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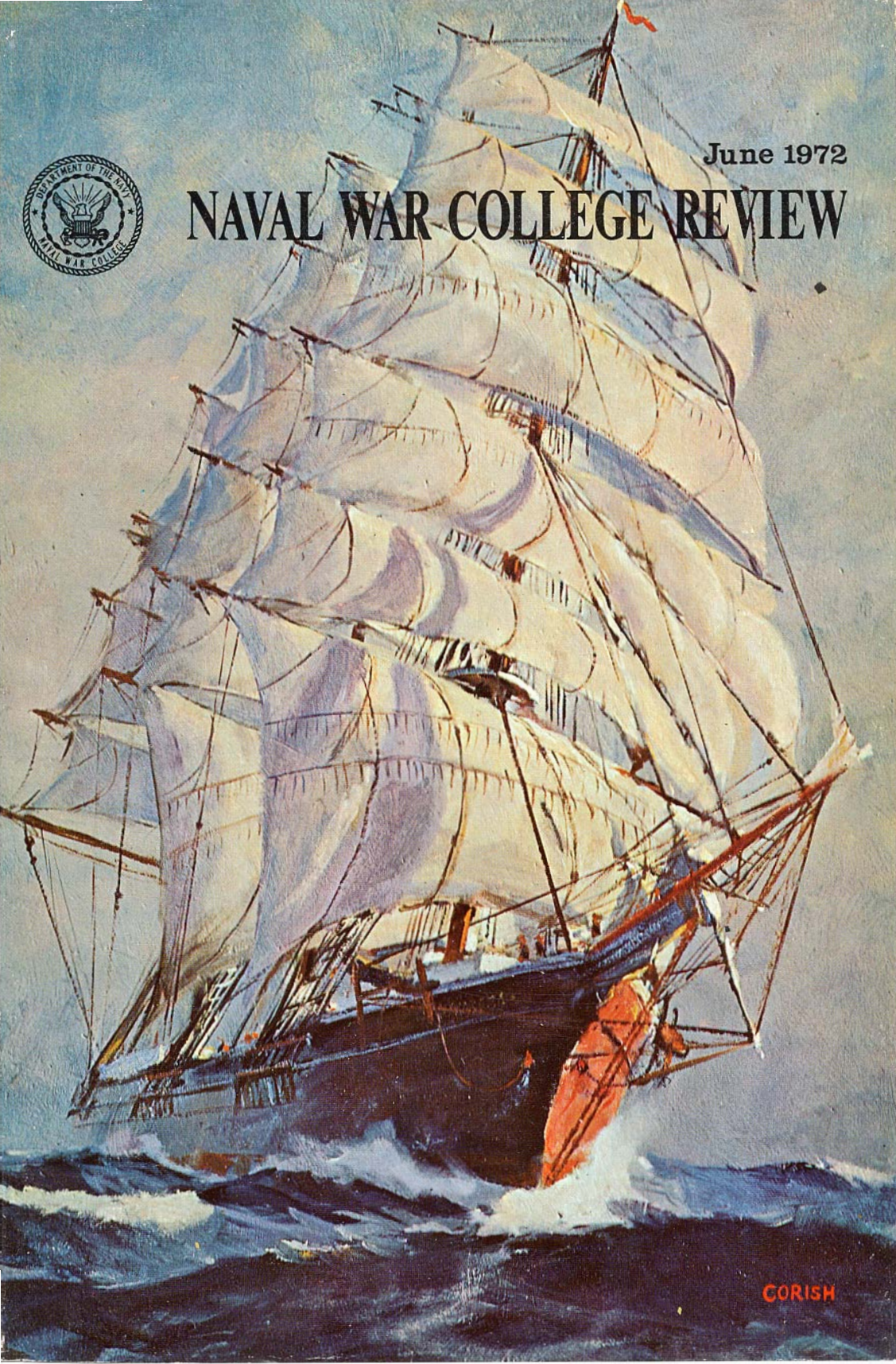
NAVAL WAR COLLEGE REVIEW



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Cover: "Good Day's Run" by Joseph R. Corish from his series on "The Golden Age of the Clipper Ship," (See the reverse side of the rear cover for the actual ship's log used for the setting of this painting). Mr. Corish is the artist in residence for the First Naval District and specializes in marine painting, sketching or painting most of the great windships that came near Boston in the last half century.

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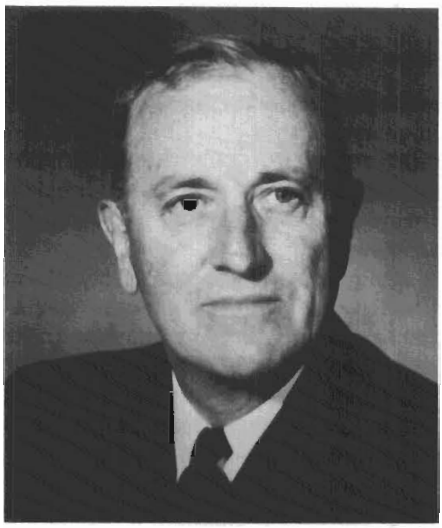
A PERSPECTIVE FOR THE 1972 GLOBAL STRATEGY DISCUSSIONS



This month the Naval War College will welcome more than a thousand participants to the 24th annual Global Strategy Discussions. The purpose of this gathering is, as always, to examine the situation facing the United States today both at home and abroad; to try to determine what our national and international objectives should be; and finally to look at ways and means of achieving those goals.

The world is in the midst of change, and our deliberations here at the Naval War College will consider these changes. The reality of new alignments among nations presents us with an atmosphere in which our discussions can have special significance. Now may be the time to redraw national strategy in order to adapt to tomorrow's world.

Most appropriately, our greatest concern in the 1972 Global Strategy Discussions will be the Navy's role today and tomorrow. But first we should examine where we have been, seeking insight into historical lessons, before analyzing where we are and where we are going.

The history of U.S. naval strategy can be roughly divided into a number of periods. The 1870's were years of studied unconcern regarding the Navy. In the 1880's there were some signs of national interest, but this naval renaissance was only tentative and relatively unambitious. By the turn of the century there were signs of genuine popular interest, especially after the stunning successes at Manila Bay and Cienfuegos, but it was short lived, and by the 1920's we relapsed once again into apathy. It was not until after 1945, however, that our Nation finally came to accept a role of truly global responsibility for our Navy.

In 1865 America's decisionmakers felt, with some justification, that the huge oceangoing and riverine fleets which had been used so successfully to literally strangle the Confederacy were no longer needed. After Appomattox, naval construction came to a virtual halt, and the vast majority of new monitors and wooden-hulled gunboats were either scrapped or simply allowed to rot at the piers. For two decades the Navy was allowed to wither to a pitifully small number of ships which patrolled distant posts, far from America's landmass and even farther from her conscious concern.

The extent of America's disinterest was exemplified in 1887 when Chief Engineer King returned from an examination of European navies to report that "All the navies of Europe have been recently undergoing reconstruction; and there has never been a time during peace when such large expenditures for naval purposes were made as at present, and such radical changes effected." Despite the implied warning in this report, Secretary of the Navy Robeson determined that the wooden-hulled sailing vessels of the U.S. Navy were "adequate for the defensive purposes of a peaceful people," because we were protected by our "dangerous coast and shallow

harbors," and because of the Atlantic Ocean which Robeson, like most of his contemporaries, viewed as a barrier rather than a highway.

Unlike Secretary Robeson, we cannot afford to live with such complacency. Although his shortsightedness did not result in disaster, this need not have been the case. Prudence would dictate that we not leave so much to chance in the future.

The first substantive renovation of U.S. naval forces came in the 1880's. In 1883 Congress passed a naval appropriations act which authorized the construction of our first modern steel-hulled ships. While these ships were unarmored and were not even remotely comparable to European vessels of that period, nevertheless they did represent a dramatic shift in attitude from the previous policy of total neglect.

Throughout the 1880's, and even in the earlier part of this century, popular American feeling toward the military centered around a vision of citizen-sailors springing to arms in time of danger, equipping their merchant ships with a few smoothbore cannon, and then sailing forth to meet the foe at sea.

Belief in the effectiveness of this traditional pattern was difficult to break down, but continuing technological changes finally forced a reevaluation—at least as far as the Navy was concerned. It was much easier for America to accept the existence of a Navy during peacetime than a standing Army. After all, a Navy was a physical presence. An Army could be created overnight—or at least so the myth went—but a Navy had to have ships afloat to which America's youth could report in case of war. The Naval Appropriations Act of 1883 provided the ships while the technology of the continuing industrial revolution provided the weaponry. Many continued to feel, however, that the men needed to man the ships could be provided in an instant. "Only let the cry for volunteers go forth, and the wharves and piers will fill with eager young Americans." But advancing technology was destroying this illusion also. New weapons and new forms of naval propulsion demanded specialists—men needed more than eagerness to run these ships. Today, of course, this is truer than ever—the increasing complexity of weapons systems makes the idea of a naval militia untenable.

The first era of U.S. naval strategy was one of formation and organization. The second was one of expansion and definition. It grew out of a continuation of changing American attitudes in the early 20th century and was catalyzed by the First World War. After 1912 *all* of America seemed to awake with startling suddenness to the fact that there was a world out there and that how it was acting had an effect on America and Americans.

This expanded outlook made our involvement in World War I a certainty. Our debut on the world stage, however, was not to have lasting effect. Lacking the benefit of sufficient practical experience, this sudden and violent intrusion into the center of world power relationships in 1917-18 was unproductive.

American policy, like the American people, reacted to the cataclysm in a state of uncomprehending shock. As historian Walter Millis wrote: "Many of the inconsistencies and seeming absurdities of the Wilsonian neutrality period may be put down to the suddenness of the surprise and to the violence with which it tore up most of the accepted concepts of the past three or four decades of international history." But, as usual, we managed to succeed despite ourselves. The American Expeditionary Force tipped the balance in favor of the Allies, and victory was secured in November of 1918. Such dramatic triumphs of nations unprepared at the outbreak of war cannot be relied upon in our modern world. Events move so much more quickly. Mobilization of

industry would occupy far too much time. Eager young Americans will not have time to spring to arms. This is where history could mislead us. One might be tempted to draw the false conclusion that even when we are not properly prepared, we are strong enough to su..nount any obstacle.

We learned a great many tactical lessons from the First World War: the tremendous potential of the submarine, the usefulness of the airplane, and the fact that convoys were more effective than single-ship patrol of sealanes. But the one great strategic lesson was missed: no nation can survive in a turbulent modern world depending primarily on friendly neighbors and a wide ocean for security.

There were a few men who argued that the United States should maintain a strong military posture in the postwar period, but they were a minority. Two years after the war, the Nation responded more readily to President Harding's call for a return to "normalcy" than to arguments for a continuation of anything that remotely smacked of military strength.

Responding to the popular mood, the United States in 1921 hosted the Washington Naval Conference to propose limits on naval construction and existing naval fleets. The details of the limitations agreement are not central to the theme of our subject, but its significance lies in the fact that it necessarily altered strategic thinking. The large wartime fleet was not to be retained. Rather, we chose to depend on the dubious security provided by international agreements.

A serious inhibition to military preparedness came in 1934 with the publication of the Nye committee reports. Their findings centered on the "merchants of death"—the munitions manufacturers. The Nye committee concluded that since many industries dependent on the production of war material had made fantastic profits during the Great War, they therefore must have been in favor of prolonging the war and of America's involvement in future wars. While the resulting popular dismay was not aimed directly at the military services, many people seemed to view the professional soldier in 1934 as an accomplice to the great industries in encouraging America to advocate military solutions. Without calling it such, the Nye committee first gave attention to the concept of the "military-industrial complex." The distrust of the military generated by these hearings led to smaller budgets and a lower profile despite efforts by President Roosevelt to upgrade preparedness.

In 1937, while the rest of the world was bracing for the conflict that was then barely over the horizon, Congress passed a strict neutrality act with a view toward immunizing the United States against the "disease of world lawlessness." National policy was based on noninvolvement. President Roosevelt tested public opinion in 1937 by announcing in Chicago a plan to quarantine nations which had been convicted of aggression by the League of Nations, an obvious reference to Japan and Italy, but the reaction was so hostile that he abandoned the plan. Whenever a military officer, honestly concerned about the trend of international events, called for preparedness, he was usually accused of desiring a war in order to further his professional ambitions.

Since a nation's strategy is really the extension of its national policy, our naval leaders were left with the only strategy that was then possible: to try to isolate the Nation—to spread what little we had as far as we could to provide whatever protection was possible. Our strategy was not global, it was parochial.

U.S. naval and other strategic planners were lifted from this dilemma rather startlingly by the December attack on Pearl Harbor in 1941.

The tactical changes wrought during

World War II were once again dramatic and meaningful, on the sea as well as on land. But the most important result of our participation was that it established the United States once and for all as a world power whether we liked it or not. Surprisingly, we seemed to like it. We even went so far as to invite the United Nations to establish itself within our territorial limits, but this role as world leader was thrust upon us more by circumstances than by our ambitions. We were the only major power that had not been touched by the war directly; Pearl Harbor was as close as the enemy ever got. It seemed clear that we should attempt to pick up the load and help the war-ravaged members of the Allies and even the Axis nations to get back on their feet.

It has only been since the Second World War that our Nation has continuously occupied center stage in the arena of international politics and global strategy. The very existence of a global strategy before World War II would have been considered superfluous. Strategy, after all, is the means for translating a nation's policy into action. And prior to 1941 we believed we had no need for global involvement. It is only since World War II that we have recognized the essentiality of global planning.

So after 1945 U.S. leaders were faced with the task of developing a world strategy. Our national interests were generally agreed: containment of Communist Russia with its gigantic army and clear intention to expand its influence as well as its territory. Our first attempt to devise a strategy to accomplish this hinged on the fact that the United States alone possessed nuclear weapons. The role of the Navy in this national strategy was minimal—the Nation's primary commitment was to the Air Force and to strategic bombing.

In 1950 we discovered that a reliance on a nuclear deterrent was not of much value when we were confronted with a ground attack in South Korea. The only alternatives we had were: (1) to bomb heavily North Korea, or (2) watch the Communists take over South Korea. We declined to do either and developed, in great haste, a conventional capability based on ground troops and a surprise amphibious landing.

The near disaster of the Korean incursion led to a reexamination of our strategic defense posture. The crises in Suez, Lebanon, and elsewhere led to a realization that massive retaliation by itself was insufficient to keep the peace and to protect our interests. Consequently the second phase in U.S. postwar strategy was based upon "flexible response." This strategy, designed to cope with situations like the Korean invasion, gave the Navy greater responsibilities. In addition to serving as a deterrent force, the Navy had to be prepared to deliver troops and material safely through protected sealanes. The new strategy was soon tested in Vietnam where we first depended on military advisers and then a steadily increasing number of ground troops to fend off Communist aggression. We seem to have gained success, but at *great* cost.

Both Korea and Vietnam have led to changes in our strategic thinking. This in turn implies that these strategies were to a certain extent either inadequate or inadequately applied in response to the challenge.

Currently we are charged with four missions for the Navy: Along with our sister services we contribute to the nuclear deterrent that is the backbone of our defense policy. We are responsible for the maintenance of "sea control." We must maintain a capability for the projection ashore of ground troops and airpower, and we maintain a physical presence abroad in the troubled and developing areas of the world.

We have not been overwhelmingly successful in performing all of these missions, and in the future our ability to carry them out will be even less than it

is today. There are reasons for this. In 1965, for example, the U.S. Navy possessed 24 aircraft carriers. Today we have but 16 and by 1980 that number could be as low as nine. But decreasing numbers of ships is only half the problem. The other half is in the fact that the Navy has been asked to perform an increased variety and number of missions with this smaller fleet.

Our generation is not the first to be presented with seemingly impossible responsibilities for inadequate naval forces, but ours is the first generation in which failure to correct this dilemma may lead to a final, national disaster.

The first goal of strategy, after all, is to achieve national objectives without tactical battles. The measure of any strategy's success is the degree to which battle becomes unnecessary. Nevertheless, a second yet vital goal remains—sound strategic thinking requires that we have our Nation's resources so disposed that if battle does come, our Nation will surely prevail.

It is with this background, then, that we will meet for the 24th annual Global Strategy Discussions. We cannot hope nor do we expect to arrive at finite, pragmatic solutions to the many problems. But we can expand our own individual thinking as to how our country can best achieve its objectives in the years ahead.

B. J. SEMMES, JR.
Vice Admiral, U.S. Navy
President, Naval War College

The phrase "the military-industrial complex" and the misgivings that it has engendered have given rise to the all too popularly held belief that America is moving gradually toward becoming a militarist state. While the size and influence of the military in the United States today is far greater than anything experienced prior to World War II, recent trends both in the United States and advanced West European societies seem to indicate a more highly restricted future role for the military. In the absence of anything less than the most hostile of Soviet or Chinese threats, the militarization of American society would appear to be a remote possibility indeed. (An adaptation of a paper that first appeared in the Seaford House Papers: 1970, Great Britain)

AMERICAN CIVIL-MILITARY RELATIONS IN THE 1980'S

Colonel Richard F. Rosser, U.S. Air Force

Introduction. A common concern in the United States is the supposed drift of American society toward militarism. Observers claim to see persuasive evidence of a foreign policy dominated by military considerations; of the Armed Forces of the United States essentially beyond the control of the people, Congress, and even the executive branch; of a major segment of American industry dependent upon the "war machine." The result of this "military-industrial complex" is a complete distortion of American priorities at a time when America's internal problems cry out for immediate attention.[1]

My theme is that such a view of civil-military relations in the United States is wrong. The drift, I will maintain, is away from militarism. It will be argued that the United States is experiencing a trend already common in other advanced nations of the West.

The factors which probably will affect American civil-military relations in the 1980's can be arbitrarily grouped under three headings: a restricted role for the military, the primacy of domestic politics, and amilitarism among the young. These factors obviously are interrelated and interdependent. For purposes of analysis, I will examine them separately.

A Restricted Role for the Military. The American soldier before World War II served mainly in the continental United States. American society considered the Armed Forces a haven for misfits and frowned on interchange between civilian and military society. Isolated on posts in the Southern and Western United States, the military turned inward.

After World War II, however, life for the American military changed dramati-

cally. The United States helped occupy the defeated Axis Powers and attempted to preserve the stability of Europe and Asia with the goal in mind of containing communism. This fundamental revolution in peacetime American defense policy brought major changes in the mission of the American Armed Forces. Most postwar soldiers could expect to serve half or more of their careers abroad. Moreover, American society respected the American serviceman. It believed that the military performed a vital function in protecting the "free world" from communism.

The Nixon Doctrine indicates that the mission of the American military may again change. Vietnam surely has been a major factor in forcing the Nation's leaders to reexamine both the limits of America's ability to influence the course of events overseas and the nature and extent of standing U.S. defense commitments abroad. Nevertheless, a reduced role for the American Armed Forces probably would have come about in any case because of certain long-range trends.

Today's threat to American security is wholly different from that perceived in the 1950's. There is no apparent danger today from monolithic communism. The Soviets and the Chinese can agree on very little, certainly not on any coordinated thrust against the West. The Soviets, moreover, are changing their tactics. They finally appear to have learned the folly of attempting to engineer revolution from afar. The Kremlin continues to aid some revolutionary groups because it competes with the Chinese People's Republic, but the U.S.S.R. obviously prefers to help anti-Western governments already in power. Indeed, the most potentially explosive conflicts today are not between the West and the Communist states, but between the two major Communist powers, Russia and China, and between Israel and the Arab world. The least likely conflict of all, provided each side respects the vital interests of the other, is a general war between the West and the Communist world.

There is danger, however, in assuming that neither the Soviet Union nor China pose any threat whatsoever, and there are signs that precisely this assumption could become an article of faith among Western political elites and electorates by the next decade. Most influential and informed West Europeans already are said to believe that the Soviets are not interested in military aggression. A sudden thrust from Russia against the United States seems even more remote. We must look to military planners, who have to assume the worst possible case, to find any serious concern over a surprise attack from the Warsaw Pact powers. Western specialists on China also claim to see little danger from the Chinese People's Republic, noting her generally restrained and defensive approach to international politics over the past several decades.

What the layman tends to forget is the cause and effect relationship between military preparedness and national security. Europe, for example, must at least partially derive her security from the very existence of NATO. Yet such an elementary fact appears to be poorly understood. A polling organization in West Germany recently found that only 7 percent of a sample group of young people could explain that NATO is an alliance which links America and Western Europe in defense against the Soviet Union. Twenty-four percent knew that NATO had something to do with defense; 52 percent had no idea what NATO was; 17 percent indulged in bizarre guesses as to its meaning.[2]

Not only the threat has changed; America's allies no longer seem to need U.S. military aid to the degree once necessary. Although Western Europe may still be several decades from political unity, the economic growth engendered by the Common Market has

already transformed Western Europe into an economic superpower of sorts. Japan, with the third largest gross national product (GNP) in the world and one of the smallest defense expenditures in relation to GNP (0.8 percent in 1969), clearly could carry a greater share of her defense burden.

As America's allies grow stronger, an understandable aversion to continued reliance on the American nuclear umbrella can easily arise. General de Gaulle was the first to carry this to its logical extreme—the development of a truly independent nuclear deterrent. It is too soon to determine whether a more closely integrated Europe or a more independent Japan will follow the same path.

Barring some dramatic reversal of Soviet or Chinese policy, American public opinion may dictate a greatly reduced American presence in Europe and Asia by the 1980's and inadvertently spur the development of independent nuclear deterrents. A Louis Harris poll commissioned by *Time* magazine in 1969 could not find a majority of Americans who would use nuclear weapons to defend any other country. The high runner was Canada, but only 17 percent would risk the use of America's nuclear armory to defend that intimate neighbor. In the case of Italy, a staunch NATO ally, 27 percent would opt for the use of American military (*not* nuclear) force, and 15 percent would offer help short of force. Thirty-seven percent would refuse to aid Italy at all, while 21 percent were not sure.[3]

The utility of conventional forces inevitably is being questioned. Perhaps the sharpest test will come if the American ground troop contribution to NATO is reduced in the next few years. Conventional forces in NATO already are officially declared to be at a minimum. Western European NATO Defense Ministers reportedly have agreed in principle on strengthening the European pillar within NATO to try to stave off or reduce the prospective American troop withdrawal. The implementation of this agreement, however, will not be easy. The West Germans have refused for political reasons even to consider increasing their NATO forces, preferring to raise their financial contribution. Britain, according to official sources in London, could supply one or two extra battalions at the most to her army on the Rhine.[4]

If it is difficult to find enthusiasm in Europe for maintaining conventional forces in 1970, it may be even more difficult in the United States by 1980. The utility of ground forces for the protection of North America will seem even less relevant than their utility in Western Europe. NATO forces in that area at least have faced Communist armies along a tangible border.

One factor may mitigate against the trend to reduce the conventional ground forces in the advanced countries of the West—the appearance of domestic violence on a large scale and the use of armies for internal security. Most armies have done similar duty sometime in their history. Nevertheless the continued need for such domestic policing actions by the army is viewed with considerable despair in advanced societies which supposedly had progressed to a state of internal harmony where even this military function might eventually be reduced.

Internal security duty may be a normal military duty in the advanced countries by the 1980's. When announcing the French Government's 1971-75 program for defense spending, President Pompidou singled out the gendarmerie for special praise—the army branch which acts as a police force in the country and includes mobile units for riot control. He indicated that there would be especially high expenditures on the gendarmerie because of "the multiplication of the burdens which are imposed on it."[5] In the United States, a Directorate of Civil Disturbance Planning and Operations now functions in

the Pentagon. In Britain, only a rash man would predict when troops could be withdrawn from Northern Ireland.

The Western military, in short, will still exist in the 1980's. The question will be their size and effectiveness. There does not seem to be any particular minimum force level for national defense in an era of declining missions.

The Primacy of Domestic Politics. A second major factor affecting civil-military relations in the United States in the 1980's probably will be the primacy of internal political, economic, and social issues in the minds of the public and the relative lack of interest in international problems. One could argue that such is the natural tendency in the political process of a democracy. The individual understandably feels strongest about those things which directly affect him: the cost of living, wages, taxes, social services, law and order. This natural tendency in politics is interrupted by war, which focuses attention on the external threat to the Nation. It also is interrupted by international crises, such as the Cuban missile confrontation in 1962.

