. Kir'yan (identified as leader of the authors' collective), and Yu.V. Plotnikov (identified as deputy leader). All nine authors appear to be military officers associated with the Institute of Military History.

Such team efforts are not uncommon in Soviet military writing. Generally they indicate either an authoritative summary of established doctrine, or an equally authoritative statement of a change in doctrine.

Over half of the book is devoted to the Second World War, while 94 pages deal with the Russian Civil War and developments in military art leading up to the Second World War. The first 60 pages of text are devoted to an encapsulation of all recorded military history prior to the end of the First World War. The developments since the Second World War are summarized in the last 40 pages.

Of particular interest is whether the book indicates any discernable change in the central role nuclear weapons play in Soviet military thought, as they have since it took its current form in the late 1950s.

The answer to this question must be a qualified "no." The work is replete with references to nuclear weapons and their continuing importance, not for deterrence, but for actual military hostilities; it reaffirms all the major points of Soviet military strategy as expressed in the classic Soviet military works of the 1960s and 1970s. For example, on p. 406 it is stated that the fundamental reorganization of Soviet military art undertaken in the 1950s was due to the mass introduction of nuclear weapons. On the next page the preeminent role of surprise in initiating a war is stressed, because of the importance of destroying the opponent's strategic forces at the outset.

Even if they are not employed in actual combat, nuclear weapons maintain an overriding importance: "operations without the employment of nuclear weapons will be carried out with a constant threat of the enemy's employment of weapons of mass destruction" ("weapons of mass destruction" could be chemical or biological as well as nuclear).

However, there is a small, but possibly significant indicator that the policy of nuclear emphasis may be under review. Since 1962 there has been a universally used Soviet term that signified the reason for the thorough-going change made in Soviet military theory since the 1950s: Revolution in Military Affairs. It was a key term because it tied the introduction of nuclear weapons and their delivery systems to Marxist-Leninist dialectics. Nuclear weapons had fundamentally altered military affairs.

This book does not use the term Revolution in Military Affairs. It discusses two periods in postwar Soviet military thought and specifically ties them to the introduction of modern nuclear forces. It emphasizes that nuclear weapons have made a "fundamental change in military art." But the key phrase is not in evidence.

The book has one final tidbit for naval readers. On p. 416 it states: "The fundamental missions of the Navy have come to be the destruction of the naval forces of the enemy, disruption and disorganization of their communications, inflicting strikes on important enemy land targets, joint actions with the Ground Forces, carrying out transport, and protecting our own sealanes." This is a very different list of missions than has been published in

Soviet naval writings, particularly in the primacy it gives to combatting enemy forces and to interdiction of shipping. It should be noted that some of the excitement this list has generated is due to a misunderstanding. Other Soviet naval mission lists do not separate strategic and operational missions, whereas this list applies to operational missions only. Still, the fuller implications of this and other Soviet naval mission lists is worthy of further study.

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Wardak, Ghulam D. and Turbiville, Graham H. *The Voroshilov Lectures: Materials from the Soviet General Staff Academy: Volume I, Issues of Soviet Military Strategy*. Washington: National Defense Univ. Press, 1989. 411pp.

In World War II General George S. Patton, Jr. told a staff officer that he had spent years preparing himself to meet General Erwin Rommel by reading Rommel's books and studying his campaigns.

These translations of lectures presented to students of the Voroshilov General Staff Academy in Moscow, are, to students of Soviet military thought, what Rommel's books were to Patton. They are an in-depth look at the way the Soviet military leadership is taught to view war, strategy, and operations.

The source of these lectures is Ghulam Wardak, a former lieutenant colonel and general staff officer of the Afghan armed forces, who attended the two-year course at the Voroshilov General Staff Academy in 1973-75. A Russian linguist and army field commander of considerable experience, Wardak was able to get his transcribed notes and copies of the Voroshilov lectures safely back to Afghanistan on his return. After the communist coup in 1978, Wardak was imprisoned several times by the new Afghan regime, but was finally allowed to retire. From 1979-1980, Wardak functioned as a successful commander of Mujahedeen forces until a serious wound forced his evacuation into Pakistan. Wardak came to the United States in 1981, bringing with him the lecture materials that he had safeguarded since leaving the Soviet Union. We owe this dedicated military professional gratitude and admiration.