With the end of the dramatic encounters characteristic of the cold war years, it probably was inevitable that people in the West again should think primarily about their personal well-being. In turn, this factor made the Vietnam conflict seem such an anachronism to many in the United States and Europe. They could not see a grave danger to the West of a coalition or even a Communist government in South Vietnam. The domino effect of an all-Communist Vietnam seemed an even more remote threat.

Factors other than the popularly perceived end of cold war tensions, however, impose additional urgency to the solution of domestic problems, particularly in the United States. The relatively prosperous Western nations now have the economic means to eliminate poverty in their societies. The contradiction between the economically possible and the political and social reality is becoming increasingly obvious.

Affluent democratic societies also are especially vulnerable targets for minority group girevances. In the absence of threats to national security or of internal economic crises, such groups see no reason to hold back claims on the majority for equality of political, economic, and social rights and benefits.

Elections in the Western nations are a particularly significant indicator of public concentration on domestic issues. In the British election of June 1970, the question of continuing the pullback "East of Suez" was hardly mentioned. Even the Common Market issue was ignored. This was partly because all major party leaders had agreed that Britain should join EEC. If debate had broken out on this question, it probably would have centered on the kind of impact Britain's entry into EEC would have on local food prices. The longer range political implications of joining EEC, clearly seen by political leaders, would have received little attention.

The foreign policy issue of Vietnam did play a major role in the U.S. presidential and congressional elections of 1968 but even differences over this question centered on the preferred manner of withdrawing from Vietnam—immediately or with varying degrees of "honor." No presidential aspirant suggested that this was the kind of war Americans might have to fight again in some other distant country.[6] In contrast, the question of the adequacy of the defense budget—the supposed missile gap—had played an important part in the 1960 presidential election.

The most suggestive evidence of the increasing primacy of domestic concerns in the Western democracies is found in the relative share of their national resources allocated to defense and in the manner by which they allocate that share. Because the budget and the

budgetary process are so significant, I will discuss them in some detail. I also will need to distinguish among the countries of Europe and North America in this respect because the various Western democracies are at different stages in shifting priorities from international issues to domestic issues.

Defense budgets in Western Europe appear to be determined primarily by domestic political considerations. The critical criterion is what the legislature and public will stand, not strategic need. The common yardstick is a given percentage of the gross national product. A high official of the British Ministry of Defence, for example, remarked recently that 5½ percent of the GNP of the United Kingdom was a "reasonable" figure for annual defense expenditures.[7]

This was not always so in Europe. During the two World Wars, no one in the Western democracies worried about the percentage of the GNP spent on defense. The only limit on military spending was the national capability to produce weapons. Even in the Korean war, defense expenditures in Britain rose from 7 to 10 percent of the GNP over a 2-year period.

As the memory of World War II faded and the visible threat from Soviet Russia appeared to decrease, Western European nations seemed to reach a point where domestic concerns began to take priority over military needs. Naturally political leaders were reluctant to admit that the defense of the state might have been compromised by another budget cut. They carefully assured legislators and electors that the nation was still secure. They were most convincing when a dramatic reduction in national commitments could be shown to justify an arms cut.

The primacy of internal considerations was put bluntly by Prime Minister Wilson to the House of Commons in January 1968:

> There is no military strength, whether for Britain or for our alliances, except on the basis of economic strength; and it is on this basis that we best insure the security of this country. We, therefore, intend to make to the alliances of which we are members a contribution related to our economic capability. . . .

British Defence Minister Denis Healey was especially candid about the reason for the defense cuts when he stated before the House of Commons in March 1969 that Britain had to rely on the nuclear deterrent for defense because the cost of conventional forces was too great, bringing conscription, controls on trade, catastrophe for social services, and continued economic difficulties for the whole nation. This line of thinking, however, had begun much earlier in Britain. The 1957 Defence white paper of Duncan Sandys initiated the series of defense cuts justified on the basis that Britain's economic health had to come first. That paper envisaged that the British Army would be reduced by 1962 to 165,000 men. The figure reportedly was set according to the number of men who could be recruited, given the level of pay the Treasury would support.

In France, President de Gaulle was attempting the costly luxury of going it alone by financing his nuclear deterrent at the expense of the conventional forces. The French Government never had permitted military expenditure to jeopardize investment in the social and educational field. Indeed, the deployment of the deterrent force itself was delayed after the French economic crisis of 1968. Public spending for industrial and educational reform demanded first priority. In July 1970 President Pompidou announced a 5-year program (1971-1975) for defense expenditure, promising more drastic cuts. For the first time, the French Government will spend more annually on education than on defense. By 1975 the French defense budget will be reduced to 3 percent of

the French GNP (from 5.6 percent in 1965).[8]

Perhaps the most dramatic shift in national priorities has come in Canada. Prime Minister Trudeau revealed on 3 April 1969 that his Government would withdraw all of the 10,000 Canadian troops stationed in Europe. First priority would be given to the protection of Canadian sovereignty, second to the joint defense of the North American Continent; NATO and United Nations commitments were well down the list. The defense budget would be frozen at $1.8 billion. Trudeau's decision to withdraw all Canadian troops from NATO subsequently was softened, but there was little doubt about his intention to forge ahead with the plan to cut the Canadian Armed Forces by some 15 percent in the next several years.[9]

All this is not to condemn the political leaders of the Western nations for having neglected the defense needs of their countries. On the contrary, these leaders are merely reacting to public opinion as they interpret it. Naturally, political leaders play a very important role in forming the public's image of the threat, but any Western politician who attempts to increase defense expenditures today, let alone merely maintain them at their present level, faces major roadblocks. He has great difficulty in convincing the public of a possible frontal attack by the Warsaw Pact powers on NATO. The real dangers are more subtle and thus more difficult to explain: the complexities of escalatory politics or nebulous future confrontations in the Third World.

The Western politician has a further problem. NATO has come to rely increasingly on the American nuclear deterrent for Europe's defense. Even the credibility of the French force de frappe depends, in the last analysis, on the American deterrent. How will a Western political leader in the coming decade justify even a "reasonable" percentage of his country's GNP for defense needs, particularly if these funds are to pay for conventional forces which seem to the public to be increasingly irrelevant for the defense of Europe or the North American Continent? A given percentage of a GNP for defense expenditure is hardly sacrosanct. Indeed, France is not the only NATO country which is gradually decreasing the percentage of its GNP spent on defense.[10]

The ratio between defense expenditure and GNP, of course, is hardly an exact guide. The actual amount spent on defense can increase although the percentage of GNP declines where an economy is experiencing high economic growth. Western Germany in 1963 spent almost 22 billion deutschemarks (DM) on defense, 6.7 percent of her GNP; in 1969 defense expenditures rose to almost 24 billion DM, 4.7 percent of GNP.[11] Nevertheless, there would seem to be a danger in the increasing tendency to think of defense expenditure primarily in terms of a percentage of a nation's GNP. An appropriate defense effort can be soundly constructed only if it is based on a fairly realistic assessment of present and future threats to national security.

The defense budget in the United States is not yet subordinated to domestic political or economic considerations, but there are signs that this may come about long before 1980. Such a development has been retarded by a number of factors: the great economic wealth of the United States and the relatively light strain on the U.S. economy of defense expenditures during the postwar years; the leading role of the United States in the non-Communist world and the dependence of this sector on the American deterrent; the preoccupation of leading American political figures in the executive branch and Congress with the Communist threat or international politics (witness John F. Kennedy's lack of action on civil rights until militant Blacks forced the issue); and finally, the

involvement in Vietnam in the latter part of the 1960's.

The military, on the other hand, hardly were given a blank check. The growing costs of weapon systems in the 1950's, especially systems for nuclear deterrence, meant that some limit had to be placed on defense spending. This need was buttressed by the philosophical political principles of the new Republican administration in 1952—pledged to reduce expenditures, lower taxes, and balance the budget.[12]

Secretary of Defense McNamara introduced the major revolution in defense budgeting in the early 1960's. For the first time, the services had to relate their force structures to specific foreign policy objectives. The capabilities of Polaris submarines were compared directly with land-based ICBM's and bomber aircraft. The Secretary of Defense then selected those systems which were politically and economically feasible.[13]

Yet the new budgetary approach did not lead to lower defense expenditures. President Kennedy found that the Eisenhower administration had continued to place all of its eggs in the nuclear basket: the basic defense plans rested on the assumption of total nuclear war. Conventional weapons and ground forces were at a dangerously low level. Kennedy was told a few weeks after his inauguration that 10,000 men dispatched to Southeast Asia would deplete the strategic reserve. His administration went to Congress in March 1961 with a request to raise the defense budget. "Flexible response" was to replace "massive retaliation."[14]

The defense budget and the Armed Forces expanded greatly after 1965 to meet the costs of the Vietnam war (from 8 percent of the GNP in 1965 to 9.2 percent in 1968). This expansion of the military budget to pay for probably the most unpopular war in American history triggered the first serious debate in the United States since World War II about foreign and domestic priorities. Fuel was thrown on the fire with the signs of a new and extremely costly escalation of the strategic arms race, specifically the proposal to install an ABM system. America's internal problems with her cities, her Black minority, poverty, crime, and education also appeared to be reaching a crisis stage. These pressures coincided with President Nixon's election in 1968.

The Nixon administration seems to have abandoned McNamara's search for a "rational" calculation of the proper level of defense spending. The defense budget ceiling is now determined by calculating the expected revenue and subtracting the money needed for necessary domestic programs. This resulted in a planned $5 billion reduction in defense expenditures for 1971, primarily by cutting manpower and weapons for the conventional forces. Contingency planning in the Pentagon will be based on maintaining a capability to fight one and one-half wars at any given moment, rather than two and one-half wars (McNamara's famous planning figure). The goal for the deterrent forces will be nuclear sufficiency rather than parity or superiority.

Defense planning also runs up against stubborn domestic problems such as inflation and the pressure to end the draft. The President's target for 1972 appeared to be a $70 billion defense budget, 7 billion less than the estimate for 1970, and 10 billion less than the Vietnam high. When the budget actually went to Congress, it was around 75 billion. Eight hundred million was added to the 7 billion research and development budget for new weapons, but most of the increase went for soaring manpower costs, while the general decline continued in the number of ships, planes, and men in the Armed Forces.

Pentagon sources expect the Armed Forces to be cut further to 2.4 million men by the end of this fiscal year, over

1 million below the 1969 strength of 3.45 million. This probably would involve the deactivation of as many as six Army divisions—the quickest way to save $½ billion a year is to retire a division. The deactivation in turn would require the pullout of at least one division from South Korea and two or more from Europe.[15] The Navy could lose three of its aircraft carriers, the Air Force some of its B-52 bombers and at least a third of its tactical aircraft. Scores of overseas bases would be closed. The overall force levels would be 250,000 men below the pre-Vietnam strength; in effect, the force levels at the end of the Eisenhower administration. To offset cuts in general purpose forces, President Nixon is expected to propose modest additions to the strategic deterrent—presently costing about $9 billion a year. A Pentagon budget expert has estimated that this austere cutback in the Armed Forces nevertheless would result in a "rockbottom" defense budget of $61 billion. He suggested that the actual cost by 1975 would be about 70 billion, given current inflationary pressures.[16]

A major reduction of this scale in defense spending, however, may not satisfy the growing group of congressional critics of the military and of the "military-industrial complex." This group is a new phenomenon in postwar American politics and probably will play a highly significant role in American defense policy in the next decade. As such, it is important to investigate its origins.

The executive branch initiated budgetary cuts for the Armed Forces in the first two decades after World War II. There was no significant congressional pressure for lowering the military budget and no critical scrutiny of weapons programs. Legislators considered such questions highly technical, and national security seemed clearly at stake.

The rise of serious congressional criticism of the defense budget in the later 1960's resulted from a number of factors, including the attempt to redefine America's role in the world as a result of the frustration of Vietnam as well as certain long-range trends—i.e., the economic growth of Western Europe and Japan, the increasing severity of America's internal problems and an awareness of their existence. There have been additional factors which have not been as widely recognized. The Vietnam war, for example, severely tarnished the prestige of the American military. They were charged with inefficiency, indecisiveness, "body count" psychology, brutality, and heavyhanded methods in dealing with conscientious objectors and dissenters within the services.[17]

The military was even challenged on questions of tactics, a subject on which they should be the recognized experts. Some observers, basically sympathetic to the military, claimed that the Armed Forces did not understand the essential nature of the Vietnam war itself.[18] Other recent events have not helped the military image: a congressional report characterized the North Korean capture of the *Pueblo* as the product of a bureaucratic structure that had grown so vast and complex that it was unable to respond swiftly to a major crisis.

Criticism of the military extended to the civilian leadership of the Department of Defense. Former Secretary of Defense McNamara's overly optimistic judgments in the middle 1960's on the probable course of the Vietnam war were ridiculed, as was his managerial streamlining of the Department of Defense. Forty-five Congressmen published a report in 1969 demanding that Congress reassert control over the "military bureaucracy" and blaming McNamara's rationalization of the defense structure in part for what they consider the undue influence of the military in American society. The former Secretary declared that he had lost only 2 percent of his battles with the military-industrial complex, but antimilitarists saw only

that the Armed Forces were far stronger and better financed than they had been in 1960.[19]

Equally damaging to the image of all military and civilian members of the Department of Defense and of the defense industries have been investigations into contracting and procurement practices. Senator Proxmire's subcommittee on "Economy in Government" charged that the C-5A was costing some $2 billion more than originally estimated. Proxmire claimed that it was a normal practice for most major weapons systems to cost at least twice their original estimate.[20]

It is hard to escape the conclusion that American defense expenditures increasingly will be determined by general economic considerations and will come into competition with what are thought to be equally compelling, if not overriding, domestic needs. The American military is entering an era experienced by the military of other Western nations for a decade or more.

There is a final development which underlies all that I have been saying about the primacy of domestic politics and which may have profound implications for the future conduct of foreign and defense policy by the Western democracies. For the first time in recorded history, the essential monopoly of the elites on the formulation of foreign and defense policy is being seriously challenged. The mature industrial states were democratized in theory during the 19th and early 20th centuries; today they are being democratized in fact. Populations are becoming mobilized politically as a result of mass education, universal and rapid communication, leisure to consider political questions, and, most of all, a feeling of competence to handle such questions.

The elites of the past, largely through their control of the socialization process, were able to indoctrinate young and old with the desired foreign and defense policy goals. The careful attention now given by the American Presidency and Congress to public rumblings regarding Vietnam shows dramatically that the attempts of the policymaking elites to form public opinion face increasing difficulty. The British Government of 1956 perhaps had a taste of the new phenomenon of an aroused public over Suez; the French Government faced the phenomenon over Algeria. Today, the lack of the credibility of the Soviet threat in the eyes of Western Europeans certainly has an impact on the ability of Western European leaders to maintain their NATO contributions.[21]

We are not yet at the point where every voter has an intelligent and informed opinion about all issues. There are also exceedingly difficult mechanical problems in translating public opinion into any kind of useful and accurate guide for policymakers. Nevertheless, the impact of a potentially concerned and mobilized public on policy implementation should be carefully considered by a Western statesman before he commits his nation in the future to a foreign venture which might prove unpopular. He almost certainly will be more selective about the use of military power, at home as well as abroad. He will be particularly wary of expensive weapons systems, which tend to multiply in cost with every technological generation. The danger is that mobilized public opinion may frustrate foreign and defense policy decisions which, though unpopular, are important to national security. Increased interest by an informed public may not always be in the public interest. De Tocqueville wrote long ago about the American experiment: "Foreign politics demand scarcely any of those qualities which are peculiar to a democracy; they require, on the contrary, the perfect use of almost all those in which it is deficient."[22]

Amilitarism among the Young. The third major factor which will affect

civil-military relations in the United States in the 1980's is the attitude of contemporary youth toward the military in general, the military as a profession, the concept of military service, the use of force in international relations, in effect, toward those concepts summarized in the West Point code of behavior—"Duty, honor, country." I will crudely characterize the predominant attitude of American youth toward the military in the next decade as amilitarism, which I define as an apathetic view of the military and all things connected with it.

The current attitude of many American young people toward the military is not usually described as amilitaristic. We generally see the phrase antimilitarism used in conjunction with the student movement, and there is no doubt this attitude exists. The young men who have made the headlines by burning draft cards, storming the Pentagon, and distributing underground newspapers on Army posts are not indifferent to the military.

Because antimilitarism has occurred earlier in this century, the older generation in America tends to brush it off as transitory. This is largely true. Antimilitarism is never static. It seems to vary directly in the West with a high rate of technological advance and sociological upheaval; the unpopularity of functions performed by the Armed Forces externally and internally; and the size and expense of the Military Establishment. Starting from these assumptions, the United States qualifies as the society experiencing the greatest degree of antimilitarism today.

But the vital question is what replaces antimilitarism when the above variables change, when antimilitarism is defused as it probably will be in the United States after Vietnam. Here we must draw on the experiences of the other advanced Western nations. They appear to be over the hump as far as violent antimilitarism is concerned. They largely avoided or defused it earlier by reducing their armed forces, by opting for a volunteer army in Britain and Canada, and by eliminating unpopular foreign commitments. Increasing use of armies for internal security may counteract this earlier achievement. Moreover, these societies have not yet caught up with the United States in regard to the state of social and technological change. Yet that antimilitarism which did exist seems to have been replaced by amilitarism among the youth.

Amilitarism among young people, of course, makes it particularly difficult to recruit for the armed forces. If a nation has universal military training or selective service, it will find sufficient young men, but at the same time it may induct into its ranks amilitarism, which can quickly change to antimilitarism under the proper circumstances. On the other hand, if the same nation opts for a volunteer armed force, amilitarism may make a successful recruiting campaign difficult, if not impossible.

There still is too little known about the attitudes toward the military of the various social, educational, and racial groupings among American youth to determine whether antimilitarism is being displaced by amilitarism. We are dealing with a complex phenomenon in a complex society. Strains of antimilitarism, amilitarism, and promilitarism exist side by side among White and Black youth, college-educated men and high school dropouts, sons of middle-class parents and of "hard-hats." Despite these uncertainties, I suggest that amilitarism will become dominant by the next decade in the United States for several reasons.

The most fundamental long-range trend in the West, as a whole, affecting the attitudes of contemporary youth toward the military is the extraordinary rate of change in the 20th century. Any major change in a society—war, revolution, economic depression—places a

great strain on traditional customs and mores, and no century has witnessed such upheavals as our own. These social changes have been compounded by the unprecedented developments in technology and their impact on the economic system, the political structure, and all aspects of society.

The cumulative effect of these changes is potentially revolutionary for they challenge the very nature of authority and the "establishment." The leaders of political, religious, educational, and economic institutions are under pressure not just to make changes, but to explain why their rule should be considered legitimate. The armed forces, as the ultimate protector of the established order in the advanced West, inevitably is called into question. How could it have been otherwise? The American Armed Forces, as noted earlier, are now labeled unnecessary, brutal, inhuman, irresponsible, wasteful, and, at the very least, inefficient.

The leaders of the fight for social change in the United States come from all strata and age groups, but most of all from the college youth.[23] Their generation is the first to have felt the full impact of accumulated change in the postindustrial society. They are affluent students, supported by affluent parents or state scholarships, with time to think and demonstrate; they have learned how to dramatize their cause. Columbia University's president-elect William J. McGill testified before the President's Commission on Campus Unrest in August 1970 that as many as 50 percent of all collegians now belong to an "alienated culture, hostile to science and technology, which is growing at a very rapid pace."[24] Most of the alienated students, incidentally, appear to be studying in the liberal arts.

While America's college population does not represent all American youth, a higher percentage of young people go to college in the United States than in any other country. Perhaps 40 percent of those of college age, some 7 million, enter institutions of higher learning. Almost all future political and business leaders will have gone to a university, and, by requirement of the Armed Forces, most officers. (The military academies, 4-year degree granting institutions, must be counted as universities in this respect.)

It has been suggested that the students pressing for change are largely the children of left or liberal parents.[25] Yet a significant number of the young people who now question the system and, in particular, the Vietnam war and its relationship to the system come from impeccable WASP establishment backgrounds. After talking with his children, conservative Secretary of the Interior Walter J. Hickel wrote a famous letter to President Nixon pleading for more understanding of the antiwar attitudes of the young. Ohio Republican Senator William B. Saxbe viewed most antiwar dissenters as "crazies" until he received a jolting letter in June 1970 from his "most conservative" son, a Marine lieutenant, asking his father to help end "a war that is contrary to everything I've been taught to believe about America."[26]

The actual number of true radicals in the college population espousing violent change is very small, perhaps no more than 1 or 2 percent of college students. The striking thing, however, is the large number of students opting for a withdrawal from Vietnam, a reordering of national priorities, and a change in life style.

Much has been made in the last few months, of course, about the relative quiet on college campuses. However, this calm should not be misinterpreted. While there has been a massive reaction against the use of violence to effect change, recent opinion polls suggest that students are even more uneasy and worried about society in 1971 than in 1970. More believe we have a sick America on our hands; only a handful

believe our national policies will lead to peace or economic well-being.

Of special interest to this study, students are even more concerned about Vietnam, still the number one indication in their minds that the American political system is not working properly. As a result, students are becoming increasingly pacifistic in their outlook; there is a marked trend toward rejecting force as an instrument of policy for almost any reason. Understandably, patriotism as a personal value is decreasing.

We have yet to discuss the students concentrated in the engineering sciences, medicine, agriculture, and other technical fields who are not "turned off" by the establishment. This group, together with the blue-collar children who go straight from high school to work or to the service, makes up some 80 percent of their generation. This majority tends to follow parental politics. Yet it is hardly quiescent, joining the disaffected college group in diverging from parental guidelines on hair, dress, and drugs.

Here we turn to the central problem of this section: what will be the impact of young people's attitude toward the military on Armed Forces recruiting in the 1980's? I will examine this question with the assumption that the present system of selective military service (the "draft") will be phased out sometime in the 1970's. The Armed Forces then will rely completely on volunteers.

Establishment college youth may provide a sufficient reservoir of officer manpower. Military recruiters seem to think so, balancing the loss of Reserve Officer Training Corps (ROTC) units at prestigious Ivy League universities with the establishment of new ROTC units at other schools and the recent increase in the number of scholarships being offered to attract more young men into the program. The critical imponderable is what happens to this major source of officer recruitment if a volunteer army becomes a reality.

Young men appear to join ROTC primarily so that they may avoid the draft and finish college and later serve as officers rather than as enlisted men. This motivation is graphically demonstrated by the small percentage of ROTC graduates who continue in the service after their initial obligation.[27] A somewhat higher percentage of officers from the various officer candidate schools, the second most important commissioning source, remain in the service. A majority of academy graduates remain, but even that percentage may be declining. Moreover, the academies provided less than 5 percent of the new officers entering the services in 1970 (2,300 out of 58,000).

There is a further question, rarely asked, about officer recruiting in the absence of the draft: what kind of young men will volunteer for the officer ranks? Certainly there would not be the broad spectrum now in the service. We just have noted the loss of ROTC units at Ivy League schools and the disaffection of the liberal arts students from the establishment. In short, there is the prospect of an officer corps increasingly unrepresentative of society as a whole. I am not concerned, however, with the supposed danger of an isolated "military caste" backed by an out-of-control military-industrial-complex.[28] The problem is that a modern armed force needs highly intelligent officers with training in all the disciplines. Moreover, the military would seem to have much more sympathetic support for its needs if it is broadly representative of society.

The recruiting situation where enlisted men are concerned is even less encouraging. Draftees comprise only 20 percent to 25 percent of the Army's strength, but Pentagon studies show that 38 percent of the enlistees in all the services would not have volunteered without the pressure of the draft. The Air Force, for example, admits that it

has had young men with high IQ's waiting in line to volunteer in order to avoid the Army.[29]

How then do we man the Armed Forces and procure the right kind of personnel? The President's Commission on an All-Volunteer Armed Force, the Gates Commission, believes the primary answer to be better pay, especially for first-term officers and enlisted men. However, there is considerable doubt as to whether a mere pay raise is sufficient inducement to procure the required numbers of men with the proper skills and to keep them in the service after their initial commitment. For in the coming decade the United States will see the further development of trends which will make even the young man who is essentially promilitary think twice before joining the Armed Forces, regardless of pay.

I described one of these trends in the first section of this paper—the declining world role for the American military. The American Armed Forces have yet to enter the era of a drastically altered mission. Yet we can gain some idea of the impact of the change in the nature and scope of an Armed Forces' mission or recruiting by noting the British experience.

Young British gentlemen in former years joined the army or its colonial offshoots for travel, excitement, leisure, sport, congenial companionship. Many thought that this was the only way of life, coming from families where military service was hereditary.[30] The lure of adventure in distant lands was a powerful motivation for enlistment—not service in Britain. Even the enlisted ranks, largely composed of Irish peasants and urban poor, must have been attempting to escape a confining environment at home.[31]

Life for a British soldier today is quite different. He probably will spend most of his career in Europe, primarily in his home country. Unfortunately, the densely populated areas of Europe are not conducive to active soldiering. Moreover, the standard of living in Britain of the Officer corps in particular is considerably below that which had been typical of imperial postings. The British soldier is part of a deterrent force which we all hope will never be used, but what happens to armies when they never fight? The populace begins to question whether they are really necessary, and a young man inevitably asks whether service in the armed forces is worthwhile. He may see "combat" but only in performing internal security duty, but there is no more distasteful and frustrating assignment for a military man in Western society. This is not the enemy he expected.[32]

The changing role of the armed forces in major Western industrial societies such as Britain undoubtedly is having an effect on recruiting. Boys who once joined the British Army to see the Middle East, says one British schoolmaster, now go into middle management. They believe that they can see more of the world with an oil company than with the army. Others suspect that the recruiting problem has deeper roots. A public schoolteacher who has been closely associated with the British military academy at Sandhurst and officer recruiting in general comments:

> There is a general failing among boys to appreciate why we need an army, a feeling that "the army is not for me." They are searching for something which they feel is more purposeful, rather than what seems to many to be a negative, unproductive policing job at the present time.[33]

There is a second trend which will make the services less attractive. I refer to the increasing contrast between life in the military and life as a civilian in the mature industrial state. A man can be patriotic, satisfied with the pay, and still not enlist or extend because of the relative hardship of life in the military

compared with a similar job in the civilian economy.

Polaris nuclear submarine officers are a case in point. They are handpicked, highly trained, and motivated seamen. Yet such men are leaving the service in increasing numbers.[34] In the U.S. Navy they spend 60 days underwater, then 90 days in port–60 of these 90 days involve intensive training. Many officers have been assigned to submarine sea duty for up to 17 years. If they leave the Navy and join private industry, they earn more money, spend every night with their families, and still are doing a task which is considered a service to the community.

The contrast between other jobs in the civilian and military communities may not be as great, but it is there, for there are relatively few jobs left in a modern military organization which are completely unskilled or lack a civilian equivalent. The services need computer programers, missile repairmen, electronic technicians, jet engine mechanics, pilots–the list of skilled occupations is almost endless. Advanced societies have an equal need for such valuable skills and soon will probably offer 35-hour working weeks with considerably higher pay for almost exactly the same kind of work. The former enlisted man is particularly relieved to be through with the "Mickey Mouse" annoyances of KP, reveille, barracks life, and inspections.[35]

A third trend militating against recruiting for the enlisted ranks is hard to quantify, but definitely exists. Societal values are shifting in the United States toward increased individualism, equality, and cultural and educational uniformity. The average young recruit entering the service today is likely to be at least a high school graduate, expecting to earn $600 to $800 a month and have his own car in civilian life; a decade ago he rarely would have graduated from high school, and his earning expectations were much more modest. Yet this young man still goes through the traditional derogatory and harsh recruit indoctrination procedures.[36]

The significance of the egalitarian ethic for the enlisted man does not necessarily diminish after basic training. Indeed, it may grow as he comes into closer contact with the officer ranks. Based on personal experience, I can testify that a considerable number of enlisted men no longer accept the Armed Forces' definition of an officer. They do not believe a college education is a sufficient distinction, since many enlisted men have or gain a college education while in service. (Enlisted men who enter the service with college degrees are primarily draftees.) Air Force enlisted men, moreover, do not believe that a pilot is automatically qualified to be an officer. It may be that in many service specialties the traditional distinction between officer and enlisted man is no longer relevant and, indeed, is a needless irritant. Discipline and rank certainly must be maintained, but there could be equal opportunity for all to advance through the ranks. Police forces have operated on this principle for decades.[37]

The officer structure itself is no longer free from the egalitarian trend in American society. The "Concerned Officers' Movement," consisting of active duty junior officers mainly educated in northeastern schools, has made national headlines by speaking out against the war in Vietnam. The leaders of this movement initially were considered to be excellent young naval officers with impeccable academic and military records in ROTC or officers candidate school. One of these men commented, "The Navy has no questioning, and I'd just spent four years questioning things." Establishment youth cannot totally escape wondering about the "system" while at a university. What is more natural than to question the first organization they join–the military.[38]

A fourth trend in the advanced societies, the nature of the individual's

commitment to the organization, similarly has a major impact on both the officer and enlisted ranks. In mature Western societies an individual with a skill is highly mobile. He does not feel the same degree of loyalty as did his father to a given company, industrial concern, or educational institution. The professional man supposedly is loyal to at least his profession, but even this may be breaking down. Medical doctors, for example, are charged with having forgotten their Hippocratic oath; professors, their students.

This trend finds its inevitable reflection in the service. Older officers cannot understand why younger officers are not philosophically and psychologically committed to a 30-year career when they receive their commission. In part, military professionalism, like professionalism in other areas, is weakening. Why should an officer make sacrifices for an ideal, a young captain asks, when few others in society are prepared to forego the good life?[39]

Perhaps the biggest challenge to the concept of military professionalism is the need for specialization in all ranks. Young men in the service increasingly think of themselves as meteorologists, economists, electrical engineers, political scientists, nuclear physicists. If they have a commitment, it is primarily to their particular profession or discipline and secondarily to the military profession.[40]

The officer today with a professional skill may be most concerned about his opportunities to practice his particular specialty and to advance in that specialty. He will stay in the service if he considers that his opportunities in this regard are equal or better than in the civilian community. To put it bluntly, his basic question is what can the organization offer him, not what can he offer the organization.[41]

The American soldier is much better off today in regard to pay, training, and living conditions than his predecessors, but the attractiveness of his job always is relative to what the greater society offers. The Armed Forces demand a degree of commitment, professionalism, sacrifice, and hardship which increasingly diverges from that demanded by other sectors of an advanced democratic society. Above all, he will be asked in the coming decades to accomplish tasks which probably will be both more difficult and less popular.

Conclusion. The dangers of prediction are well known, especially when forecasting political and social trends in society. Alfred Vagts wrote some years ago that we all would soon live in militarist societies; Harold Lasswell foresaw that we would move toward the garrison state. I am attempting to demonstrate that this has not happened and will be even less probable in the advanced democratic societies of the West, specifically the United States, by the next decade. Instead of militarism, these states may be entering an era of "civilianism."[42]

BIOGRAPHIC SUMMARY

Col. Richard F. Rosser, U.S. Air Force, did his undergraduate work at Ohio Wesleyan University, earned a master's degree and doctorate in political science from Syracuse University, and is a graduate of the British Imperial Defence College. He has been a member of the Department of Political Science at the U.S. Air Force Academy since 1959, and before his appointment as Head of the Department (1967), he served as Chairman of Instruction for courses in political theory and as Director of the Graduate Program in international affairs. Colonel Rosser has lectured at numerous U.S. and foreign service colleges, has published widely on subjects dealing with Soviet foreign policy and U.S. security matters, and is currently preparing a book on Soviet involvement in Southeast Asia.

I amy be wrong. Certain of the trends I describe could be reversed or modified. For example, changes in leadership in the Soviet Union or China could lead to much more bellicose policies against the West. If the threat were clear, the worst days of the cold war might be repeated. There also could be changes in the internal political climate in the United States. The so-called "silent majority" might find its voice. On the other hand, I am not sure exactly what it would say. An emphasis on law and order internally would not necessarily lead to more money for the Armed Forces.

If "civilianism" does come to prevail, I will not quarrel with such a state provided the timing is right. Like most professional soldiers, I hope that the military eventually will become an anachronism. My concern is that Western societies may downgrade the necessity of having to rely on force before such action is warranted. For there is no indication yet that national security in the last analysis can depend on other than national defense forces and solidly constructed alliances.

Once a society begins to downgrade its armed forces, a descending spiral seems to take hold. As the military falls more and more into disfavor, it is only natural that fewer good men will enter the service. The fewer good men in the military, the more derogatory the opinion of the public about the armed forces, and the less money appropriated. At some point the spiral will stop. Few in the West are ready for unilateral disarmament. The unanswerable question is whether the resulting armed force will be sufficient to support a society's foreign and defense policy. For it is doubtful whether any general war in the future between the major powers will permit leisurely mobilization. Even minor crises between major powers require forces in being, and an armed force once torn asunder is not easily or quickly rebuilt in the last decades of the 20th century.

FOOTNOTES

1. The term "militarism" is used with considerable imprecision today, partly because it has meanings on a variety of levels—regarding foreign policy, societal value systems, style of life, an elevated status for certain occupational groups. I will use it to mean primarily the predominance of military over civilian factors in the internal and external relations of a society.

2. *The Baltimore Sun*, 30 August 1970.

3. "The Limits of Commitment," *Time*, 2 May 1969. It could be argued that Senator Mansfield's resolution to withdraw part of the American troops in Europe reflects an optimistic view of the commitment to defend Europe felt by the American people.

4. *The Daily Telegraph*, 2 October 1970.

5. "French Put Education Before Defence," *The Times* (London), 30 July 1970, p. 4:1.

6. Forty percent of the electorate cited Vietnam as the most important problem facing the Government on the eve of the presidential election. Black voters when taken alone, however, cited civil rights as the paramount issue. The other major issues for the white majority were "the racial crisis" and "law and order." Philip E. Converse, et al., "Continuity and Change in American Politics: Parties and Issues in the 1968 Election," *The American Political Science Review*, December 1969, p. 1086-1090.

7. The Labour government had announced its intention to reduce this to 5 percent by 1972-73. Mr. Healey, speaking in the House of Commons, March 1969, "British Defense Eggs Go in Nuclear Basket," *Christian Science Monitor*, 8 March 1969, p. 11:1.

8. "French Put Education Before Defence."

9. Hilary Brigstocke, "New Minister Seeks to Allay Doubts on Canadian Defence," *The Times* (London), 29 September 1970, p. 8:1.

10. From 1965 to 1969 Britain decreased her defense expenditures from 6.3 to 5.1; West Germany from 4.4 to 3.5; Italy from 3.4 to 2.9; Canada from 3.2 to 2.5. See Institute for Strategic Studies, *The Military Balance 1969-1970* (London: 1969); and Institute for Strategic Studies, *The Military Balance 1970-1971* (London: 1970).

11. "White Paper 1970 on the Security of the Federal Republic of Germany and on the State of the German Federal Armed Forces," Federal Minister of Defence, p. 188.

12. Arthur M. Schlesinger, Jr., talks about the "antique fiscal views" of President Eisenhower's Secretary of the Treasury George Humphrey. See Schlesinger's *A Thousand Days* (Cambridge: Houghton Mifflin, 1965), p. 317.

t3. See Charles J. Hitch, *Decision-Making for Defense* (Berkeley: University of California Press, 1965) for a comparison of the new methods with the old.

14. Schlesinger, p. 315-316. Critics, of course, had pointed out much earlier the difficulty of applying "massive retaliation" and thus of making it credible.

15. Vice President Agnew reportedly warned South Korea's President Park in August 1970 that all U.S. forces would be withdrawn from South Korea when that country's modernization of its armed forces had been completed—possibly within 5 years. An Associated Press story in the *Stars and Stripes*, 27 August 1970.

16. See Lloyd Norman, "The Quiet Tiger," *Army Magazine*, March 1970, for an excellent analysis of the Nixon administration's defense planning for the next several years. It should be noted that the above planning figures include no allowance for military pay reforms, mandatory if the proposal for the all-volunteer army is to be implemented.

17. Compare these charges with similar criticisms leveled against the French Army for its conduct of the war in Indochina, and especially Algeria.

18. See Herman Kahn, et al., *Can We Win in Vietnam?* (New York: Praeger, 1968). Also, Robert Thompson, "What Went Wrong? The Failure of American Strategy in Vietnam," *Interplay*, April 1969.

19. Anthony Hartley, "Anti-militarism Can Be Too Much of a Good Thing," *The New York Times Magazine*, 19 October 1969, p. 137.

20. See William Proxmire, *Report from Wasteland* (New York: Praeger, 1970).

21. On the process of democratization in the mature industrial states, see Karl de Schweinitz, Jr., "Growth, Development, and Political Modernization," *World Politics*, July 1970, p. 518-540.

22. Alexis de Tocqueville, *Democracy in America* (New York: Knopf, 1960), v. I, p. 234.

23. James A. Johnson notes, for example, that the greatest number of isolationists today in the United States are in the under-30 generation. Although in no sense xenophobic and unsympathetic to the problems of foreign countries, they believe the United States would be better off tending to its more immediate domestic problems. See his article, "The New Generation of Isolationists," *Foreign Affairs*, October 1970, p. 137-146.

24. Quoted in "When the Young Teach and the Old Learn," *Time*, 17 August 1970.

25. Seymour M. Lipset, "American Student Activism," P3893 (Santa Monica, Calif.: Rand, July 1968).

26. Quoted in "When the Young Teach and the Old Learn," p. 36.

27. Only 11 percent of the Army ROTC-source officers extended beyond their minimum obligation in 1970; 27 percent of Regular Navy ROTC-source officers; 38 percent of Air Force ROTC-source officers. Moreover, the retention rate for each service appears to be steadily declining. In 1961 the Army retained 32 percent of a comparable group, in 1965, 21 percent. Brooks Nihart, "Why Junior Officers Get Out," *Armed Forces Journal*, 3 August 1970, p. 22-24, 30.

28. This disturbing possibility is argued in an article by Blair Clark (Senator Eugene McCarthy's national campaign manager in 1968), "The Question Is What Kind of Army?" *Harper's*, September 1969, p. 80-83.

29. "Can 'Volunteer Army' End the Draft?" *U.S. News & World Report*, 9 March 1970, p. 43.

30. See C.B. Otley, "Militarism and the Social Affiliations of the British Army Elite," Jacques Van Doorn, ed., *Armed Forces and Society* (The Hague: Mouton, 1968), p. 105. Cf. Correlli Barnett, *Britain and Her Army* (London: Penguin Press, 1970), p. 343-346 and 410-413.

31. Barnett, p. 240-242, 280-282, 429.

32. The desire of most career military men to be doing what they are trained for is a motivation often unappreciated. British recruiters have found, for example, that one variable which seems to have an immediate and beneficial impact on recruiting is for the British forces to be in action. Moreover, any kind of action ups the recruiting numbers—even duty in Ulster. Canadian officers have told me that a considerable number of young men who in other times would have joined the Canadian Army have enlisted in the U.S. Army to see battle in Vietnam.

33. Henry Stanhope, "Shortfall in Sandhurst Recruiting," *The Times* (London) 21 September 1970, p. 2:4.

34. The retention goal for nuclear submarine officers is 62 percent. The rate has fallen from 75 percent in 1966 to a projected figure for 1980 of 36 percent. The seriousness of this problem is demonstrated by the unprecedented bonus of $15,000 the Navy gives promising Polaris officers with 8 years of service who volunteer to remain on duty for an additional 4-year period.

35. See, in particular, the excellent study by Harold Wool, *The Military Specialist* (Baltimore: Johns Hopkins Press, 1968). By 1974 only 10 percent of the enlisted men in the U.S. Armed Forces will be in ground combat jobs; significantly, 11 percent will be in electronics; 17 percent in other technical jobs; 18 percent in administration; 24 percent will be mechanics; 7 percent will be craftsmen, et cetera. Data from the Gates Commission Report, p. 44, based in turn on Wool's study.

36. See the critique by Samuel H. Hays, "What Is Wrong with Induction Procedures," *Military Review*, May 1970, p. 3-7. It should be noted that the U.S. Army is now carefully reviewing its basic training program in respect to such criticisms.

37. Shortly after World War II, the so-called Doolittle Committee (headed by Air Force Gen. James Doolittle) attempted to narrow the differences between officer and enlisted man in the U.S. Armed Forces. The postwar British Labour government, philosophically committed to egalitarianism, made a serious—but unsuccessful—effort to establish a "one-ladder" system of promotion. Philip Abrams, "Democracy, Technology, and the Retired British Officer," Samuel P. Huntington, ed., *Changing Patterns of Military Politics* (Glencoe, Ill.: Free Press of Glencoe, 1962), p. 154.

38. See Robert B. Rigg, "How the Navy Radicalized Three Young Officers," *Washington Post*, 13 September 1970.

39. I recognize that this hypothesis conflicts with a study done in the early 1960's which suggested that U.S. Air officers had a stronger commitment to their organization than did a comparable group of business executives to their firm. The difference was thought to be in the underlying professional attitudes of the Air Force officers. See Oscar Grusky, "The Effects of Succession: a Comparative Study of Military and Business Organization," Morris Janowitz, ed., *The New Military* (New York: Norton, 1964), p. 83-108.

40. A decade ago Morris Janowitz noted the inherent tension in the military between the "heroic leader" and the "manager." The tension I am referring to is the conflict between the specialty the young officer has studied at his university and both of the types Janowitz describes. He also referred to a third type—the military technologist. There appears to be less tension between academic training and service position in this third category as long as the man is properly assigned. See Morris Janowitz, *The Professional Soldier* (Glencoe, Ill.: Free Press, 1960), p. 21.

41. Recent surveys indicate this trend. A motivation survey of 400 junior officers in the U.S. Air Force this year indicated that job dissatisfaction, the promotion system, and family separation were listed as the prime deterrents to an Air Force career. Pay and living conditions were the last of their concerns. *The Air Force Times*, 21 October 1970.

42. Harold Lasswell defines "civilianism" as "the absorption of the military by the multivalued orientation of a society in which violent coercion is deglamorized as an end in itself and is perceived as a regrettable concession to the persistence of variables whose magnitudes we have not been able to control without paying what appears to be an excessive cost in terms of such autonomy as is possible under the cloud of chronic peril." See his essay "The Garrison-State Hypothesis Today," Samuel P. Huntington, ed., *Changing Patterns of Military Politics* (Glencoe, Ill.: Free Press, 1962), p. 65.

The peace we seek, founded upon decent trust and co-operative effort among nations, can be fortified, not by weapons of war but by wheat and by cotton, by milk and by wool, by meat and by timber and by rice. These are words that translate into every language on earth. These are needs that challenge this world in arms.

Dwight D. Eisenhower, Address to American Society of Newspaper Editors, 16 April 1953

THE ART OF COMMAND

The last few years have seen a great many changes in the values and attitudes of American society, and these changes have necessarily had an impact on the military. Every organization, however, be it military or civilian, must live by certain fundamentals known for centuries if it is to enjoy success. While developments in our society as a whole must remain a concern for every individual, the specific duty of the military man is to ensure that the organizational principles of discipline, authority, responsibility, loyalty, and a willingness to perform be upheld.

A lecture delivered

by

Admiral Arleigh A. Burke, U.S. Navy (Ret.)

Last spring I had the privilege of spending some time in Australia, Indonesia, and the Solomons. Although the object of that trip was to inspect copper and nickel mines and survey prospects for future mines, I did find time to revisit the old battlefields of Guadalcanal, Bougainville, and the other islands. Flying over calm tropical seas, one paused to reflect over the desperate struggles fought there and where the losers, both American and Japanese, still lie in the wreckage of their ships on the ocean floor.

Many changes have occurred in the area. There are huge mines, numerous roads and hotels, and the people who live there now know very little about the war fought 30 years ago. They have forgotten how close the outcome of those battles was, and they never think of what might have happened had we not won decisively.

Two months later, in July, I went to Korea with the other two survivors of the first meeting of the Military Armistice Committee in Kaesong for the 20th anniversary of that first meeting. General Paik, Korean Army, General Craigie of our own fine Air Force, and I traveled through Korea from Pusan to Panmunjom. New roads, big hotels, and all sorts of factories now dot the entire countryside. As we revisited Panmunjom, where the conference tents have long since been replaced with permanent buildings, we naturally talked of those first days so long ago. We were briefed by the present occupants of our old jobs. After 20 long futile years of

negotiations, there is no peace. Even today the Republic of Korea lives with the prospect of another attack, another invasion, whenever the North Koreans think the time is ripe. Korea was a war we did not win.

Those two trips to old battle scenes are why I am here today. Although I gave up making speeches a year ago, I still feel that the subject of the Art of Command needs to be more fully discussed. Some fundamental points must be reemphasized.

There have been tremendous physical changes in the world in the last 30 years, but there have been even greater changes in the social structure, in the attitudes of our people. This change in attitudes is going to have a much greater impact on the future of our country than all the advances we have made in the physical sciences.

Undeniably, the military as a part of the greater national society necessarily reflects the values and the attitudes of the whole. The great social forces at work in our society today are creating new problems with which the military must contend. Nevertheless, there are some fundamentals of command that remain true, and it is time that the military took a good solid look at them again—as well as the consequences if these fundamentals are ignored.

There are many factors that influence the outcome of a campaign or a battle, but none of the factors is more important than the exercise of proper command. Every man in the military services spends his whole time in the service seeking to improve his role in the command system, both by being ready to carry out in an effective manner all orders he may receive and by being capable and willing to give orders to his unit to further the operation his outfit is undertaking.

Important to the exercise of proper command are the systems used. The services continue to try to improve their systems even though sometimes the changes introduced do not work as well as the system did before the changes were made. The organization of the services is based on the necessity for a clear-cut, effective command system—and by this I do not mean a management system.

As important as the organization and command system is to the success of a unit, however, it is not nearly as important as the attitude of the people in the system. In every organization, from a church to a combat unit, the attitude of the members of the organization will be the determining factor in the success of the organization. A "gung-ho" outfit will be effective when a better equipped, sluggish, or contentious outfit will fail. The exercise of proper command is just as essential for noncommissioned and petty officers as it is for general and flag officers. As a matter of fact, it is more important for the lower echelons, for no matter how good the high command is, the organization cannot succeed unless the lower echelons have the loyalty, willingness, and skill to carry out their orders in the proper fashion.

All people in a military organization must understand the necessity of command and discipline if that organization is to be successful. Seamen and soldiers, more than any other group, must understand this. When there is no command, no discipline, there is no military organization. There is no place in a military organization for disobedience, and if disobedience is permitted for whatever reason, the organization rapidly deteriorates to an uncontrollable mob. Unfortunately we have heard of such cases in our own services over the last few years. If this pattern continues, the ultimate result is predictable.

Command responsibility is not possible without command authority. A corporal must have the authority to exercise his command responsibilities or he cannot direct his squad or his unit. The chevron he wears is a mark of his

authority as it is a mark of his responsibility. If he has been given the authority and cannot, or will not, exercise his responsibilities, then he must be removed and another man trained to carry out his duties.

Of course, senior commanders, including fleet and area commanders, need authority too if they are to perform successfully. If the local commander on the spot must refer most of his problems with recommended solutions back to Washington for decision, either decisions will be delayed to the point where a once right solution will no longer be timely, and therefore wrong, or the recommended decision is modified enough so that it is no longer a solution. Occasionally, problems referred back to Washington for solution do result in timely and correct decisions, but the odds are against it. From what I have heard, in the last few years, senior commanders have had too little authority to make decisions, and quite naturally their operations have suffered.

This is not to say that local commanders should be free of all restrictions on their authority. Some restrictions must be retained, but they should be formulated as more general policy guidelines within which the local commander must operate. If he does not, he should be replaced. If, instead of living by this old fashioned idea of requiring performance of a commander some higher authority issues orders that should be given by a subordinate, a lot of very undesirable things are apt to occur. First, the initiative of the subordinate commander is sapped. It is obvious his seniors do not have confidence in his judgment or his ability. Second, his command realizes he is no longer boss, and his image in their eyes suffers. Finally, senior commanders usually do not have time to follow through on the execution of orders carried out far away, and that always yields poor results. In short, the proper orders are frequently not given, and the orders that are given are not well executed.

The same results occur in very small commands too. If the first class petty officer starts issuing directions that should be given by the third class, the third class petty officer loses his effectiveness and the first class is not working in his own rate but in a lower one. Such actions short circuit the chain of command—nobody knows who has the responsibility—and it is expensive as well. The Government is paying for two petty officers and utilizing only one, and in these days this amounts to squandering our most precious and expensive commodity—people.