The materials collected by Wardak have been compiled and edited by Graham Turbiville, a senior analyst at the U.S. Army's Soviet Army Studies Office in Fort Leavenworth, Kansas. Working with Wardak, Turbiville assembled into this first volume eight lectures that were given on strategic issues during Wardak's attendance at the Voroshilov Academy. Eight more lectures will be published in a second volume.

The introductory chapter, written by Wardak and Dr. John Yurechko from the Defense Intelligence Agency, describes the setting where these lectures took place; the milieu of the General Staff Academy—the students, the faculty, the procedures and the curriculum of this important

institution. The points of contrast with the U.S. approach to higher military education are striking. The staff and faculty (some faculty are involved in research) are comprised of 300 colonels and 200 general officers, most of whom hold higher academic degrees. The student body, of only about 120 Soviet and foreign students, yields a faculty to student ratio of nearly 2 to 1. The two-year course cousists of a 10-hour day, six times a week for students and faculty. The lecture and seminar classes are comprised of only three to five students each, and late afternoon study periods are mandatory. But, perhaps most significant: There is a school solution to all the issues of military planning!

While there are courses in strategy, history, Marxism-Leninism and foreign languages, the core curriculum at the General Staff Academy focuses on the planning and conduct of military operations at the Army and Front (Army group) levels. This is a how-to-do-it course designed to train and educate General Staff officers for their future assignments—the larger realm of geopolitical or future-force-planning issues do not appear to be addressed except in the context of the current Soviet military doctrine. This doctrine is provided by the party leadership and is presumably not a subject for debate, a concept that contrasts vividly with the vigorous discussions on similar issues that take place in our own senior service colleges.

This logical, measured and yet pedantic approach to military education is exemplified in the Voroshilov lectures themselves. They were presented to the entire student body and were considered to be vitally important components of the Academy curriculum. The lectures published in this volume discuss and define the Soviet approach to military strategy and the Theater Strategic Operation. They were meant to establish the conceptual framework for student work at the tactical and operational levels of war, which comprise the bulk of the course. The discussions of the integrated components of the Theater Strategic Operation—or Theater of Strategic Military Action, to use the editor's terminology—provide details previously unavailable at the unclassified level, details which should make it clear that Soviet military planners leave nothing to chance.

This is a milestone work. It provides us with important insight into the Soviet military mind at a time in history when such information is vital to interpreting contemporary changes. Regardless of "Defensive" doctrine and the "restructuring" of the Soviet military, the Soviet military approach to planning and conducting military operations, outlined in these Voroshilov lectures, will continue to define Soviet concepts for waging war. This book will greatly assist us in understanding these concepts.

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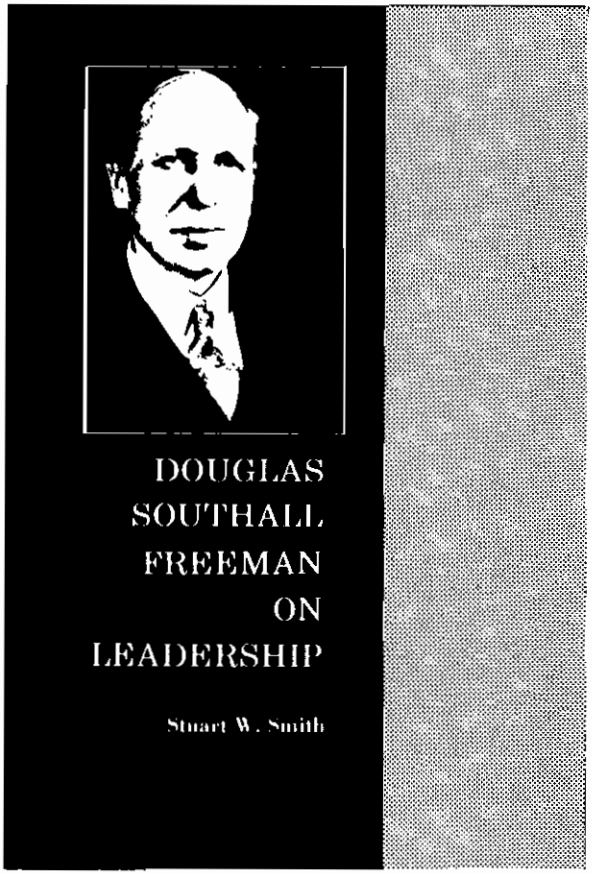

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