I have also heard there is a growing tendency to bypass commands. Everybody who has taken elementary training in any organization, civilian or military, should know the evil effects of this pernicious practice. It does not take long before the whole command is demoralized for the simple old reason that responsibility and authority cannot be separated.

I have said enough about the necessity of investing the proper authority in all commands, from the lowest to the highest, if our mission is to be accomplished. Now I would like to bear down a little on the responsibilities of commanders, and again I would like to stress that these principles are as important to noncommissioned commands as they are to Fleet and Army commands.

In every organization, individuals occupying various positions have specific jobs to do. The assignment of duties may be by job description sheets, organization manuals, or by custom, but people must know who does what if the organization is to function properly. Similarly, standards must be set and quality control established for every job. There must be some yardstick of performance. The only difference between civilian organizations and military organizations is that failure in a civilian

organization may mean the ruin of a company or an industry, while failure in a military organization will too often result in the collapse of a nation, either immediately or more gradually. Many times in military operations there is only one chance to succeed or fail, and with the consequences of failure being what they are, military men had better be as certain as they can that operations undertaken are successful.

This leads to the most important responsibility of every commander—the responsibility to insure that the standards he sets for his unit are high enough to enable his unit to be successful and, as a corollary, to reward those subordinates who do extraordinarily well and to punish those who fail. For years we in the military have gone all out in rewarding people. We have emphasized rewards so much that many times people are rewarded for doing an ordinary job without distinction. On the other hand, we have neglected to punish those who fail to measure up to high standards, even when that failure is willful. Every man who has ever commanded any unit, even the most minor of small units, knows that he must demand proper performance, and if he does not get it he must take whatever action is necessary to get it. Men must either qualify for their jobs or lose them. Subordinates must perform. If they cannot, they must be trained. If they still cannot do the job, they must be fired or given a job they can perform. That part is not too difficult to accomplish. The hard part is what to do with men who can but do not do their duty. It is a commander's obligation and not just his prerogative to punish willful neglect of duty. The voice of duty is a stern voice. If punishment is not inflicted quickly and surely on transgressions, the good men in the unit suffer from the wrong attitude of poor people. Nothing lowers the effectiveness of a unit faster or further than acceptance of disobedience or deliberate poor performance. *Permissiveness has no virtue in a military organization.* Requirements for performance should be reasonable, just, and fair, but an individual in the military cannot decide which requirements he will meet and which he will ignore nor determine under what conditions these requirements will be met. Reliability of performance, loyalty, and willingness to do his very best to further the mission of the unit has been the hallmark of members of good military units since the dawn of history.

As you can see, I am a traditionalist. I am convinced that the lessons of the past are proper guides for the future. I do not believe in fragging or in mob control. I am even convinced that strict discipline is a necessary ingredient in a good military unit. I can appreciate the meaning of the expression, "A good

BIOGRAPHIC SUMMARY

Adm. Arleigh A. Burke, U.S. Navy (Ret.), is a graduate of the U.S. Naval Academy (Class of 1923), of the Naval Postgraduate School, and holds an M.S. in engineering from the University of Michigan. His early experience led him to command of several destroyer squadrons in World War II, the last being Destroyer Squadron 23 which participated in 22 separate engagements. Following this assignment, he reported as Chief of Staff and Aide to Commander Carrier Division 3, later designated Task Force 58. After World War II he had numerous assignments with the fleet and in Washington —including Commander Cruiser Division 5; Commander Naval Forces, Far East; Director, Strategic Plans Division, Office of the Chief of Naval Operations; and Commander Destroyer Force, U.S. Atlantic Fleet. Admiral Burke served as Chief of Naval Operations from 1955 to 1961; since his retirement he has assumed executive positions in business and with the Center for Strategic and International Studies, Georgetown University.

ship is a taut ship." I am also sure a lot of my subordinates were correct in their descriptions of me.

Nothing I have said today is new. The fundamentals of command have been known for centuries. They have been tested by many societies, many nations, many commanders in many languages. Sometimes they have been ignored, and that is as good a reason as any to study the leaders who failed in the past as well as those who succeeded.

It is also true that every organization must follow essentially the same principles if it is to achieve success. The bigger the organization, the more important those principles are. The principles apply to fraternal organizations, churches, industrial organizations, and universities. They also apply to governments, all components of government. To the degree they are not applied, confusion exists, morale and initiative of the organization suffer, standards of conduct and performance vary within the organization, and the performance of the organization deteriorates, losing the respect and admiration of those who are in the organization as well as those outside of it.

What happens in our society as a whole is, of course, of concern to all of us, but we in the military have a very specific duty—the obligation to insure that our own organization maintains its effectiveness.

I know you expected a lecture on leadership and high command. That is not a different subject, it is just a limited one. It is wise to study the lives of great commanders. They were men of widely different characteristics, different backgrounds, with different systems, but they had some characteristics in common. They were professionals. They knew strategy and tactics, the use of weapons, the use of speed, the value of surprise. They all had initiative. They took action. They were audacious. They knew the capabilities and limitations of their commands. They had a lot of other common traits.

I have known personally quite a few of these great men in our own services and some from other nations. I have never known one who did not demand performance. I have never known one who was permissive.

The commander must try, above all, to establish personal and comradely contact with his men, but without giving away an inch of his authority.

Erwin Rommel, 1891-1944

At a time when national leaders have called for an era of negotiation to replace the bitter feelings which grew out of cold war confrontation, the subject of force reductions on the European Continent naturally receives renewed attention. The problems associated with moving such proposals from the rhetorical stage to implementation, however, are so complex and interrelated that even the most optimistic of observers see a long and arduous course ahead for these negotiations—despite the advantages ultimate agreement would hold for both sides.

MUTUALLY BALANCED FORCE REDUCTIONS:

THE COMPLEX PROBLEM

A research paper prepared
by
Lieutenant Edward A. McKenney, U.S. Navy

Introduction.

It has been argued that a balance of power between opposed nations or alliances, the possession on both sides of such forces and weapons that neither is able to impose its will on the other, is an important though precarious source of international security: precarious because . . . it provides no guarantee against war and defeat and . . . is inherently unstable: important, because in a world that is armed and divided . . . no less precarious source of international security is available. If this is so, measures of arms control which undermine the balance of power will defeat their own purpose. On the other hand, internationally agreed measures of arms control may have an important place in any concerted attempt of the powers to maintain a balance.[1]

One such international arms control effort may be the mutual and balanced force reductions (MBFR) of NATO and Warsaw Pact contingents in central Europe that have been suggested recently. An MBFR on the basis of reciprocity as well as being phased and balanced in its scope and timing and subject to verification could well lower the level of military confrontation in Europe without jeopardizing the perceptual balance of power.[2] Ideally, within this framework the aim of MBFR

would be to reduce the force levels in central Europe to a degree responsive to and yet within the limitations of today's relaxed tensions resulting from the current spirit of détente. In so doing it would be of utmost importance to always maintain an adequate balance to insure the credibility of deterrence and feasibility of defense. In practice, however, the realities of the situation transform MBFR into little more than a frantic effort by the West in general and the United States in particular to prevent unilateral force reductions resulting from U.S. domestic pressures which would reduce substantially the American troop levels in Europe.[3]

Recent Proposals for MBFR. Although the subject of mutual and balanced force reductions has historical antecedents in the various arms control proposals of the 1950's and 1960's, it seems to have grown in popularity in the last few years, resulting in various proposals for detailed implementation.[4] NATO has been involved in a major study of the subject and has initiated its own proposals, albeit of a less detailed nature. Nonetheless, several criteria have been established by the NATO study and have been reiterated several times since having been first enunciated in the Declaration of Reykjavik of June 1968. The NATO Ministers proposed that European force reductions proceed in accordance with several agreed principles:

- Mutual force reductions should be reciprocal and balanced in scope and timing.
- Mutual reductions should represent a substantial and significant step, which will serve to maintain the present degree of security at reduced cost, but should not be such as to risk destabilizing the situation in Europe.
- Mutual reductions should be consonant with the aim of creating confidence in Europe generally and in the case of each party concerned.
- To this end, any new arrangement regarding forces should be consistent with the vital security interests of all parties and capable of being carried out effectively.[5]

The Soviets, by their actions in Czechoslovakia in the fall of that same year, answered the NATO proposal, making it all too obvious the degree to which they depended upon an overwhelmingly large Soviet force in Eastern Europe to maintain political fidelity to Moscow. NATO, during the next year and a half gave only casual mention to the idea of MBFR at Ministerial Session meetings in April and December 1969. Soon, however, Czechoslovakia was forgotten, and renewed congressional pressures for U.S. unilateral withdrawal convinced NATO to again focus its attention more sharply on MBFR. In May of 1970, in the Rome Declaration,[6] and again in the Ministerial Communique of December 1970,[7] the Western Ministers stated a strong interest in the subject and extended an invitation to interested states to hold exploratory talks on mutual reductions with special reference to central Europe. It was emphasized that such reductions should not prejudice alliance security interests nor be militarily disadvantageous to either side. Similarly, reductions were to be only on a basis of reciprocity, were to include both stationed and indigenous forces, and were to be subject to adequate verification.[8]

Soviet responses concerning force reductions prior to summer 1970 had been either nonexistent or had demanded the withdrawal of U.S. forces alone from Europe. In June 1970, at the Budapest Conference, the Warsaw Pact Foreign Ministers agreed that "a reduction of foreign armed forces stationed on the territories of the European States" would serve the interest of European security and should be discussed.[9] If one interpreted the term "foreign" to include American and Soviet forces, this was the closest the

Warsaw bloc had come to proposing an MBFR. If, however, one interpreted the term "foreign," because of the context within which it was used, to mean non-European,. then this communique contained nothing new, since the Soviet Union had long considered itself a European power. In either case it was not fully compatible with NATO proposals for reductions of both stationed and indigenous forces. The ambiguity of the Soviet declaration was somewhat clarified in March 1971 when Brezhnev, in the capacity of General Secretary of the CPSU addressing the 24th Congress of the party, stated: "We stand for the reduction of armed forces and armaments in areas where military confrontation is especially dangerous, especially in Central Europe . . . " and that "the Soviet Union is prepared to negotiate an agreement on the reduction of military expenditures above all by the major states."[10] He left little doubt that the major states were the United States and the Soviet Union. In his famous "wine-tasting speech" at Tbilisi the next month, he further beckoned the NATO countries to start negotiations on this question.[11] In June 1971 Brezhnev again answered NATO queries as to whether Soviet proposals concerned foreign armed forces, indigenous forces, or both: "We would answer this way: we are prepared to discuss both questions."[12] Moscow, it would seem, was making it clear that the extent and nature of an MBFR was dependent upon the intentions of the countries involved which could only be determined by commencement of negotiations.

At a time when prospects for an MBFR agreement seemed better than ever before, there still existed the difference of opinion over which should come first—negotiations or a determination of whether common ground existed on which to base those negotiations.[13] It would appear that the latter, ascribed to by NATO, would hold the best prospects for a meaningful agreement, while the former, the Soviet position, would be better suited as a means to propagandize. Taking little notice of this difference of opinion, NATO chose Manlio Brosio, former Secretary General of NATO, to explore the Warsaw Pact views on MBFR in an effort to "taste the wine" offered by Brezhnev in May. To date the Brosio mission awaits Moscow's invitation which has not been forthcoming.

To summarize the interbloc signaling during the past 2 years, one could state simply that while NATO has made an orchestrated attempt through declarations and action to commence negotiations on the subject of MBFR, the Warsaw Pact has merely expressed an interest vocally with an apparent lack of accompanying actions. It would seem that such Warsaw Pact efforts are geared toward a strengthening of European détente through the expression of banalities. Such actions also fall in line with the long-expressed Soviet desire for a European Security Conference outside a bloc-to-bloc context.

Asymmetrical Difficulties of MBFR. The technical and definitional problems of MBFR find their roots in the asymmetries within the European balance of power.[14] To be sure, this balance of power is a function of not only military capabilities, but also the will of each side to use their capabilities and the perceptions of each side of the will and capabilities of the opponent. Granting, however, that even if the unknown factors of will and perceptions are removed from the equation, the problems of describing a strictly military capability balance remain formidable. In determining this military capabilities balance in Europe, one must look somewhere between the two extremes of those forces immediately available to the central European theater and the total of all NATO and Warsaw Pact forces, wherever deployed. There are

several points along the spectrum between these extremes that are reasonable to consider in this balance determination given the reinforcement capabilities of each bloc. Nevertheless, even if the precise point at which an effective East-West military balance might be achieved remains unknown, a less than optimum political-military balance based on deterrence may possibly be reached.

The asymmetries within the makeup of the NATO-Warsaw bloc balance can be said to be threefold:

- **Military asymmetries:** Although the troop count figures in central Europe are accurately placed at one million for NATO and one and one third million for the Warsaw Pact,[15] these numbers of military forces are not necessarily synonymous with military capabilities. There are additionally such intangibles as morale, leadership, organization, and, indeed, the reliability of East European forces which must be considered. The relationship between nuclear and nonnuclear forces contained in each bloc's strategy is similarly important. The military capabilities of each side must also be examined in light of the offensive or defensive roles envisioned for them. Obviously, a NATO force conceived and structured as a defensive instrument need not be as large as a Warsaw Pact force designed to overrun these defensive positions.

When considering a balanced reduction of the capabilities of each side, these ambiguities lead to difficulties in determining the criteria necessary to maintain a deterrence relationship. The problem is compounded when similar military formations (divisions, battalions, et cetera) have different strengths in the two blocs. For example, while Warsaw Pact infantry divisions greatly outnumber their NATO counterparts, the troop count of each NATO division is considerably higher. The same is true of military formations of lesser magnitude. The types and nationality of forces must also be considered, and reductions must be distributed among allies so as not to undermine the credibility of the nuclear deterrent on either side. Problems arise as to the "equality" of a British and German Democratic Republic (GDR) supply contingent, for example, or an American and Czechoslovak infantry battalion. Should an American division, itself a foreign force, be deleted from NATO inventory in exchange for one Soviet division or would an indigenous Polish division suffice? With the asymmetrical troop count within these divisions and the distances to be withdrawn, perhaps other figures such as two Soviet divisions or one and one half Polish divisions would be required to insure a balanced reduction. To maintain a mutual trust and confidence, there must be mutually acceptable ratios between the superpowers as well as the indigenous capabilities. But different countries have different criteria within which they must operate—criteria that may be incompatible with each other. The U.S.S.R., for example, must approach MBFR within the framework imposed by the political constraints associated with the uncertainties of Eastern European loyalty to Moscow. To maintain that loyalty Soviet troop levels may not be as low as Western criteria may demand. President Nixon has said "reductions should have the effect of enhancing defensive capabilities.... Reductions by the two sides would be made in differing amounts in differing categories . . . to create a stable military equation at lower force levels."[16] The U.S. idea of what Soviet reduction requirements are necessary to insure this stability vis-a-vis the NATO bloc may be such as to encourage instability between Moscow and her allies as the loyalty of Eastern Europe to the U.S.S.R. comes more into doubt.

Another criteria may be to maintain a flexible response strategy. To what extent can either bloc lessen its con-

ventional capabilities and maintain such a strategy? If the overall commitment remains unchanged (for example, defend West European territory from Warsaw Pact intrusion), then as the conventional capabilities are reduced an increased dependence on nuclear weapons naturally follows. This criteria, however, is not inconsistent with the concept of MBFR. Coupled with a possible Soviet criteria to establish a nonnuclear zone in Germany, an MBFR agreement could be forthcoming on a "one missile-one man" basis whereby the Warsaw Pact would pay a conventional price for a NATO tactical nuclear reduction.

Even if Soviet and American troop reductions were forthcoming, military asymmetries may again present themselves should the need for reintroduction of those forces arise. The relative ease and rapidity with which Soviet forces could be brought to bear was exemplified by the Czechoslovakian invasion and is a direct function of the logistic and political parameters to be discussed below.

- **Geographic asymmetries:** The Western bloc is disadvantaged by the lack of geographical defense in depth, the East-West confrontation line being a mere few hundred miles from the Atlantic. Additionally, Western Europe offers little natural defense in the form of either mountain ranges or other natural barriers to advancing armies. The lack of territorial expanse also adds to the vulnerability of Western Europe to limited-range weapons systems. Conversely, the vastness of Warsaw bloc territory (which theoretically extends to the Pacific) places many targets beyond the range of similar NATO weapons systems. Similarly, the geographic concentration of industrial centers is, of necessity, more evident in Western Europe.

This lack of "defense in depth" was heightened in 1966 with the withdrawal of French territory from the military alliance. Should West Germany ever become a nuclear-free zone, forcing NATO to rely instead on conventional defense, this problem would be made all the more evident.

Another obvious geographic asymmetry is the distance in miles which Soviet and American forces would be withdrawn. If this were the only criteria in determining an MBFR, 10 times as many Soviet troops than American troops would need to be withdrawn to show equal reductions expressed in "man-miles." Whereas Soviet troops in a reinforcement action (or an enforcement action such as in Czechoslovakia) need only be moved a few hundred miles along land transportation routes, American reinforcements face the much greater logistic problems imposed by sea and air routes stretched across thousands of miles. Most likely a rapid reinforcement capability would be required, given the lack of "defense in depth" discussed earlier, but aircraft delivered forces are necessarily limited in their scope and are dependent upon intact airfields and a secure air environment.[17] This quick reaction capability is not only dependent upon the types and quantity of aircraft available, but also, in a more distant time frame, the political attitudes within the United States.

- **Sociological-political asymmetries:** The United States, today, in pursuing the Nixon Doctrine, is focusing its attention on decreasing unilateral commitments abroad. There is a growing feeling that Europe should bear a greater share of the NATO burden. Although this stems mostly from the dissatisfaction of maintaining troops in Europe with a resulting balance of payments deficit, there is also a growing feeling that the Soviet threat has diminished and that U.S. forces in Europe can fulfill their mission with a lower force level. Consequently, as a reaction to anything short of an actual invasion, it might be difficult to muster the political support necessary to mobilize a signifi-

cant American reinforcement effort in Europe. This may be even more of a trying problem, in the wake of U.S. force reductions, in light of the domestic political and psychological difficulty of changing a decision once it has been made. Additionally, if a Warsaw bloc threat short of invasion of Western Europe arose, an American reinforcement policy would be politically vulnerable to the criticism that such a reinforcement action may serve as a precipitating factor, thus exacerbating the crisis.

The Warsaw bloc countries, on the other hand, and the Soviet Union, in particular are able to function more as states than as societies. Although subject to various domestic and factional pressures, the Soviet Union can mobilize her resources with relatively less friction than might be encountered in a democratically organized society.[18]

All three of the above mentioned asymmetries–military, geographical, and sociological-political–must necessarily be considered in the formulation of a mutual and balanced force reduction designed to reduce the level of military confrontation while maintaining mutual confidence in the resulting balance of power.

Political Attitudes Toward MBFR. In determining the extent to which a meaningful MBFR is possible in the near future, it is necessary to examine the political attitudes of the potential signatories as well as the potential assets and liabilities imposed by any MBFR agreement.

The United States has provided the largest impetus toward an MBFR agreement. Well aware of congressional pressures for unilateral American troop withdrawals and wary of initiating fears in Europe that U.S. troop withdrawals are indicative of concomitant crumbling of the U.S. nuclear guarantee, the administration primarily desires MBFR as an alternative to unilateral force reductions. Unilateral force reductions, in addition to eroding the foundations of NATO which are based on mutual confidence, would also weaken the conventional capabilities of the alliance thereby lowering the nuclear threshold[19]–that point at which NATO would, of necessity, have to resort to nuclear force.

A comprehensive study of the various European political attitudes toward MBFR is beyond the scope of this paper,[20] rather we shall confine ourselves to generalizing on these attitudes and focusing on those countries that have voiced the loudest concern over MBFR. In general, European attitudes toward MBFR are dictated by their attitudes toward maintaining a strong and unified NATO as a basis for their diplomacy. This is true at least over the short term. However, it may also be true that Europeans, in their long-term diplomacy, are searching for viable alternatives to the existent security machinery as well. If this is true, then recent moves by Europe in general and by the Federal Republic of Germany in particular, to increase the European share of U.S. troop costs[21] may be merely a means of "buying time." This would enable the Western European nations to enter arms control negotiations (or some other similar means of changing Europe's security arrangements) with a stronger bargaining position than if U.S. troop cuts occurred prematurely.

France, likewise, is desirous of U.S. troops remaining in Germany, albeit not for the purpose of maintaining a strong and unified NATO. Rather they are primarily concerned with the U.S. presence in the context of deterrence. A secondary role of U.S. forces, as perceived by the French, is undoubtedly to act as a counterweight to the *Bundeswehr* which, if the Americans withdrew, would be the largest conventional force in the western part of the European Continent.

Strictly speaking, Europeans are not

favorably disposed toward force reductions of any sort.[22] The political realities of the situation, however, force them to accept MBFR as the best alternative to reductions of a more unilateral nature. This attitude was expressed recently by the West German Foreign Minister Walter Scheel when he said:

> . . . the current balance of power in Europe must not be changed. A lowering of force and armament levels in the West can be accepted only in concert with a simultaneous and balanced reduction of force and armament levels by the Warsaw Pact countries. At this stage of discussion, the following principle is crucial: MBFR must remain an initiative of the Alliance. . . . The Federal Government will intensively support all such projects.[23]

The North Atlantic Assembly in November 1970 overtly supported this attitude when they (a) reaffirmed their conviction that North American forces in Europe are needed at or near the existing level, (b) urged the members of the alliance to reach agreements on ways to ease the cost borne by the United States in maintaining its forces in Europe, and (c) recommended that the North Atlantic Council further explore the chances of MBFR.[24]

Europeans are not so much worried about U.S. unilateral reductions as such. Rather they are concerned more about the American disease of which troop reductions are merely one symptom—that of neoisolationism. If the United States were to unilaterally withdraw even a small percentage of its troops from Europe, the West Europeans fear that it would be indicative of similar actions in the future. In more general terms, such a withdrawal might well be viewed with alarm as a lessening of the U.S. nuclear commitment to Europe. The resulting attitudes would pose a threat to the credibility of NATO as a collective security system. Experience has shown that U.S. reductions in Europe have not proven a stimulus for greater burden sharing, but rather they have served as an example for European allies to reduce their capabilities as well.[25] The action of U.S. reductions, then, coupled with the effects on European capabilities would most probably cause the reduction of NATO's conventional capability if not the destruction of its underlying principles of mutual commitment.

The Federal Republic of Germany (FRG), in spite of the Brandt government policy of pursuing détente through *Ostpolitik*, is a firm supporter of MBFR within the framework discussed above. The FRG freely admits that its policy of *Ostpolitik* depends on the continued backing of a strong Western alliance.[26]

Deviation from the general West European attitude toward MBFR is seen in French policy. France, in strict Gaullist fashion, is opposed to bloc-to-bloc negotiations on the subject of MBFR on the grounds that such an important foreign policy subject should be negotiated by sovereign nations and not regional organizations. An underlying French fear is that bloc conducted negotiations may allocate reductions amongst the allies in such a manner as to concentrate on U.S. reductions from Germany, thus leaving the *Bundeswehr* as the largest conventional force on the Continent, as previously mentioned. Negotiations conducted within the framework of a European security conference (within which individual nations would be bargaining agents) would undoubtedly take French interests into consideration to a greater degree. It is doubtful, however, that any meaningful negotiations on the subject could take place at the conference in view of the asymmetrical complexities already discussed. Foreign Minister Scheel has expressed this attitude as follows: ". . . the technically more precisely

definable problem of . . . the mutual balanced reduction of arms and forces in Europe . . . does not lend itself to being discussed to any useful purpose at such a mammoth conference."[27]

The repeated Western European proposals for MBFR are indicative of their general support and place the burden of choice on the Warsaw Pact—a choice between acceptance or rejection of an MBFR negotiation. The Soviet attitude toward the idea in the last year has been, to say the least, ambiguous and ambivalent vis-a-vis a more consistent policy of the West. That attitude can be determined only by most carefully examining official Soviet statements and actions which lately have included a *de facto* rejection of MBFR on a bloc-to-bloc basis by refusing to acknowledge the proposed Brosio mission to Moscow.[28]

An interesting question arises as to what advantages and/or disadvantages for the Soviet Union would accompany an MBFR agreement. Perhaps the most persuasive argument in favor of an MBFR agreement for the Kremlin leaders would be to view it as a safeguard to assuage their historic fear of encirclement. An MBFR agreement could be utilized by the Soviet Union to add to efforts already underway to stabilize the European front at a time when the more serious threat appears to lie along the Chinese border. This paranoia may have been recently rekindled by outward moves by the United States toward establishing more regular contact with Peking. A Soviet accommodation in Europe by means of an MBFR would enable a reallocation of forces either to the Eastern front or such areas as Suez, thus making more effective use of funds and forces.

On the other hand, funds formerly spent for maintaining forces in Europe could be allocated in hopes of satisfying increased consumer demand at home. Additional economic and technological benefits would be forthcoming with improved trade relations resulting from such a European accommodation. Such a strengthening of ties between Eastern and Western Europe, however, could conflict with the maintenance of strict Soviet control in Eastern Europe.

With the absence of an MBFR agreement, some degree of unilateral U.S. reductions is most likely to occur in the near future in spite of recent West European efforts to relieve the American balance of payments deficit associated with U.S. forces stationed in Europe. Ironically, however, this unilateral withdrawal of American forces could conceivably affect the U.S.S.R. adversely. Although many of the Soviet forces are in Eastern Europe to maintain Soviet political standards of loyalty to Moscow, the ostensible reason for their presence is to counter the NATO threat. As that threat perceptually diminishes in the wake of American withdrawal, the justification for Soviet presence may likewise diminish. Thus, the U.S.S.R. could benefit from an MBFR agreement "codifying" a certain Soviet troop strength in Eastern Europe. This "codification" would provide the necessary alternative justification for a continued Soviet presence in the face of a declining NATO threat.

Additionally, a unilateral U.S. withdrawal would leave the *Bundeswehr* as a relatively large conventional force creating a relatively larger role for the FRG within the NATO framework. Russian fears of Bonn's desire to reunite Germany would hardly be set to rest by any developments which might leave West Germany with the most powerful army in central Europe. In this light, Russian interests would clearly be best served by an agreement which would, among other things, limit the size of Germany's armies.

Whether U.S. unilateral withdrawal would stimulate Western European integration efforts in a political and military sense or have the reverse effect of encouraging individual West European

countries to seek accommodation on their own with the East as a substitute for the security offered by NATO is speculative at best. If Moscow chose to agree on an MBFR of even a token nature (in keeping with the spirit of Moscow's détente oriented peace strategy), however, pressures for West European integration would be far weaker than would be the case given a unilateral U.S. withdrawal.

Finally, outward Soviet promotion of détente in Europe by token MBFR would undoubtedly strengthen the arguments of those in the United States opting for substantial U.S. troop cuts.

If a major goal of the Soviet Union is to decrease American influence and troop strength in Europe while maintaining the military status quo in Eastern Europe, the argument would be made that it is more to their benefit to do nothing. Pressures for unilateral withdrawal of U.S. forces are strong, with prospects of getting stronger. It seemingly is merely a matter of time before this Soviet goal would be realized at no cost.

As was mentioned earlier, however, a dilemma arises for the Soviets when efforts are made to accommodate certain pressures for increased economic and political independence with the limited sovereignty concept enunciated in the Brezhnev doctrine. With various moves toward a "Westpolitik" by the Soviets, it may become increasingly necessary to maintain Soviet forces in Eastern Europe to maintain the political loyalty to and dependence on Moscow.[29] The U.S.S.R. is well aware of the implicit divisiveness in such policies as *Ostpolitik.* Indeed, Soviet sources have accused Chancellor Brandt of using the Moscow Treaty to strengthen Eastern European perceptions of West German economic and ideological importance by means of "a veiled campaign to sow dissension among Moscow's East European Allies.[30] If the Czechoslovak crisis in 1968 convinced the Soviets that an overwhelming capability to suppress political liberalism in the satellite countries is an asset, the political and ideological ramifications resulting from the Soviet "invasion" were such as to convince Moscow that it is far better to prevent such a need from arising. This can be best served by maintaining adequate Soviet forces inside the territories of its allies.

An insight into Soviet foreign policy strategy is necessary before it is possible to speculate on what form of MBFR agreement, if any, is politically and militarily possible. By comparing Soviet foreign policy goals in order of priority with the advantages and disadvantages of MBFR enumerated above, it may be more possible to arrive at a meaningful conclusion.

The Soviet Union is primarily concerned with preserving the status quo in Eastern Europe; that is, in maintaining the present relationship of satellites closely aligned to Moscow in both their external and internal policies. Closely aligned to this foreign policy objective is the effort to obtain geographical codification of the status quo through bilateral or multilateral treaty agreement on boundaries.

A second extremely important foreign policy objective of the U.S.S.R. is the prevention of a politically or militarily integrated Western Europe. Such a unified West Europe would have both tremendous resources and growth potential, creating a perceived threat militarily to the Soviet Union as well as presenting a pattern of accelerated economic growth potentially embarrassing to the Eastern bloc. In addition to creating a new military threat—possibly including a partial West German control over a European nuclear capability—the political threat would be formidable. A West Europe that was a potential superpower both militarily and economically would exert an irresistible attraction to Eastern Europe, resulting in divisive pressures unacceptable to Moscow.

A corollary to the preceding objective is the goal of maintaining a fragmented West Europe, one that is vulnerable to a process of "Finlandization." In this regard Soviet policy is primarily directed toward detaching the German Federal Republic from Western Europe, hoping perhaps to encourage ultimately the formation of a more neutral government in Bonn. By maintaining a facade of détente-oriented behavior, the U.S.S.R. can take advantage of a weaker Europe once U.S. forces have diminished. Although filling the gap left by departing American forces is economically within the capability of West Europe, it is not politically feasible with a growing tendency in those countries to disregard the idea of an Eastern threat.[31] A weak Western Europe would be forced to accommodate to the subtle Soviet political pressures in its internal politics as well as to formulate its foreign policies with special consideration for the interests of the Soviet Union. One European has described the result as follows: "U.S. isolation from Europe would allow the Soviet Union to expand and rule over our continent and become the undisputed first World Power in economic, military, and political terms. This would mean . . . [European] dependence on an immediate and overpowering neighbor."[32]

Another foreign policy objective of the Soviet Union is undoubtedly to decrease U.S. influence in Europe. This, however, need not be an active objective around which other policies are oriented as may have been the case in the past. I say this because U.S. influence in Europe is already decreasing both politically and militarily as a result of pressures already discussed. British entrance into the Economic Community will likely increase European tendencies toward becoming more "Europe-oriented." As a result, Europe will probably come increasingly to regard the United States as an economic competitor rather than as an Atlantic partner in the containment of communism.

Conclusion. By way of conclusion, three fundamental points regarding the relationships between the United States, Europe, and the U.S.S.R. must be kept in mind. First, the Soviet Union has never advocated the idea of a far-reaching détente. Even the concept of "peaceful coexistence," as developed by Khrushchev and his successors, means little more than an avoidance of general war while continuing the class and national struggle by other means.[33] A complete reconciliation between differing social systems is not possible within the ideological framework of Marxist-Leninist dogma. Soviet leadership, vulnerable to factional criticism and eager to maintain their legitimacy as "true heirs of Marxism-Leninism" must at least pay lipservice to, if not practice, the tenets of dialectical and continuous struggle. Accordingly, complete and universal reconciliation is not the goal of Soviet détente. Rather it is narrowly defined geographically to the European area.

Second, there is in Europe an ongoing process of security readjustment in the context of an international system changing from bipolarity to some form of "emerging multipolarity."[34] The linkages within this security readjustment process are both numerous and complex, including such things as SALT, superpower relationships vis-a-vis one another, the proposed European security conference, "Westpolitik," and MBFR. No one of these stand alone, nor can they stand alone. A study of one must necessarily take due consideration of the others. Any attempt to do otherwise would be oversimplified and incomplete. Thus it is the process rather than the specific events that are of determinant significance to this study.

Third, given the Soviet concept of détente, I would say that a token MBFR agreement is a probability in the near future. The Soviet advantages accruing

from such an agreement as enumerated above could be obtained at little cost. A token Soviet reduction in forces could well take place in East Germany where 20 Soviet divisions are deployed.[35] With only six East German divisions in the same area, it would appear the Soviet force could be whittled somewhat without degrading their political control. The additional incentive for obtaining reductions in NATO tactical nuclear weapons in West Germany, perhaps even to the extent of creating a nuclear-free Germany, will add to the likelihood of negotiations. At the same time, however, the wide range of politico-military complexities involved, most especially the criterion of maintaining political control in Eastern Europe, makes it highly unlikely that any meaningful mutual balanced force reduction settlement will truly be achieved.

BIOGRAPHIC SUMMARY

Lt. Edward A. McKenney, U.S. Navy, graduated from the U.S. Naval Academy in 1966, from which he served as a division officer and department head aboard destroyers. Subsequently assigned to the Fletcher School of Law and Diplomacy, Tufts University, Lieutenant McKenney has earned his master's degree and is currently seeking his doctorate in law and diplomacy at the Fletcher School.

FOOTNOTES

1. Hedley Bull, *The Control of the Arms Race* (New York: Praeger, 1965), p. 57-58.

2. The technical and definitional problems of MBFR resulting from the asymmetrical complexities are considerable, and the maintenance of a balance of power (if, indeed, one does now exist) requires a masterful manipulation of all these quantitative and qualitative asymmetries which are enumerated later in this paper.

3. This movement has been spearheaded by Senator Mansfield but includes others such as Senator Percy who argues the balance of payments deficit problem resulting from the U.S. troop commitment in Europe. For a thorough analysis of the burden-sharing problem in NATO and pressures for U.S. withdrawal, see John Newhouse, *U.S. Troops in Europe* (Washington: Brookings Institution, 1971). See also Leslie H. Gelb and Morton H. Halperin, "Why West Europe Needs 300,000 G.I.'s," *Atlantic Community Quarterly*, Spring 1971, p. 56-60; Stanley L. Harrison, "NATO Troop Reduction Conflict," *Military Review*, September 1971, p. 13-24; Elliot Richardson and Mike Mansfield, "American Forces in Europe—the Pros and Cons," *Atlantic Community Quarterly*, Spring 1970, p. 5-16; and Alain C. Enthoven and Wayne K. Smith, "What Forces for NATO? And From Whom?" reprinted from *Foreign Affairs*, October 1969 in *Atlantic Community Quarterly*, Winter 1969-1970, p. 571-586.

4. See, for example, proposals for mutual, phased reductions in Timothy W. Stanley, *A Conference on European Security? Problems, Prospects, and Pitfalls* (Washington: Atlantic Council of the United States, 1970), p. 38-43; and Timothy W. Stanley and Darnell M. Whitt, *Détente Diplomacy: United States and European Security in the 1970's* (New York: Dunellen, 1970), p. 63-66. In the latter the authors propose a four-phase reduction of forces model based on an "across-the-board" percentage cut. Although such a cut could well be regarded as too symmetrical, it does provide for greater cuts in the Warsaw bloc forces, given their larger initial figures to which these percentages would be applied.

5. "Declaration on Mutual and Balanced Force Reductions," *The Atlantic Community Quarterly*, Fall 1968, p. 443.

6. "NATO Ministerial Communique and Mutual Balanced Force Reduction Declaration," *The Atlantic Community Quarterly*, Fall 1970, p. 426-430.

7. "Final Communique of NATO Ministerial Meeting, December 4, 1970," *The Atlantic Community Quarterly*, Spring 1971, p. 105-106.

8. For many years the verification issue has continually proven to be a difficult bargaining point when dealing with the U.S.S.R. in arms control agreements. Consequently, verification of MBFR and related arms control agreements has long been a subject of NATO study. In 1968, for example, an Anglo-American arms control inspection test by the name of exercise "First Look"

was undertaken. See David Thomas, "Exercise 'First Look,'" *NATO Letter*, October 1968, p. 17-19.

9. "Warsaw Pact Communique and Memorandum on European Security Conferenee," *The Atlantic Community Quarterly*, Fall 1970, p. 433.

10. "Brezhnev's Report to the 24th Congress," *The Current Digest of the Soviet Press*, 20 April 1971, p. 13.

11. "Brezhnev Speaks at Georgia's Jubilee," *The Current Digest of the Soviet Press*, 15 June 1971, p. 5.

12. "Leader's Speeches at Election Meetings," *The Current Digest of the Soviet Press*, 13 July 1971, p. 20.

13. This latter approach is identical to President Nixon's "building block approach" to MBFR whereby preliminary exploratory probes on major substantive issues would precede any concrete proposals or more detailed discussion of the individual issues. See *U.S. Foreign Policy for the 1970's: Building for Peace*, A Report to the Congress by the President of the United States (Washington: U.S. Govt. Print. Off., 1971), p. 197.

14. For a detailed analysis of some of the asymmetrical complexities that figure into the calculation of the East-West military balance in Europe, see Stanley and Whitt, *Détente Diplomacy*, p. 54-58.

15. International Institute for Strategic Studies, *The Military Balance, 1971-1972* (London: 1971), p. 77.

16. *U.S. Foreign Policy for the 1970's*, p. 195-196.

17. For a complete discussion of the military problems associated with the airlift reinforcement capabilities of the United States, see International Institute for Strategic Studies, p. 78.

18. The extent to which domestic pressure as well as factionalism within the governmental power structure is evident in the U.S.S.R. was amply brought out in Thomas W. Wolfe, "Soviet Interests in SALT: Political, Economic, Bureaucratic and Strategic Contributions and Impediments to Arms Control." Unpublished paper presented at the Fifth International Arms Control Symposium held in Philadelphia, 15-17 October 1971.

19. Richardson and Mansfield, p. 7-8. The U.S. attitude is also expressed in Lyman L. Lemnitzer, "The Nature of the Deadly Lesson," *Atlantic Community Quarterly*, Summer 1970, p. 194. Administration statements indicative of strong support for MBFR can be found in *U.S. Foreign Policy for the 1970's*, p. 195-197; and U.S. Dept. of State, *United States Foreign Policy, 1969-1970*, A Report of the Secretary of State (Washington: U.S. Govt. Print. Off., 1971), p. 5.

20. There are several excellent articles that extensively study these attitudes. For example, see Zbigniew Brzezinski, "America and Europe," *Foreign Affairs*, October 1970, p. 11-30; G.B. Howard, "The Role of Belgium in NATO," *Military Review*, July 1971, p. 17-22; Christoph Bertram, "West German Perspectives on European Security: Continuity and Change," *The World Today*, March 1971, p. 115-123; Guttorm Hansen, "Norway and NATO," *Atlantic Community Quarterly*, Summer 1969, p. 235-240; Robert W. Russell, "The Atlantic Alliance in Dutch Foreign Policy," *Atlantic Community Quarterly*, Summer 1970, p. 175-189; Michael Stewart, "Britain, Europe and the Alliance," *Foreign Affairs*, July 1970, p. 648-659; Charles Micaud, "Gaullism after De Gaulle," *Orbis*, Fall 1970, p. 657-672.

21. Drew Middleton, "Allies in Europe Plan Billion Rise in Arms Budget," *The New York Times*, 8 December 1971, p. 1:4.

22. This attitude was expressed by Pompidou as cited in Francois Duchene, "A New European Defense Community," *Foreign Affairs*, October 1971, p. 79. Many Europeans think of the U.S. troops in Europe in a "tripwire" context. In this regard their presence is emphasized in a deterrence role rather than as a capability to conduct conventional warfare in the defense of Europe. For a complete analysis of this thinking, see Andre Beaufre, *Deterrence and Strategy* (New York: Praeger, 1965).

23. Original text of an article by Federal Foreign Minister Walter Scheel entitled "Alliance and Détente," p. 2-3. Also reprinted in *Publik*, 8 September 1971.

24. "Recommendations of the North Atlantic Assembly, The Hague, November 10, 1970," as reprinted in the *Atlantic Community Quarterly*, Winter 1970-71, p. 567.

25. See Fred Luchzinger, "No Substitute for Security," *Atlantic Community Quarterly*, Summer 1970, p. 256.

26. For a complete discussion of the role of *Ostopolitik* within the eontext of an East-West balance, see Bertram, p. 115-123. See also "Security and Détente . . . Cornerstones of Bonn Policy," an interview with Defense Minister Helmut Schmidt in *German International*, June 1971, p. 20-29.

27. Interview with Foreign Minister Walter Scheel, *The Bulletin, A Weekly Survey of German Affairs*, 26 October 1971, p. 285.

28. Although there is no published evidence available, recent interviews by Robert L. Pfaltzgraff, Jr., with various French officials seem to indicate that French efforts to convince Brezhnev, during a recent trip to Paris, of the undesirable aspects of bloc-to-bloc diplomacy have been successful.

29. For an interesting and complete discussion of the problems of maintaining Soviet control in a changing Eastern Europe, see Robert F. Byrnes, "Russia in Eastern Europe: Hegemony Without Security," *Foreign Affairs*, July 1971, p. 682-697.

30. *The Times*, 6 February 1971. Cited in Bertram, p. 120.

31. Newhouse, p. 156. See also *White Paper on the Security of the Federal Republic of Germany and the State of the Armed Forces* (Presse und Informationsant der Bundesregierung, Bonn, 1970), English translation, p. 20; and David Calleo, *The Atlantic Fantasy: the U.S., NATO, and Europe* (Baltimore: Johns Hopkins Press, 1970).

32. Manlio Brosio, "Will NATO Survive Détente?" *The World Today*, June 1971, p. 231-241.

33. For instance, Khrushchev termed "peaceful coexistence" to be "a form of intense economic, political, and ideological struggle of the proletariat against the aggressive forces of imperialism in the international arena." See "For New Victories of the World Communist Movement," *Kommunist*, January 1961, p. 21-22 as quoted in Thomas W. Wolfe, *Soviet Power and Europe, 1945-1970* (Baltimore: Johns Hopkins Press, 1970), p. 100n. Also, an article in *Pravda* contained the following: "peaceful coexistence means striving to exclude war, and primarily world war, as a means of solving interstate disputes and conflicts, but this by no means denotes rejection of the struggle against colonialism and imperialism." See Observer, "For the Liquidation of Colonialism and the Triumph of Peace," *Pravda*, 25 October 1964, as quoted in Wolfe, p. 100n.

34. This is the term used by Robert L. Pfaltzgraff, Jr., in an unpublished paper entitled "The Rationale for Superpower Arms Control" presented at the Fifth International Arms Control Symposium held in Philadelphia 15-17 October 1971. Cited by permission of the author.

34. For a complete breakdown by nationality of the Warsaw Pact divisions in Eastern Europe, see *NATO Letter*, March/April 1971, p. 8.

In this age when there can be no losers in peace and no victors in war—we must recognize the obligation to match national strength with national restraint—we must be prepared at one and the same time for both the confrontation of power and the limitation of power—we must be ready to defend the national interest and to negotiate the common interest.

President Johnson, in his first address to joint session of Congress, 27 November 1963

Sub-Sahara Africa—long overlooked by the strategists of the West—has undergone remarkable changes in her political, social, and economic order in the last 10 years. As a corollary to these developments, the armies and navies of many black African nations have also significantly changed both numerically and in quality. Patterns already discernible in the growth of some navies suggest that today's African politico-military balance may soon be disturbed by the introduction of high-speed, missile armed craft into the region. U.S. policy as enunciated by the Nixon Doctrine should heed these pending challenges by helping pro-Western regimes to acquire the training and equipment needed to counter a Komar-type threat themselves before the call for direct American involvement is sounded.

THE FLEDGLING NAVIES OF BLACK AFRICA

A research paper

by

Mr. Richard W. Hale

Introduction. In the very recent past, considerations of Africa's role in a local, regional, or even global conflict reflected the realities of the region's colonial status and the continued expectation that war would entail a repetition of the strategic maneuverings of World War II. Thus, in an article written in 1954 on "Africa's Strategic Significance," American naval strategist Adm. Richard L. Conolly devoted his attention to the Suez Canal and the Mediterranean to the north, and the Cape of Good Hope to the south. He made only two references to the potential importance of the vast area in between—Dakar, dominating the sealanes around the western bulge of Africa, and Diego Suarez, the French-developed naval facility on the northern tip of Madagascar.[1]

Two years after Admiral Conolly's article appeared, Africa's independence decade began, and 10 years later serious writers were beginning to take a very different view, as expressed by the London Institute for Strategic Studies:

> The prevailing tendency is to underrate the strategic importance of Africa. One reason for this is the undoubted fact that in terms of trained manpower and advanced equipment—of actual military potential—Africa is weak. Another is that the continent is so situated in relation to the main centres of power in the world today that in the event of a global conflict it might have little practical significance. Even this allegation is disputable, for as the nature of East-West tension modifies

so the centres of interest tend to shift and inevitably to include any areas of instability, and Africa certainly contains some of these.[2]

The Institute's writers were principally concerned that great power support of one or more African regimes could significantly alter the local political balance. While this is undoubtedly true, an overt move by one of the great powers in this direction would almost certainly bring an opposing response aimed at redressing the balance. Unfortunately, this could also sow the seeds of escalation and a pointless arms race. What seems more a matter for concern, at least in the naval sphere, are developments already taking place in Africa. Certain countries—not particularly friendly to the United States or her allies—are quietly acquiring, by gift or purchase, naval vessels with considerably more offensive potential than those possessed by their more conservative, Western-oriented neighbors. Even more importantly, these acquisitions pose a potential threat to the small task forces lacking air cover normally deployed by Western nations in these waters where, as L.W. Martin says, "in the twilight of diplomatic tension and of marginal hostilities heavily circumscribed by political inhibitions . . . there is always the possibility that a sudden foray by even the most inefficient forces might score a quick, costly, and humiliating success."[3]

Although the United States has no treaty commitments compelling her to come to the defense of any African nation,[4] she does have longstanding ties of friendship with at least two nations of black Africa, Ethiopia and Liberia, and has demonstrated interest in assisting the stability and development of several others—particularly Zaire, Ghana, Nigeria, Zambia, and Kenya. Of these countries, Zambia has no seacoast and Zaïre an insignificant one, but the others have substantial and vulnerable sea frontages. Only Nigeria, and to a lesser extent Ghana, have naval forces capable of countering offensive maritime action by more radical neighbors such as the U.A.R., Sudan, Somalia, and Guinea.

Despite her plethora of coups d'etat, border disputes, irredentist claims, and seccessionist movements, Africa as a whole has been spared serious interstate conflict. Some credit for this must be given to the Organization of African Unity (OAU) and to the restraint exercised by various African leaders. However, a substantial portion of the credit probably goes to more practical constraints—the lack of trained manpower, modern firepower, and an adequate transport and logistics base to support extended operations. These constraints are slowly but steadily being removed, and during the next decade many of the black African nations may feel they have the strength to react more vigorously to real or imagined threats to their national well-being. With military men increasingly supplanting older, and perhaps more cautious, politicians and the OAU becoming less and less effective, interstate conflict in black Africa becomes a greater possibility with each passing year.

While preventing or limiting interstate conflicts through diplomatic channels is clearly the desired solution, the best alternative in cases where the parties are not amenable to compromise might well be to allow the conflict to be settled locally, preferably without great power involvement. One way to avoid, or at least minimize, the risk of great power involvement at the time of conflict is to maintain a relative parity in the arms possessed by each nation. It is the contention of this paper that, in naval strength at least, the pro-Western, conservative nations of black Africa have already slipped behind their more radical neighbors. Further, the possibility that some African navies may someday soon add the *Komar*- and *Osa*-class missile boats to their inventories

indicates how the existing gap might be widened even more dramatically unless corrective measures are taken.

The United States has at least a moral interest in the well-being of a number of black African nations and, as a result of their location and/or the availability of mineral and other resources, a potential strategic interest as well. A small program of assistance in training and equipment could ultimately pay useful dividends in self-protection and stability and potentially even greater dividends in friendly control of coastal waters and shipping lanes during a limited or conventional war.

A Summary of Naval Power in Black Africa. Although sometimes lacking in the skills and the means necessary to move their newly independent countries down the path of economic self-sufficiency and political maturity, most black African leaders have a strong sense of history and are well aware that Africa was brought into the modern world by men who came from the sea. Starting with the Portuguese in the 15th century, the black Africans began trading, were enslaved, proselytized, educated, conquered, and colonized by Europeans and Arabs who used the seas to leap the barrier of the Sahara and bring to bear the power of modern arms to accomplish their own objectives on the newly opened continent.[5]

Military power was not unknown to the Africans, since the ancient states and kingdoms which flourished in various parts of Africa before the 19th century did so because they had enough military power to protect their territory, overland trading convoys, and sources of wealth. In the first centuries of contact, the military strength of the local African rulers was such that the early Europeans made and respected trade and treaty agreements. However, as the colonization scramble began and the full weight of European gunboats and weapons was brought to bear, regiments of spear-carrying warriors could no longer fend off the inevitable.[6] Although the African Continent was completely partitioned by the beginning of the present century, the colonial period was relatively short for that continent. New perspectives on human dignity and freedom grew out of World War II, and this set the stage for the rapid decline of colonialism by the middle of this century.

Although Africa progressed fairly quickly toward independence after World War II, control of the indigenous military forces lagged behind political independence. "In the period of so-called 'preparation,' but also in the period after independence, the training of African officers was undertaken with the greatest reluctance. Invariably the last functions transferred to African control with decolonization were those connected with internal security or defense."[7] In the former British colonies it took from 5 to 10 years for the military forces to be either completely Africanized or to at least come under the effective control of native officers. The French facilitated the transfer to African control almost by accident. In 1956 they instituted a crash training program for African officers, "not, it may be said, because of the forthcoming requirements of independence, which was not at that time contemplated, but in accordance with an ephemeral plan to upgrade the importance of the manpower reserves of *Afrique noire*." Despite different intentions, the happy result for the black Francophone states was that nearly 500 officers were either commissioned or under training when most of these states became independent in 1960.[8]

Regardless of these difficulties, all of the black African states were well on their way to having their own military forces by the mid-1960's. In every case the army received the bulk of the new government's attention, both as a continuation of the colonial tradition,

wherein the colonial power provided naval protection when needed, and as a result of the perceived need for internal security and territorial protection. Participation in the United Nations Congo operation in the early 1960's gave many of the larger armies a chance to take part in an international foray. However, since most of the African forces involved were still under direct or indirect control of officers of their former metropole, the Congo operation was not really that much different—in practical if not in psychological terms—from the traditional French employment of black troops abroad from World War I onward or the British use of black troops as an imperial reserve in World War II.

Despite the concentration on Africanizing and strengthening their armies, most of the African states, and certainly the larger ones, had by the 1960's or earlier begun to put together at least the nucleus of both an air force and a navy. In most cases there was not much to start with, since "the naval forces transferred from colonial power to former colony were so ill-formed and incipient that they might well have been disbanded. The number and size of ships transferred was negligible, the number of qualified officers and petty officers was miniscule."[9]

However, considerations other than the purely military were at work, as was indicated by Klaus Knorr:

> if the newly established states have acquired armies, navies, and air forces—sometimes of a kind and size hardly justified by international exigencies—their government may have done so as part of their business of building a nation, or promoting national self-identity, or—by displaying the traditional appurtenances of the nation-state—they may simply have been satisfying their craving for status and self-respect.[10]

It is not surprising that Ethiopia, independent since ancient times except for her problems with the Italians during this century, was the first of the black African states to have her own navy. What is surprising, however, and perhaps indicative of the inward-looking attitudes prevailing on the continent, was that the Ethiopian Navy was not formed until 1955. Over the space of 6 years, progress in building this force consisted of a naval cadet school and a fleet made up of two Yugoslav motor torpedo boats, five American coastal patrol boats, and a reconditioned U.S. seaplane tender of World War II vintage.[11]

Nigeria was the next country to establish what could be regarded as a naval force, having started at independence in 1960 with a small force of former British minesweepers and patrol craft.

Despite the usual African problems of nepotism, tribalism, and inefficiency, the African states made progress both in training their personnel and in acquiring new or reconditioned equipment. In the early years most of the training continued to be provided by the former colonial powers. Thus, in the case of Ghana and Nigeria, during the period 1960-67, 27 Ghanaian and 138 Nigerian naval personnel received advanced training in Great Britain—officers at the Royal Naval College, Dartmouth, and enlisted men at Hythe, near Southampton.[12]

As the problems of training personnel were being addressed, if not completely solved, the new nations simultaneously began to acquire more naval equipment. In 1960, the high-water mark of independence in Africa, the sum total of naval vessels possessed by the black African coastal states was approximately 25 vessels of 100 tons or more, capable of performing patrol duties in open coastal waters. A large percentage of these vessels were former coastal and ocean minesweepers of World War II vintage. Indeed, although Nigeria was the only state claiming a

"frigate" (the *Nigeria*), that vessel was, in fact, a former British *Algerine*-class ocean minesweeper and a veteran of World War II.[13]

By 1970 this black African fleet had grown to about 35 vessels of 100 tons or more, plus 15 fast motor torpedo boats, more potent fighting boats than many of the 35 larger vessels. While such growth can hardly be termed spectacular, it is nonetheless impressive when the budgetary problems and the almost total lack of trained and qualified manpower are taken into account. More importantly, statistics of this kind do not reflect the qualitative as well as quantitative growth. The original *Nigeria* was scrapped in 1963 and replaced in 1965 with a new 1,700-ton frigate. Nigeria also acquired two new 500-ton corvettes and six 120-ton seaward defense boats; Senegal and the Ivory Coast replaced their original, ancient, ex-United States, ex-French minesweepers with new 235-ton patrol vessels; and other states made similar advances.[14]

Fortunately, this buildup of African naval forces has been gradual, and a statement made 8 years ago in an Institute of Strategic Studies document that "there is not yet . . . much sign of the development of local arms races and the emergence of regional warlords"[15] remains substantially correct today. Indeed, Chester A. Crocker found in 1968 that "defense expenditure per capita and as a percentage of GNP is lower in Africa than in any other underdeveloped region" and attributed this to the restraint shown by the developed nations who "have not generally speaking, encouraged large scale arms buildups for either political or commercial motives." Crocker also speculated that there is a tacit accord among the Western Powers not to provide more sophisticated hardware to Africa than is necessary.[16]

Deliberate, overt limitation of arms supplies to the African nations was publicly advocated by various private and governmental organizations in the early years of African independence, but such proposals got nowhere. The principal opposition came from the African governments themselves who, according to Crocker, "saw such an arrangement as a means of preserving the decisive military roles of the ex-metropoles." However, Crocker credits most African states with having kept their procurement programs reasonable, with emphasis on "increased mobility and communications, plus an increment of gloss to meet the prestige demands of independence."[17]

Great Britain and France remain the principal arms suppliers and trainers of personnel for black Africa, followed by the United States, the Soviet Union, and West Germany. Lesser, but still significant, roles are played by Communist China, Italy, Israel, and Belgium, while Yugoslavia, Egypt, Canada, India, Pakistan, the Netherlands, Czechoslovakia, East Germany, Greece, New Zealand, Australia, Norway, Sweden, Cuba, and Indonesia all make small contributions of training and/or equipment in areas of special political or economic interest to themselves. Crocker observes that the "pattern of aid relationships is still a clear reflection of the passing colonial order, but there is a growing overlay of post-colonial ties."[18] These new ties reflect ruptures between former colony and metropole (Guinea and France, the Congo and Belgium), a wish to diversify for nonalignment sake, or simply a desire to obtain more and better equipment than traditional Western suppliers have been willing to provide, as in the case of Somalia.[19]

Although the former British, Belgian, and Italian colonies of black Africa buy or otherwise obtain arms from a wide variety of sources, the former French colonies of black Africa maintain a completely different relationship with France. There are exceptions, such as Guinea and to a lesser extent Mali, but 13 other former colonies, including

Senegal, the Ivory Coast, and Malagasy, have their military machines firmly linked to Paris. The French aid program is centrally organized, and about 10 percent of the total aid budget to their former colonies is set aside for military requirements. However, this 10 percent does not include grants of military hardware, which come directly from French Armed Forces' inventories. Financially it is an arrangement that a poor country can hardly afford to pass up, and since the French promised help in maintenance and resupply in return for a commitment to apply first to France for equipment and training, it effectively excludes other sources of supply, unless France prefers to waive its right to provide the needed item or permits its African partner to look elsewhere. The system saves money for the African countries and provides them with standardized hardware. For the French this continuing relationship allows them to maintain close military collaboration with their former colonies.[20]

Future Potential. Looking again at the black African navies as a whole, it is difficult to perceive what will eventually develop out of this melange of training and procurement. While the overwhelming majority of these new navies have yet to be tested in actual conflict, the Nigerian Navy's performance in conducting blockade, amphibious, and riverine warfare operations against secessionist Biafra has made it a potential model for the other black African littoral states. The importance of the Nigerian Navy's role in first preventing the marketing of Biafra's potential wealth in high-quality crude oil, then stopping the importation of heavy armaments, and finally in turning the Biafran flanks by sea and riverborne amphibious thrusts demonstrates a capability to which other African navies may want to aspire in order to fulfill a role they may someday be called upon to play.

The African Navies and the Decade of the Seventies. Studying the pattern of military development in independent black Africa to date, it is reasonable to assume that the armed forces of the black African states will continue to grow through the 1970's. Since most of the larger countries have achieved a generally satisfactory increase and modernization of their armies, it seems equally reasonable to assume that they will devote increasing attention to balancing their forces, establishing at least minimally competent air forces and navies. In the case of the navies, tentative steps in this direction already have been taken during the past 10 years. Some discrepancies in the naval balance of power have developed during this period, although it seems likely that these imbalances resulted as much from differences in the training and tactical orientation of both customer and supplier as from a deliberate attempt to alter the naval status quo. To fully appreciate the nature of this imbalance, we need to examine the traditional, and still to a large extent the present, missions and roles of the black African navies; their present and potentially attainable strength; and how the existence of present or easily obtainable highly mobile striking power might inject a new equation into the thinking of an African leader seeking to lash out at a neighboring state with which he is having serious disagreements.

The traditional mission of the African navies and the one for which most of them are still structured is essentially that of small navies and coast guards everywhere: antismuggling patrols for governments which are usually heavily dependent upon duties for budgetary support; in the Red Sea-Gulf of Aden area, antislavery patrols; and coastal defense, which in the African context means principally a counterinfiltration role against dissident elements receiving men and arms from outside the country.

The Nigerian Navy demonstrated a

capability beyond the traditional during the Biafran conflict, engaging in blockade, amphibious, and riverine warfare operations, but it is doubtful that many other black African navies presently have either the equipment or the training to emulate their Nigerian colleagues. However, with the example of the Nigerian performance before them, the commanders of other black African navies must have examined their own capabilities to meet a similar emergency and found them wanting. They must also be aware of two other relevant events during the past 5 years, events which they must view with either anticipation or anxiety.

On 22 October 1967 the Israeli destroyer *Elath*, a well equipped although somewhat overaged ship manned by a superbly well-trained crew on full alert, was sunk by three Styx missiles fired from *Komar*-class patrol boats stationed 13 miles away inside the harbor of Port Said. As Robert Colvin says, "A new dimension, reminiscent of the appearance of the *Monitor* in Civil War days, had been added to naval warfare."[21] Similarly, in December 1971, *Osa*-class missile boats of the Indian Navy proved their offensive capabilities by sinking the Pakistani destroyer *Khyber* and an ocean minesweeper, damaging other Pakistani naval and merchant vessels, and bombarding fuel storage facilities located near Karachi harbor.[22]

The arrival* on the naval scene of what *Jane's* editorially describes as "the small fast boat with the long-reach big-punch,"[23] and an Indian writer as the "pocket battleship of the missile era,"[24] dramatically changes the international equation of naval power. With these missile boats, small navies, including the black African ones, can now acquire significant defensive and limited offensive capabilities, even given the sharp budgetary constraints with which they must contend.

Although there has been no lack of interstate tension and disagreement in black Africa, serious military engagements between African states have yet to arise since the independence period began. While political and diplomatic maneuverings have played their part in keeping hot words from becoming hot war, weak military establishments, poor roads, and inadequate transport and logistics bases have also played a major part in preventing war between squabbling neighbors. The presence now of the fast torpedo boat and the potential presence of its near relative, the small, fast missile boat, adds a new dimension to the problem of keeping the peace in black Africa. A fast patrol boat, cruising along a hundred or so miles of coastline to launch its torpedoes or missiles against slow patrol craft and merchant shipping, provides a much faster and easier (and thus perhaps more likely) response to a real or imagined offense than the overland deployment of an army deficient in transport and supply. Although such an attack by one African country against another is hypothetical, the means to carry out such an attack are already available—as is shown by an examination of present naval strengths and the way in which this strength is distributed geographically.

Old traditions die hard, and even 2 years after the sinking of the *Elath* a contributor to the *United States Naval Institute Proceedings* ranked three conservative, pro-Western states as having the most powerful mininavies: Nigeria first, Ethiopia second, and Ghana third.[25] This judgment was apparently based solely on the size and number of vessels in each navy's inventory. Ethiopia's navy, for example, at that time consisted of a converted former U.S. seaplane tender, the *Ethiopia*, five

*Arrival is actually a misleading word. The *Komar* and the *Osa* have been in service for years, but it took the sinking of the *Elath* for the Western navies to become fully conscious of the threat.

patrol boats, two Yugoslav motor torpedo boats, and two landing craft. Ethiopia's possession of the *Ethiopia*, a 1,700-ton vessel mounting one 5-inch gun, had even engendered suggestions that, owning a "destroyer-sized" vessel, Ethiopia might suitably be included in a proposal for an Indian Ocean multinational force.[26] Unfortunately, the reality is more sobering. The *Ethiopia* is 30 years old and a constant maintenance problem; the patrol boats are former U.S. Coast Guard vessels, also old, and too slow for even good anti-smuggling work; and the Yugoslav torpedo boats have been scrapped.[27]

The situation on the West Coast with the navies of Nigeria and Ghana is somewhat more encouraging. Both the Nigerian and Ghanaian Navies have some modern, effective vessels, the prime example being the ASW and AA frigate *Nigeria*. She is 1,700 tons, 360 feet in length, and has a speed of 26 knots. Nigeria also owns two new corvettes, as does Ghana. These four vessels are all from the same basic design by the builder Vosper-Thornycroft of England, although the Nigerian vessels at 500 tons, 200 feet, and 23 knots are a significant enough departure from the traditional to prompt *Jane's* to make the following special comments:

> Anti-submarine vessels of a novel type. . . . Comprehensively fitted with sonar, air and surface warning radar. Vosper roll damping fins and air-conditioning. . . . A very interesting patrol vessel design, an example of what can be achieved on a comparatively small platform to produce an inexpensive and quickly built anti-submarine vessel.[28]

Unfortunately, after these vessels have been considered there is not much left in the inventories of the conservative, pro-Western navies of black Africa. Nigeria does have six *Ford*-class, 120-ton seaward defense boats. However, they are slow and lightly armed and not as combat effective as the remaining vessels of the Nigerian Navy, three Soviet-built P-6-class torpedo boats. Ghana's main backup for her two modern corvettes are two *Ford*-class boats similar to those of Nigeria. Senegal has only one new, 235-ton patrol vessel and two former French 75-ton patrol boats. The Ivory Coast has a sister ship to the Senegalese patrol vessel and one of the 75-ton former French patrol boats. Liberia has only two 100-ton U.S.-built motor gunboats, theoretically capable of 21 knots. Finally, returning to the East Coast, Kenya has only three new British-built, 96-ton, lightly armed Vosper patrol craft, although these vessels are versatile enough that the armament options could probably be expanded significantly if necessary.[29]

The most likely potential black African antagonists of the conservative, pro-Western states whose navies have been inventoried above are the radical leftist states. These include Guinea, Somalia, Sudan, the U.A.R. (in her role as a Red Sea littoral state), and possibly Tanzania. However, despite her significant naval inventory, the U.A.R. is Mediterranean oriented and not presently a factor in the black African naval balance. Similarly, the Sudan also directs most of her attention northward and has not to date made much of an effort to build up her naval presence on the Red Sea. That leaves only the navies of Somalia, Guinea, and Tanzania to be considered. At first glance their naval inventories do not appear to be very significant, consisting of 18 patrol boats in the Somali Navy; eight patrol boats in the Guinean Navy; and six patrol boats in the Tanzanian Navy.[30]

However, when the capabilities of this equipment are compared to the equipment in the hand of their conservative neighbors, the differences become more apparent. Twelve of the Somali patrol boats and all of the Guinean patrol boats are former Soviet P-6-class motor torpedo boats, and the

six Tanzanian boats are former Chinese Communist *New Shanghai*-class patrol boats. Although obsolescent in the Soviet Navy, the P-6 remains a very potent little vessel. Capable of speeds up to 45 knots, with sea-keeping ability up to sea state four, these 66-ton, 85-foot boats start with a basic armament of four 25 mm. guns and two 21 inch torpedoes, and the weapons suits can be modified to include either mines or depth charges.

The P-6 can outrun and outmaneuver any other vessel in the black African naval inventory, and even its basic armament gives it more punch than anything but the single frigate and four corvettes of Nigeria and Ghana. Perhaps even more significantly from a threat perspective, the P-6 is the vessel that was modified to create the *Komar*-class missile boats of the type that sank the *Elath*.[31] Skills acquired in manning the P-6 would need only to be expanded to include the launching of the Styx or a similar cruise missile should the Soviet Union decide to add its African friends and clients to the *Komar* gift list, which already includes the U.A.R., Syria, Algeria, Cuba, India, and Indonesia.

Using a new yardstick of capability and numbers rather than the old yardstick of size and numbers as units of measurement, we readily gain a new perspective on the relative strengths of the navies of black Africa. Using this new yardstick, it appears that the actual naval strengths are such that Somalia is the strongest indigenous naval power in east Africa, with Tanzania second, Ethiopia third, and Kenya fourth. In west Africa, Guinea could potentially overwhelm Senegal, Liberia, or the Ivory Coast and make things difficult for Ghana and perhaps even Nigeria. If any of the P-6 fleets were upgraded to include *Komar*-class missile boats, even Nigeria would be outclassed.

While it may be true today that the Africans simply do not have the requisite skills to handle basic equipment such as the P-6 effectively, let alone complicated weaponry such as the Styx missile, training and skills are a relative matter. The Nigerians were inefficient in the maintenance and handling of their vessels at the time of independence in 1960, but they have come a long way, as the Biafran episode demonstrated. Further, a lot of deficiencies can be overcome in an 8-10 year period. Thus, even if 10 years hence the Styx missile or its successor had to be maintained by Soviet technicians, the impact this weapons system could have in the area should be apparent.

The African Navies in Local and Limited War. Given the possibility that, with the exception of Nigeria, the navies of conservative pro-Western black Africa might not be able to give a very good account of themselves in the face of a maritime threat from their more radical neighbors, the Western allies would be wise to consider what steps they might take to help their black African friends develop the capability to defend their sovereignty. It seems equally desirable that this situation be addressed presently rather than permitting it to develop to the point where a friendly state must seek assistance under circumstances which might ultimately invite escalation and great power involvement.

Assisting friendly navies now, before the need becomes critical, could also provide a future bonus in the form of auxiliary fleets which, in a wider conventional conflict, could at a minimum neutralize any striking power in the hands of a hostile neighboring state, prevent harassment of friendly maritime traffic in the area, and ensure access to ports and raw materials by friendly merchant vessels. Fast missile patrol craft could give friendly navies an offensive capability against surface raiders, and a limited ASW role would be possible in coastal areas guarded by specially equipped patrol boats. The fact that the ASW capability would be

limited should not be a deterrent, since the problem is one shared by most small navies. During the 1971 International Seapower Symposium, several of the symposium committees expressed the belief that the small-navy nations would have to concentrate on the protection of their shores and close-in sealanes of communication, while the protection of midocean shipping lanes would have to be carried out principally by the larger navies, in cooperation with local navies as applicable.[32]

The South Atlantic and Indian Ocean frontages of Africa may never become strategic crossroads like the Atlantic and Pacific which lie between great power centers, but in any nonnuclear conflict of significant dimensions the mineral resources of Africa will be important, possibly vital, to the West. Similarly, control of the sea route around the Cape of Good Hope, which presently sees an average of over 600 ships pass every day, may well prove to be vital in future conflict situations.[33] In a localized conflict Western naval power would probably be available to assure that these resources remained accessible. However, in this era of tightened budgets, reduced fleets, and obsolescent ships, the power might not be available even in a limited war, and thus the local balance of naval power might have a decisive influence.

T.B. Millar of the London Institute of Strategic Studies outlines the utility of even the small black African navies in a broader conflict when he says that "Strategy in an extensive oceanic environment does not involve control of the sea itself, but of specific points of importance around it, or access to and routes between them. . . . Oceans are large areas of manoeuvre, but the key peripheral or island points are limited and known and thus vulnerable."[34] L.W. Martin carries the point further when he states that "command of the sea, though frequently spoken of as a universal attribute, is in fact a local phenomenon effectively exercised only where dominant force is actually brought to bear at any given moment," and goes on to suggest that even under conditions of dominant force there have "usually remained areas, such as inshore waters and closed seas, into which the ships of the greater naval powers could not venture."[35] In this time when the nuclear deterrent must continue to take its slice of the U.S. military budget, when the escalating costs of new vessels and their electronic weapons and counterweapons systems quickly consume those funds that remain, and when the preponderance of available force must be concentrated in the main threat areas of the North Atlantic and the Pacific, it seems appropriate to seriously consider the contribution the friendly navies of black Africa could make to the naval balance of power. As the *Economist* recently editorialized:

> There are other parts of the world's seas—the southwestern Pacific, [the South Atlantic] and large stretches of the Indian Ocean—which are still outside the range of the land-based aircraft of the major powers. . . . It is here too that even a fairly small naval force can still hope to establish a local superiority of power—and use it to do all the things, from showing the flag to putting the marines ashore that are the prerogatives of naval supremacy.[36]

If the friendly navies of black Africa cannot even defend their own coastal waters against their radical neighbors, how could they possibly fulfill their potential role as allies of the West in a conventional war? The Soviet Union produced over 500 P-6 boats from 1951 to 1960, and since they are obsolescent in the Soviet Navy, many of the approximately 250 still on active duty with the Soviet Navy are probably available to potential friends and allies in the Third World. Presumably also available are some of the 50 *Komar* and

100 *Osa* missile boats still in the Soviet Navy.[37] Although already provided to a wide range of both Communist bloc and Third World nations, such equipment has not yet been given to any black African nation, but it is a reasonable assumption that only the present technological deficiencies of these nations have so far restrained the Soviets. This may not be the case 10 or even 5 years hence.

The Israeli reaction to the sinking of the *Elath* was quick and positive. They designed the *Saar*-class boat, big enough at 240 tons to perform the required missions of ASW, coastal defense, air defense, and antimissile boat defense and still be small enough and fast enough to "out-gun, out-manoeuvre, and out-run the *Komar*/*Osa* patrol boats and older destroyers of the Arab Navies."[38]

Malaysia, in a similar predicament during its confrontation with Indonesia, ordered British-built *Brave*-class patrol boats, boats of 95-ton, 96-foot length which patrol with diesels at 10 knots or go to gas turbines for fighting speeds up to 54 knots. These boats are armed with wire-guided surface-to-surface missiles, one 40-mm. and one 20-mm. gun, and properly handled could probably cope with an *Osa*, *Komar*, or even larger vessel quite effectively. Denmark also has purchased patrol boats of this class, and West Germany, Norway, and other small countries are building their own small, fast missile boats to counter the cruise missile threat.[39]

Evaluating the *Elath* disaster, Robert Colvin suggests building *Saar*-type boats and "providing Patrol Gun Boats of the *Flagstaff* (PGH-1) or *Tucumcari* (PGH-2) class for navies where coastal defense and anti-smuggling are required missions."[40] While the speed (40 knots plus) and armament (40-mm. guns, 81-mm. mortar, and .50 cal. machine guns) of these hydrofoil boats are satisfactory, the editors of *Jane's* estimate construction costs of the *Tucumcari* class boats at about $4 million each.[41] This factor alone is enough to rule out hydrofoil craft as a solution to the small African navies' problem.

The U.S. Navy already has some boats in service that would probably be suitable for defensive use against a *Komar* or *Osa* threat, but they too are probably overpriced and underproduced for the potential requirement considered here. This refers to the PG-84-class motor gunboats (225 tons, 165 feet, 40 knots, gas turbine and diesels), and the *Nasty*-class PTF (64 tons, 80 feet, 45 knots with diesels).[42] Surface effect vehicles, or hover-craft, offer a high-speed option for coastal and shallow-water use, but their present high cost also rules them out.

It would appear that a more practical solution might be the acquisition of fast torpedo boats being phased out of other friendly navies such as the German *Jaguar*-class boats, some of which are being replaced by new fast missile boats. The *Jaguar* boats are 160 tons, 138 feet, 42 knots, armed with two 40-mm. guns and either four torpedoes or four mines.[43] Diesel powered, they should be simple to maintain, yet large enough to be equipped with a more powerful punch that could more than make up the little they lack in speed if called upon to defend against boats of the P-6, *Komar*, or *Osa* type.

Beyond offering these suggestions and voicing the hope that the provision of costly and complicated overage destroyers is not considered an appropriate response, this paper does not presume to provide the technical answers to the problem posed. There is ample evidence the United States and most of her allies have lagged behind the U.S.S.R. in the production of small, fast missile boats. This is probably due more to a budgetary and tactical gap than a technological one. New construction techniques in plastic, fiberglass, and stressed concrete can probably do much to close the gap if the need is recognized

and the funds available.

The problem of the surface-to-surface missile threat, however, appears somewhat more difficult, and as *Weyer's Warships of the World* notes editorially, the "fact that three years after the sinking of the Israeli destroyer *Elath* no corresponding weapon is available except the French *Exocet* betrays a serious deficiency in planning."[44] However, other NATO members (Britain, Italy) have also come up with small surface-to-surface missiles which give promise of an effective counter to at least the platform of the cruise missile, if not the missile itself. The sinking of the *Khyber* should have convinced even those doubters who were left after the *Elath* debacle, and with proper attention to the problem, solutions may come faster than presently appears likely.

Conclusions. Having helped to set the stage for the emergence of most of the African Continent from colonialism to independence, the United States took a paternal interest in political and economic developments on the continent during most of the decade of the 1960's. More insistent problems elsewhere and the belated recognition that the rush to independence had perhaps been premature by a generation or so combined to divert attention from Africa beginning in the late 1960's, and this trend will probably continue during the 1970's. Militarily and strategically, Africa has never received much attention except in the brush-fire war context, best exemplified by the Congolese eruptions starting in 1960.

The Nixon Doctrine, in addressing itself to Africa, concentrates on peace, development, justice, and progress.[45] However, the establishment of tentative footholds on the continent by the U.S.S.R. and the increasing projection of Soviet naval power into the South Atlantic and Indian Oceans may prove to be harbingers of even more significant Soviet activity on the continent in the 1970's. Such developments will likely provoke Washington into reevaluating its presently limited policy for the area.

If that time arrives, as it probably will, one of the first problems that should be considered is the shift in the balance of naval power in black Africa to countries somewhat less friendly to the United States and her allies than we would wish. Fortunately, that shift is not presently of great magnitude and is by no means irreversible. Present budgetary problems and the decline in both economic and military assistance by the United States abroad, particularly in Africa, do not give much promise of any early or large-scale remedial action. However, shifts in the economic and strategic balance will probably become more pronounced during the next decade, and when present trends on the continent become more recognizable, it may be possible, desirable, and even essential to move Africa more into the focus of our attention. One development in particular which should signal the United States and her allies that the time for reappraisal might have arrived would be the acquisition by any of the more unpredictable littoral states—Guinea and Somalia in particular—of *Komar*- or *Osa*-class missile boats.

The candidates for assistance in the naval field are obvious: Ethiopia and Kenya on the East Coast; and Liberia, Ghana, and Nigeria on the West Coast. Ethiopia and Liberia need assistance the most, both because they are weak in relation to troublesome neighbors and because they occupy potentially strategic locations in relation to sealanes used by friendly shipping and naval forces.

Any naval assistance tendered need not be, indeed should not be, on any great order of magnitude. The objective should be simply the establishment of parity, providing friendly countries with the means to protect their own harbors,

coastal routes, and their own and friendly shipping within their zone of influence. The small, fast, possibly missile-armed patrol boats best suited to this type of mission should do nothing to aggravate neighbors who have no aggressive intent and would do much to prevent the development of any aggressive initiatives at a future date. Neither would such assistance serve to aggravate the tensions between independent black and white dominated southern Africa, since the type of equipment suggested could not be used offensively against any worthwhile targets in southern Africa. The possession of a significant black African defensive capability might even help to cool off the dispute, since the black Africans would have less fear that the longer legged navies of Portugal and South Africa could launch retaliatory strikes against them with impunity.

There is of course no guarantee, particularly in the unstable political environment of Africa, that the countries assisted in the naval field will remain friends and potential allies. There are certainly examples of African countries turning on their former patrons, with Somalia, Sudan, Libya, and the U.A.R. coming quickly to mind. However, the five countries selected for assistance seem to have a reasonable chance of remaining stable and friendly, and the small risk seems well worth taking.

Although the prospects for any program such as that proposed in this paper presently look dim, there are many developments on the world scene—political, economic, and military—which could result in significant reorientations of U.S. strategic thinking during the next decade. As the growing Soviet Navy continues to spearhead the spread of Soviet power and influence beyond the traditional areas of confrontation, the South Atlantic and Indian Oceans—and the continent in between—may take on new importance.

While the Nixon Doctrine says that "support for the inviolability of African borders and the integrity of African states is a cardinal point of American policy," it also states that American forces will not be involved abroad unless it becomes absolutely essential in light of U.S. interests.[46] This paper has attempted to show one way in which support for this cardinal point might be achieved, perhaps in a manner such that a commitment of the U.S. forces might never have to be considered.

BIOGRAPHIC SUMMARY

Mr. Richard W. Hale earned his bachelor's degree from Ohio State University in political science. He has had wide and varied experience in the Department of State in the sub-Sahara countries of Africa. Mr. Hale is currently assigned as a student in the College of Naval Warfare.

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Growing Soviet naval activity in the vital Norwegian Sea and North Atlantic received little notice despite the region's strategic importance and relative vulnerability. Caught in the dilemma occasioned by an expanding Soviet Fleet and a U.S. overseas force reduction, NATO and more particularly small nations like Norway and Denmark which lie within Moscow's sphere of interest may soon face a choice between accommodation to Soviet political goals or precipitating a direct confrontation between the superpowers. A firm commitment in this strategic part of the world by NATO and the United States is the best insurance against such a situation ever becoming reality.

THE NORTH ATLANTIC:

THE NORWEGIAN SEA,

A SCANDINAVIAN SECURITY PROBLEM

An article prepared

by

Captain Christer Fredholm, Royal Swedish Navy

Introduction. A little more than a year ago the then Norwegian Defense Minister Hellesen announced, in a report to the Norwegian Parliament, that Russian military activity near Norwegian waters and airspace had substantially increased. He also made it clear in his report that the number of units in the Russian Arctic Fleet had increased sharply and that the fighting power of the vessels was much improved. Numerous air and amphibious exercises suggested that Russian forces could conduct offensive operations on very short notice. Similar Norwegian apprehensions were also aired at the 1970 NATO meeting in Brussels where it was noted that the recent expansion of the Russian missile-armed submarine fleet, based principally in the Murmansk area, had automatically increased the strategic importance as well as vulnerability of sparsely populated northern Norway.

These conditions have initiated a far-reaching security policy debate in Norway and other Western European countries. Some observers have suggested that Soviet naval activity in the area surrounding Norway might well prove to be one of the key elements in Norwegian security policy during the seventies. It is interesting to note, however, that while Norway's social-democratic government, led by Prime Minister Bratteli and Defense Minister Fostervoll has expressed concern over the colossal Soviet rearmament in NATO's northern flank, the Norwegian Foreign Ministry seems to have tried to tone down the expression of these fears recently.

The chief of NATO's northern command in Europe, General Walker, has repeatedly warned against underestimating the problems faced on NATO's northern flank. Walker has argued that

the most significant growth in Soviet military power has not occurred in the Mediterranean but along the Norwegian frontier. The Danes have also taken serious note of expanded Russian naval training maneuvers in areas adjacent to their territory. Noted authorities claim that Denmark's strategic position has been radically altered in view of the Soviets' new capability to launch a sea attack against Denmark from the west. Nor has this new development gone unnoticed in West Germany where, in a visit to Denmark and Norway, Defense Minister Helmudt Schmidt discussed the changing military situation in Scandinavia.

Russia—the World's Second Naval Power. When Admiral Gorshkov became Admiral of the Fleet in 1956 he inherited a fleet that was primarily defensive, whose principal task was to support the flanks of the Red army. Today this fleet has balance, is modern, and has gained considerable experience in deep ocean operations. Soviet naval power is now found in the Atlantic and the Mediterranean, in the Indian Ocean, and in the Far East. Russian submarines and missile-armed warships operate around the boundaries of the United States, in the West Indies and along the coasts of Africa and Southeast Asia. Whenever and wherever Moscow wishes to stress her own interests, she has a viable navy which can make its presence felt as a political instrument.

Russia's seagoing surface fleet now includes two helicopter aircraft carriers, 22 cruisers, about 100 destroyers, 105 frigates, plus a large number of maintenance and supply ships. For operations in coastal home waters there are about 250 small escort vessels, 140 missile boats, 250 motor torpedo boats, and 250 minesweepers. To this can be added 200 landing craft and a well-equipped naval infantry force. Today the Soviet Union possesses the largest submarine fleet in the world consisting of approximately 350 units (80 of which are nuclear powered) and has been constructing between 10 and 15 boats per year. About 20 of the nuclear submarines can be compared with the American Polaris submarines, but the range of their missiles is only half that of the American missiles. Some estimations, however, predict that by 1974 Russia will have more Polaris-type submarines than the United States. The most important element of the U.S.S.R.'s subsurface force consists of 61 nuclear-armed submarines, of which 35 are nuclear powered and 26 diesel powered. In addition to surface and subsurface forces, Soviet leaders have at their disposal a naval air force with an inventory of 500 bombers and reconnaissance planes, plus an equal number of helicopter and tactical supporting aircraft. The bombers are equipped with an air-to-surface missile capability.

The Russian Navy of today is modern and well developed from every point of view. It has great tactical and strategic mobility, and its firepower in both conventional and nuclear weaponry has increased markedly. Only 1 percent of the warships are more than 20 years old, and according to U.S. sources, the new Russian missile cruisers and missile destroyers are as good, and in certain cases better, than similar U.S. ships. The Soviet Shaddock and Goa sea and air defense missiles are of very good quality. Both of these missiles are included in the armament of the new Kresta cruisers, of which seven are believed to be in service with three more under construction.

The Shaddock missiles, according to official publications, have a range of from 270 to 750 kilometers. About 40 of the Russian submarines are equipped with homing surface-to-surface missiles which can be fired from an underwater position outside the sonar range of submarine hunter-killer groups. These are considered to be a serious menace to aircraft carriers.

Of the four Soviet fleets, the Arctic Fleet is probably the most modern and powerful and includes about 650 ships, of which 160 are submarines. Operating from the Murmansk region and the Kola Peninsula, the Arctic Fleet has what is probably the world's largest base area. While these bases are ice free, they are situated far from the areas of probable operation which means that the time needed for transport is abnormally long.

Because of a change in marine strategy in the last few years, the Soviets have tried to reduce their dependence on naval bases by maintaining and keeping their ships in repair at sea, as do the British and Americans. A large number of supply and maintenance ships have been built for this purpose. In this way the fleet has increased its flexibility and also has improved its capability for rapid response to contingency operations. During the 1960's, Soviet naval operations grew considerably in scope and intensity. Maneuvers in the North Atlantic and the Norwegian Sea have in recent years been extended to the south and west. Surface striking forces, submarines, amphibious forces, and airplanes all take part in these maneuvers. A visibly increased interest in amphibious operations has been noted in the north Scandinavian area as well as in the Baltic. New, modern types of landing craft have appeared during the sixties, and a fast-growing merchant marine is being built up so as to be suitable for use as military transports. This renewed interest in amphibious operations is further substantiated by the fact that the Soviet naval infantry, once disbanded, has again been revived.

Russian Naval Strategy. A nation's naval strategy rests primarily on exploitation of the seas for its own interests and, secondly, when circumstances dictate denying the use of the seas to an enemy. The overall orientation of a nation's military strategy (i.e., maritime or continental) is reflected by the relative importance it attaches to both of these strategic principles and by the material resources the country can call into play in support of its endeavors at sea. Early Soviet naval strategy, because of circumstances and tradition, was more concerned with trying to prevent others from exploiting the seas than with taking advantage of it for her own purposes. This policy of strategic defense confined Soviet naval forces to the inland seas and waters near her own coasts, while the oceans of the world were left to the devices of others.

By the mid-1950's however, one could begin to perceive a change in Russian naval thinking. For strategic and economic reasons, the Soviets concluded that their national interests dictated a greater need to exploit the oceans of the world. The strategically important submarine fleet acquired access to the oceans at about the same time their growing merchant and fishing fleet found it necessary to exploit more fully the oceans for commerce and fishing.

By the end of the fifties and throughout the sixties, U.S. forces made considerable progress in developing the technology needed to launch a nuclear attack on the U.S.S.R. at great distances from Soviet territory itself. Through exercises simulating attacks against Soviet territory, Moscow became fully aware of the significance of the U.S. carriers and Polaris submarines which regularly patrolled the Arctic regions, the North Atlantic, and the Mediterranean. Within this strategic environment and in view of the Soviets' developing technology and economy, it is quite natural that they reexamined their naval principles. The Soviet Navy we view today is not the result of any sudden change in strategy. What we see has gradually evolved since the middle of the 1950's. Those changes that have taken place scarcely imply any deviation from traditional Russian national objec-

tives aimed at assuring national security. The changes we have seen, however, lie more in the priority given the navy in providing for the national defense and in the equipment it has to do the job. It is apparent that the Soviets have now reached a degree of sophistication where they realize that a powerful navy is required for it to meet its foreign policy objectives.

Reductions Within NATO. Today the U.S. Navy has approximately 700 ships in service. The active navy includes 14 attack aircraft carriers, four ASW carriers, nine cruisers, 220 destroyers, frigates, and escort vessels, 80 landing craft, and nearly 200 maintenance ships, et cetera. The 14 attack aircraft carriers serve as a base for about 800 attack planes which can deliver nuclear weapons to targets at a distance of 1,200 kilometers from the aircraft carrier. The submarine fleet consists of 94 nuclear-powered and 46 conventional submarines. Of the former, 41 are of the so-called Polaris type, each equipped with 16 missiles. Thirty-one of these submarines eventually are to be equipped with Poseidon missiles, each armed with 10 separate nuclear warheads, which will increase the submarines' total nuclear warhead capacity from the present 656 to 5,400. Great Britain has today two attack carriers, three so-called commando carriers, about 80 modern destroyers, and frigates for convoy protection, ASW, et cetera, and 39 submarines, of which 13 are nuclear powered. One of the two aircraft carriers is to be put out of service within 2 years.

While only 1 percent of the Russian warships are over 20 years old, the corresponding figure for the American ships is 50 percent. Of the Atlantic Fleet, 80 percent of the ships are more than 10 years old, and 50 percent are over 20 years old. During 1969 and 1970, 66 new ships were built, while at the same time, 230 became obsolete. Since 1969 the number of aircraft carriers has been reduced by six and the number of cruisers, destroyers, and frigates by 80. Within several years five more aircraft carriers and about 300 destroyers, frigates, and escort vessels, built during the Second World War, will be ready for scrap. A large percentage of these ships belong to the reserve fleet, which compared with the Swedish reserves is in a very low state of readiness indeed. The reserve fleet includes four ASW support aircraft carriers, eight cruisers, and 200 destroyers. At present two large aircraft carriers, 35 destroyers and frigates, 21 escort vessels, and about 20 nuclear submarines are under construction. A proposal to build one more aircraft carrier has been put before Congress.

By 1978 the number of aircraft carriers in the U.S. Fleet may well be reduced from 18 to 11 and the number of destroyers, frigates, and escort vessels from 450 (not including operational Naval Reserve ships) to about 150. These few units are to suffice for the U.S.'s four fleets. In spite of the fact that the remaining modern and newly built units are larger, better equipped, and have greater operational mobility than their older counterparts, the increased quality would not seem to compensate for the very sharp reductions in numbers. Consequently, the Western nations can no longer patrol as large an area as before nor can they operate in as many regions of the oceans as before.

Iceland's Strategic Significance. One definite advantage retained by NATO, however, is its superior geographical position, allowing it excellent base location for gaining quick access to many of the world's most vital sea lines of communication. Within the NATO sphere—excluding Denmark and Norway which presently do not allow permanent basing of NATO troops on their territory during peacetime—are included the

Orkney Islands, the Shetland Islands, the Faroe Islands, Greenland, Jan Mayen, and, most importantly, Iceland. By terms of a defense agreement, the United States is permitted to use the Keflavik base for her Air Force and the Hvalfjord base for her naval forces. However, a recent statement by the Icelandic Government indicates there exists the possibility that Iceland may terminate this agreement before 1975, thus forcing the departure of U.S. forces. For NATO a decision of this nature would have exceedingly grave consequences, affecting the entire strategic situation in the North Atlantic and Scandinavia. Iceland's importance to the NATO alliance lies in its prime geographic location. From Iceland it is possible to maintain constant surveillance both above and beneath wide expanses of the North Atlantic and Norwegian Seas. It would also be possible from Iceland to intervene against hostile submarine and surface units which might attempt to move out into the Atlantic. Thus the geographic location of this island would be of major importance in conducting effective antisubmarine warfare operations in the adjacent seas.

The continental shelf extending out from Iceland facilitates NATO's submarine reconnaissance works with mobile and stationary units. The island is likewise of major significance regarding air activities, not only patrol operations but also in the employment of fighter aircraft, defensive missiles, and in the conduct of armed reconnaissance flights.

Iceland would play a vital role in the protection of any allied shipping across the Atlantic. Should NATO find itself in the position of not having access to bases on Iceland, the Soviets would find it far less difficult for their northern fleet units to reach their patrol areas in the Atlantic undetected. Any Soviet occupation of Iceland would breach a vital link in NATO's defense line and greatly facilitate the undetected passage of Soviet submarines into the Atlantic. In terms of air operations, the establishing of a Soviet base on Iceland would be a major strategic disaster for NATO as the Soviet Fleet would then be assured of extended air support in the Atlantic. In essence, an Iceland defended by powerful Soviet fighter and missile units would constitute a gigantic, unsinkable aircraft carrier in an ideal strategic position.

The strategic significance of Iceland today cannot be overemphasized. The confined waters in the Greenland-Iceland-Faroes-Scotland region might be likened to a lock, and whoever holds the key controls the North Atlantic. That key is Iceland. A change in the existing situation would result in an entirely new politico-military picture both in Europe and the north.

Sea and Air Objectives of NATO and the Soviet Union in the Norwegian Sea Area. NATO's most important wartime aims in the north Scandinavian area include the following:

- to attack objectives in the U.S.S.R.
- to attack bases in the Murmansk region and on the Kola Peninsula
- to prevent Russian nuclear-equipped and conventional submarines from reaching their areas of operation
- to protect NATO's sea transports to Norway and Iceland
- to prevent seaborne invasions against Norway
- to watch over the airspace and give early warning of approaching ICBM's.

The task of attacking targets in the Soviet Union should rest first on the Polaris submarines and the strategic air force. For this task the most likely operational area for the submarines would appear to be the Barents Sea and the Norwegian Sea. The increased range and heightened precision of the missiles has made it possible for the submarines in the last few years to fix their areas of

operation farther out in the Norwegian Sea and the North Atlantic.

A second but equally important target to be attacked by the strategic air force and the carrier-based attack air forces would be vital Russian base areas in the Murmansk area and on the Kola Peninsula. Modern ASM and SSM can be fired against certain targets from outside the range of active air defense.

The third aim of the West—to prevent Russian nuclear-equipped and conventional submarines from reaching their areas of operation in the Atlantic—would probably be accomplished in two combat zones, one lying more forward and situated between Svalbard and the North Cape and the other lying farther back in the line running between Iceland, the Faroe Islands, and the Shetland Islands.

Nuclear-powered hunter-killer submarines would provide the best defense against Soviet submarines in the forward zone, while ASW forces containing ASW support aircraft carriers and frigates would patrol the Iceland-United Kingdom gap. Present difficulties experienced in locating submarines in open ocean areas can perhaps be reduced through use of advanced satellite technology and electronic detection, plus installation of permanent detection devices on the ocean bottom.

Fourthly, NATO naval forces in the area must be prepared to protect reinforcements and supplies transported over sealanes to northern Norway.

Finally, air defense rests upon the NADGE detection system which stretches throughout Europe from Norway's North Cape to Turkey in the southeast. This system, the largest and most complex air defense system ever set up within NATO, is expected to be fully operative in the middle seventies.

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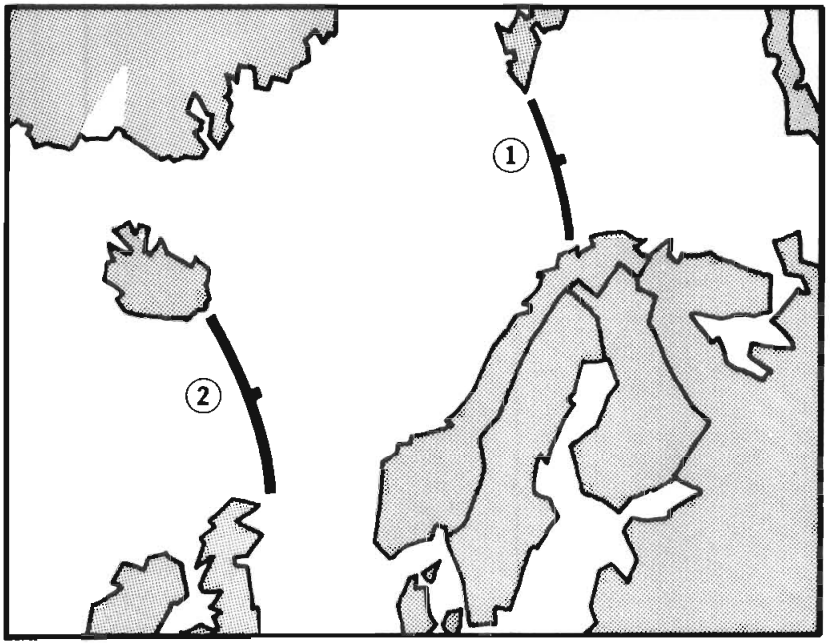


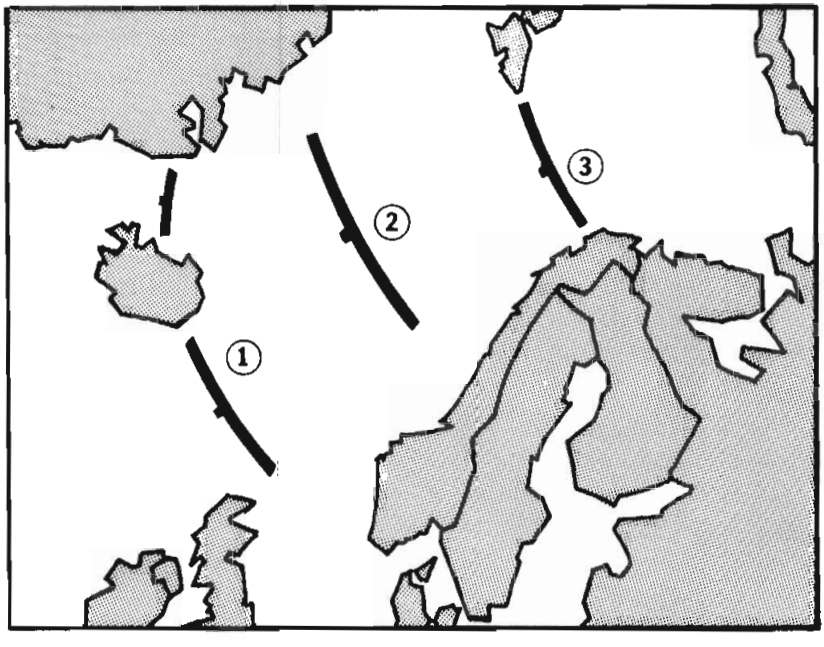
NATO'S COMBAT ZONES

1. Nuclear-powered hunter-killer submarines.
2. ASW support aircraft carriers, frigates, permanent detection devices.

The Russian objectives in the area in opposition to NATO's aims include the following:

- to assure free passage of their strategic and conventional submarine forces to the Atlantic
- to combat NATO's attack aircraft carrier forces in the Norwegian Sea
- to intercept NATO's maintenance and reinforcement transports to northern Norway
- to protect, support, and carry out amphibious operations to strategically important areas
- to prevent seaborne invasions against the Murmansk area
- to defend by air, bases at Murmansk and on the Kola Peninsula.

The Russian submarine forces have three main aims—strategic retaliation, ASW, and conventional submarine combat. To perform these tasks most of the submarines belonging to the Arctic Fleet must come out through the passages between Greenland, Iceland, and Scotland, where they must contend with NATO's ASW forces. This task will most likely fall on the missile submarines and the missile-equipped naval air force, which operates in a prominent forward combat zone. Drawn farther back—in the Norwegian Sea—missile cruisers, missile destroyers, and missile submarines can be put into operation against NATO's strike forces as well as against allied seaborne invasions in the Murmansk area and NATO reinforcement transports to Norway. In the rear zone, between Svalbard and the North Cape, Soviet naval forces will likely concentrate on defense against submarines which may try to force their way into the Barents Sea. Under present basing, fighter protection can only be assured for operations near the coast to the north of the Arctic Circle.



RUSSIAN DEFENSE ZONES

1. Naval air force, missile submarines.
2. Missile-armed surface fighting forces and submarines.
3. ASW forces and hunter-killer submarines.

The Strategic Importance of the North Scandinavian Area. The strategic importance of the north Scandinavian area rests heavily on geography. Inasmuch as Norway is a member of NATO, NATO has been assured a favorable position and is heavily committed to preserving this position. From Norway and from Iceland, NATO can obtain the following advantages:

- surveillance over air and sea routes in the north
- base areas for intelligence gathering
- base areas for sea and air forces designed to prevent or render more difficult the egress of Soviet forces from the Arctic Ocean and the Murmansk area.

The greatest importance of northern Norway for NATO lies thus in its flanking position in relation to the Soviets' Arctic Fleet's exit routes to the Atlantic and its proximity to the base area at Murmansk. From the Russian point of view, Soviet base areas in northern Norway would provide the following advantages:

- improved intelligence and readiness (primarily for the naval air force)
- improved active protection of the Murmansk area
- broadening of the base area and thereby increased possibilities for passive protection
- shorter distance between base areas and attack areas in the Norwegian Sea and the North Atlantic
- increased possibility to intercept sea forces in the eastern districts of the Norwegian Sea
- prevent NATO from using Norway as a base for air and sea forces.

With the increased range of both submarine missiles and manned aircraft, the strategic importance of northern Norway can only grow. Forced to project their defense operations further to sea and away from relatively safe coastal waters, Soviet naval units must pass through areas patrolled by NATO forces around northern Norway. In a wartime environment, reconnaissance and strike aircraft which must operate in the Norwegian Sea or the North Sea will be required to fly around or along NATO defense areas, with the attendant risk of being shot down. On the other hand, if the Soviets were able to establish bases in northern Norway, it would be considerably easier for them to perform both tasks in the North Atlantic and the Norwegian Sea, in addition to facilitating the defense of their Arctic Fleet base complex.

Of course, any Soviet action against northern Norway would place the southern half of Scandinavia in jeopardy. If the Russians were to come into possession of southern Norway, they would only be in a position to dominate the northern flank of the Baltic Sea's western approaches and large portions of the North Sea, but also flank NATO defenses in the entire Baltic area. Today it is militarily feasible for the Soviets to make their push into southern Norway via the west coast of Sweden or through middle Sweden. Thus, any reduction of Swedish defense systems would make such a military option even more attractive. Such a development would be most unfortunate for Norway and for NATO and would necessitate a radical retesting of current defense philosophy.

Consequences to the Security Policy of Scandinavia. Scandinavia's security is essentially a problem for the naval strategist. Russian naval rearmament and operations in the sea area around Norway have important strategic and security policy consequences for Scandinavia--an area of decisive importance for Soviet security. It is obvious that Norway and the adjacent areas of Scandinavia are being drawn more closely into the Russian sphere of interest. Simultaneously, one is aware of a diminishing U.S. interest in Europe. The prospect is that Europe in the near future will most likely have to fend for

herself to a greater degree than at any time since the early days of World War II. Of particular importance is the fact that American naval resources are being reduced which, unless strong countermeasures are taken, will mean a change in the balance of power at sea on Europe's northern flank—thereby granting the Soviets increased freedom of action both politically and militarily.

The appearance of the Arctic Fleet in the North Sea and the Norwegian Sea may serve as a harbinger of future Soviet political intentions. The U.S. Secretary of Defense Melvin Laird said in a speech recently: "If the Russians have superior military strength they can reach their political goals all over the world without using weapons. There is no military advantage in an extreme use of violence, but the political gains will be enormous." British Prime Minister Heath took up the same theme in a speech he made recently to the House of Commons:

> The Soviet Union seems to have hopes that the obvious difference in military strength will leave Western Europe in the end without a convincing strategy. Suitably applied political pressure, supported by the threat from a clearly superior military force, can oblige some of the more vulnerable members of the alliance to glide over to neutral status. Then a process of dissolution can begin, which in turn can lead to the ultimate fact; a gradual widening of Russia's sphere of influence to countries that are now members of NATO.

There ought not to be much doubt that Heath was thinking primarily of Norway and Denmark. If Norway and Denmark were to be exposed to political blackmail as described, one can think of two reactions. Either they submit and become dependent on Russia, or they will reevaluate their policies on basing foreign troops on their soil, permitting NATO forces to be stationed in their respective territories. The latter alternative is politically impossible today, but developments can lead to a change in position. Pressure in this direction might possibly come from the United States in the event that the United States and NATO were to find their interests on the northern flank directly threatened. A possible consequence of any future decision by Oslo to permit foreign troops on Norwegian territory might instigate a Russian countermove in Finland. Therefore, it is vital that both the Soviets and NATO carefully evaluate their respective security needs in Scandinavia in order not to precipitate events that could lead to a greater confrontation in which both would be the loser.

BIOGRAPHIC SUMMARY

Capt. Christer Fredholm, Royal Swedish Navy, is a graduate of the Royal Naval College, of the Swedish Military Staff Course, and of the Royal National Defence College. He has served as commanding officer and squadron leader in torpedo boats, as commanding officer of a fleet minelayer, and as aide-de-camp to the Supreme Commander, Swedish Armed Forces. Captain Fredholm currently is serving on the staff of the Commander in Chief, Active Swedish Fleet.

The impact of action styles or the manner in which an operator behaves when faced with decisionmaking situations has long been intuitively felt to be a significant influence in determining the operator's chances for success. The tentative results of a recent study—which employed the management game TEMPO as an instrument to compare decisions made by teams exhibiting strategic and potent action styles—seem to suggest that under certain circumstances action styles do make a difference. While more exhaustive study is certainly required before management can hope to have concrete formulae describing the optimum blend of strategists and potents for different situations, investigations of this sort are as valuable for the questions they raise as they are for those they answer.

ACTION STYLES AND MANAGEMENT GAME PERFORMANCE:

AN EXPLORATORY CONSIDERATION*

A research paper prepared

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Introduction. The staffing of bureaucracies is always a problem, particularly in the higher echelons. Although general works on bureaucracies vary in approach when they suggest implicitly that decisions are made by individuals,[1] when they discuss the philosophy of management techniques,[2] or when they treat methods of organization,[3] they tend to be similar at least in suggesting that there are optimum styles or organizations. Such publications also imply that ideal individuals are needed or wanted. The present report does not solve the problems of staffing, but it offers the hypothesis that in addition to the need for individual skill and competence in bureaucratic decisions and performance, the presence of expressively balanced teams is also important. While the research described here deals with the artificial context of a management game, it tends to show that it is

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not the ideal individual alone, but rather the combination of different types of individuals that releases the greatest potential of the group.

If the experience, competence, and intelligence of the players making up the teams in a two-sided management game are equivalent or roughly equivalent, then the presence or absence of expressive styles of play among the members of the competing teams should have a definite bearing on the outcome of the game. This exploratory study examines this proposition within the context of a resource management game known as TEMPO which was played on two occasions, first in 1969 with 42 teams (21 games) and then in 1970 with 12 teams (six games). The outcomes of the 27 games support the proposition, but it must be admitted that so many questions have been raised by the study that additional research will have to be conducted before the relationships described here can be accepted in general. At the very least, however, the study should be replicated and its hypothesis given serious consideration in the future.

Just as linguists distinguish between natural and artificial languages, a distinction can be made between natural and artificial games. Natural games include such familiar events as baseball, football, chess, poker, bingo, et cetera, whereas artificial games have been constructed in such fields as education, business, war, et cetera. Games in both categories are alike in having two or more sides, rules of play, criteria for determining winners and losers, and so on; they also seem to be explicit or implicit models of activities which occur, which might occur, or which are believed to occur in the larger culture.

In some important respects, however, the two categories differ. Natural games fill expressive needs for the players and spectators, whether they be recreational, ceremonial, or expressive in some other way, but artificial games are more directly instrumental in that they are designed to educate the players, to produce new relationships, or to serve some other useful function. Usually natural games have survived for longer periods of time, and they may be diffused or transmitted by informal as well as by formal means. Some of them are broadly known and understood in cultures, often to the extent that their terminologies are part of the popular vocabulary and their play produces metaphors for other activities in the culture. This last can be carried to sophisticated levels as when Boorman uses wei chei, a natural game widely played in the Orient, to organize his discussion of Maoist revolutionary strategy.[4] American natural games are fun, at least for some of the players and spectators, and thus they are *expressively* compatible with the larger culture. Artificial games, on the other hand, are seldom played for fun although some players often find them enjoyable. They have been recently invented although war games have a respectable history, and they are seldom transmitted or diffused spontaneously and informally. While some artificial games may be sufficiently expressive to become natural games in time, even this development is likely to entail substantial modification and change as the game is played over time.

In this report a set of action styles derived from the investigation of the expressive characteristics of natural games will be related to artificial game performance. Space does not permit the full description of the specific research in natural games which is antecedent to this particular study, but it is possible to provide some relevant citations. A central group of papers dealt with games primarily from a cross-cultural perspective.[5] Other papers dealt with natural games in American culture,[6] and still others dealt with such related subjects as power[7] or expressive self-testing[8] or more general patterns of involvement.[9]

Some of the points most relevant to the present inquiry which are based on this earlier research will be given below.

Natural games can be classified in many different ways, but here they are divided into three basic types: games of physical skill, games of strategy, and games of chance.[10] The outcomes of all games are determined in three basic ways, either singly or in combination. They may stem from the use of strong muscles and deft motor skills (physical skill), from making clever decisions (strategy), from a dependence upon random human behavior such as guessing, or on randomizing devices such as dice (chance), or from any combination of these. If physical skill is at all a factor in determining the outcome of a game, the game is arbitrarily designated as one of *physical skill*, but games of this type may be further subdivided into games of pure physical skill, games of physical skill with strategy, games of physical skill with chance, and games of physical skill with strategy and chance. If the attribute of physical skill is *absent* and if the attribute of strategy is present, the game is arbitrarily designated as one of *strategy*, and games of this type can be divided into games of pure strategy and games of strategy with chance. Finally, if both the attributes of physical skill and strategy are absent and the attribute of chance is present, the game is termed a game of *chance*. Artificial games also fall into these three categories; a war game, for example, is usually a game of strategy with chance.

Natural games have had a long and complex cultural history.[11] A small number of cultures lack games so games are not a cultural universal, but games of physical skill are almost universally distributed. These games must be very old in culture. Games of chance have a more restricted, but still broad, distribution, and they may have been the next type to appear. Finally, games of strategy have much more limited distribution which appears to be restricted, or nearly restricted, to societies with some cultural complexity in both the Western and Eastern Hemispheres. Without exception the most complex societies have games of strategy and the very simple societies lack them. American culture has all three types on the popular level; games of physical skill (e.g., baseball, football, tennis, table tennis, soccer, and many others); games of strategy (e.g., chess, checkers, bridge, poker, rummy, and many others); and games of chance (e.g., lotteries, craps, bingo, the numbers, and many others). There is a puzzling class of societies possessing both games of physical skill and games of strategy which lack games of chance, but this group need not concern us here. The main line of cultural development appears to be the following: (1) games absent; (2) games of physical skill; (3) games of physical skill and games of chance; and (4) games of physical skill, games of chance, and games of strategy. It may be the case that artificial games represent yet another step in this development.

In the main, games are explicitly or implicitly models of cultural activities which occur in the "real" world. Thus, it is very likely that traditional games of physical skill are modeled after hunting and other physical activities; games of chance appear to be modeled on divination; and games of strategy parallel such activities as war, business, diplomacy, and other forms of social interaction. Games, then, of the three major types model different activities. These models vary greatly in verisimilitude (the degree to which they fully represent the background activity), but all of them seem to be expressively compatible with both the background cultures and with the personalities of the people who play and who watch the play. The most important assumption of this study is the assumption that expressive involvement in artificial games by individual players will resemble the expressive involvements of the players of natural games.

Other research has dealt with game and model involvement, and the general approach thus developed will be used here.[12] Yet, while the scheme to be outlined below has had some success, its inadequacies are becoming increasingly apparent with each additional study. Still, it will serve for the present investigation. This theory of model involvement holds that there is always a domain in the real world which is modeled explicitly or implicitly by the model. Within this real domain there may be one or more psychological "conflicts" which are particularly relevant to the model. These conflicts lead to curiosity about the model and to involvement in it. Thus, with games of strategy, it may be the case that approach and avoidance attitudes toward command conjoined with approach and avoidance attitudes toward obedience constitute an antecedent conflict which may lead to involvement in games of strategy. Where there is a conflict, it is held that the greater the conflict, i.e., the more closely the approach and avoidance attitudes are balanced, the greater the involvement in the model. Once a person is involved in a model, he also acquires new knowledge and skills (enculturation) which may have relevance or potential relevance to the real world outside the model, and this new learning may sometimes affect the real world conflict domain in such a way that the antecedent approach-avoidance balances are changed. This has been termed the conflict-enculturation theory of model involvement.[13]

Levels of involvement can vary for every model. Ordinarily the persons who are most in conflict are most involved in the appropriate model. For the remaining persons, those who display stronger approach attitudes than avoidance attitudes toward the antecedent activity should be next most involved. Finally, those who possess stronger avoidance attitudes than approach attitudes should be least involved or not involved at all.[14] One additional point should be made. It seems to be the case that the higher the antecedent conflict, the lower the need for verisimilitude or realism in the model.[15]

Earlier research dealt with a series of action or power styles derived from the game classification.[16] It was argued that since the games were probably acceptable models of activities occurring elsewhere and since they were expressively compatible with the personalities of the players, the typology of games might suggest a typology of action or power styles. In a metaphorical sense some people approach life as if they were playing games of physical skill; others, games of strategy; and still others, games of chance. These major action styles have been labeled (1) potent, (2) strategist, and (3) fortunist. The major types include such mixed types as potent-strategist, potent-fortunist, and strategist-fortunist, but most college students seem to be either potent-strategists or strategist-fortunists (fortunists are almost nonexistent in this group). This study will deal only with potent-strategist and strategists (a category which groups pure strategist and strategist-fortunists together).

Every adult in our society has probably had experience with every action style at one time or another, and every adult with greater or lesser facility can use any action style if the situation warrants it. Yet the evidence would suggest that every adult has a preferred action style which best suits his personality and that he is more likely to use this style in most action situations.

Action styles may also be used somewhat symbolically or metaphorically. The game of poker, for example, is a game of strategy with chance, and thus it is especially well suited expressively to the strategist-fortunist player. Everyone familiar with the game, however, knows the player who "bulls" his way through game situations as if he were

using muscle and physical skill in the play. On the other hand, there is the inept player who treats the game as if it were a game of pure chance and who bemoans his "bad luck." This last player is playing a game of strategy and chance with a fortunist action style. It is likely, then, that individual players of a military resource management game (a game of strategy with chance) may display a potent-strategist action style (metaphorically speaking), or they may display the strategist-fortunist style which is fitted to the game.

The characteristics of the potent-strategist and strategist action styles have yet to be listed in full. A few impressions based on ongoing research can be offered. The potent-strategist has a strong orientation toward high achievement (and some conflict about it) and self-reliance. He may have a fear of failure and he may have an exaggerated perception of risk. He is likely to focus on goals which are clearly defined and attainable. He may be politically more conservative and less of a strategic risk taker in general than the strategist. The strategist is more likely to be in conflict over obedience and responsibility than the potent-strategist.[17] He is likely to be less central politically than the potent-strategist. He may be more likely to be an expressive self-tester. He does not engage in judgmental accentuation of risk, but in strategic play he may well take larger risks. Potent-strategists may play to win, but they must draw if nothing else. Strategists, above all, play to win.

Persons with these and other styles can and do play TEMPO.[18] This game is played by two teams of five to eight players each. It is designed to demonstrate various management principles, primarily the use of marginal analysis in the area of cost effectiveness, a tool in allocating scarce resources (in this case defense budget dollars). Each team has at its disposal a limited budget and various investment opportunities, including operation or acquisition of currently available weapons systems, research and development of new weapons systems, or intelligence about its opponent's activities. The game is played over a number of game years. During each game year, war (initiated by the umpire group) may be declared between the two teams.

Normally, the first series of game years, up to 5, are played separately with team-umpire interaction after each year. The final series of game years, typically game year 6 through year 10, are played in a block as a long-range planning exercise. Since there is no team-umpire interaction between years during this final stage, no wars occur and no intelligence can be provided on the enemy's activities.

Each team is allowed approximately 45 minutes for each active game year and about an hour for the final block of years. During the period they must prepare and submit to the umpire group a budget sheet indicating how they have spent their funds. Teams are penalized for late submission of budget sheets, overexpenditure of funds, or losing a war. All penalties are in the form of dollar reductions of the following year's budget.

Weapons system effectiveness is assigned an arbitrary value in the form of "utils." These figures are fixed by the rules of the game for all systems. Operation of defensive systems will tend to neutralize an opponent's offense insofar as total offensive utils are reduced by an amount equal to the opposing team's defensive utils in matching systems, the result being termed "net offensive utils." The team with the larger net offensive util total during a war year is declared winner of the war. The team with the larger net offensive util total at game's end is the winner of the game. The fact that this util score is the result of independent choice by two separate teams is important for it permits an appraisal of the correctness of a predic-

tion that one of the competing teams will be superior to the other.

TEMPO is a game of strategy characterized by imperfect information as follows. At any given point, teams are not fully aware of investment opportunities yet to be disclosed. In the early stages of research and development, projected costs, production limits, and time to complete research and development are only estimates and subject to change. Intelligence, even if purchased, provides only estimates of the opponent's activities. War, which may only be declared by the umpire group, may occur at any time, and teams are notified of the occurrence of war only after they have completed their budget allocations for that year. In short, from the viewpoint of the players, there is uncertainty and a lack of complete information.

Team organization, designation of leadership, and specialization of tasks are left to the members of each team. In this sense, each team can be considered a decisionmaking group with a self-defined mode of operation.

In general, a team which spends its money to operate and acquire currently available systems in the early years of the game at the expense of research and development will lead its opponent during these years in terms of the net offensive util comparison, and it will win wars occurring during this period. Teams, however, that invest heavily in research and development in the early years will tend to lead during the latter stages of the game as they begin to bring more efficient systems into operation. Although the authors observed as many games as possible, they only gained impressions of play. It is not really known how team members with the different action styles actually functioned in the course of game play. Free interviews suggested that play by potent-strategists, on the one hand, and play by strategists, on the other, might differ in a number of ways. A potent-strategist, for example, might operate and acquire available systems with limited research and development investment, thus emphasizing low development costs and quick delivery. The strategist might invest heavily in research and development, especially in systems with projected high payoff, regardless of development costs and prolonged delivery times. Again, the potent-strategist might make the error of failing to invest in high payoff research and development programs and thereby suffer a future disadvantage. The strategist, on the other hand, might fail to acquire and operate sufficient systems, even highly efficient ones, so long as more attractive alternatives existed in the horizon which would require still further research and development expenditure.

Ultimately it will be necessary to determine exactly how and why potent-strategist and strategist behave as members of teams. If they do influence decisions, for example, how do they do so? The present study, unfortunately does not go this far. It only asks whether or not the mere presence or absence of potent-strategists, strategists, or persons lacking clearly defined action styles as resources for a team makes a difference as far as game outcomes are concerned. Each team has its own resource pattern, and it is this resource pattern which must be judged and compared.

It can be argued, however, that the ideal team should have both potent-strategists and strategists as resource elements. Here the potent-strategist and the strategist act as a check on each other's extreme strategies, producing a combined program which achieves an operation/research and development mix approaching the optimum game strategy.

While inferior to the potent-strategist and strategist team, the strategist only team should be superior to the potent only team. Within the framework of the

TEMPO game, the error of the potent-strategist of noninvestment will ultimately be more serious than the error of nonoperation by the strategist for two reasons. First, the lead time on research and development is at least 2 and generally 3 years for the most efficient weapons. This means that at least 3 years and in most cases 4 years will be required to bring a system which has never been developed into operation. On the other hand, bringing a system which is already fully developed into operation takes, at most, 2 game years. Thus it will take longer to recover from a noninvestment error (potent-strategist) than from a nonoperation error (strategist). Second, within the TEMPO framework, unlike the real world, investment opportunities diminish almost to zero by game end. Thus the strategist, despite his possible desires to continue investing in new systems, will be forced to expend some of his funds in other ways, that is, in operating rather than developing systems.

The teams possessing no members with distinctive action styles should lose to all others because they lack the motivations and strengths of both the potent-strategist and strategists.

In summary, then, the prediction for the game outcomes was that teams numbering at least one potent-strategist and at least one strategist among their members would defeat all other possible teams. Teams possessing at least one strategist but lacking potent-strategists should defeat all teams other than potent-strategist plus strategist teams. Teams with at least one potent-strategist should defeat the teams lacking both potent-strategists and strategists. Indeed, these last teams should lose to every other team. These classes of teams can be arranged ordinally in order of probable success.

A final point should be made. Although the action styles can be linked to personalities, they are only roughly estimated types useful in complex multivariant situations where it is impossible to make finer grained distinctions quickly and unobtrusively. It should be the case, however, that individuals classed as potent-strategists, strategists, and others differ in personality dimensions other than those discussed here.

TABLE 1—TEAMS LISTED IN ORDER OF EXPECTED RANK

1. Potent-Strategist + Strategist Teams
2. Strategist Teams
3. Potent-Strategist Teams
4. Other Teams

The Research. This study falls into three parts: (1) the first set of TEMPO games, (2) the second set of TEMPO games, and (3) the personality study. The first set of games was played at the Naval War College by naval officers ranging in rank from lieutenant commander to captain. Although there were differences in rank and in experience, all of the participants in the game play were highly selected and promising officers. It is a good working assumption that all were well educated, highly intelligent, and very competent. It is precisely in such a situation where other variables are roughly controlled that expressive variables might make the difference.

Fifty-two teams, ranging in size from five to seven officers, played TEMPO simultaneously through an 8-hour day. Ten game years were played, the first five individually and the second five in a block. All players received a 30-minute briefing just prior to game play in which the rules, procedures, time schedules, et cetera, were discussed. This briefing was substantially the same for all players.

Upon completion of play, all players were given a short questionnaire designed to elicit their immediate reactions to their experience and to provide data permitting their being coded individually as to action style. This

questionnaire was designed and administered before the investigators knew the outcomes of the games although the players themselves knew the outcomes at the time they answered the questions (a possible source of bias). The players, however, were not told about action styles. The questionnaire was presented as a request for information which would aid in planning future games (a true statement).

The questionnaire contained the following key questions:

> Educational games often serve their purposes when they have a relevant, logical structure, but they are more effective when there is also some emotional or non-rational appeal. In assessing your TEMPO experience, how absorbed or involved were you in the game taking the full period of play into consideration?
>
> *Circle One Number*
>
> (Low Involvement) 1 2 3 4 5 6 7 (High Involvement)
>
> Realism in educational games is only obtained at some cost in terms of personnel, time and other resources. On the other hand, games suffer if there is no realism. If you were designing a TEMPO-like game with the same practical educational objectives in mind as TEMPO, which of the following options would you take?
>
> *Circle One Number*
>
> (Low Realism, Low Cost) 1 2 3 4 5 6 7 (High Realism, High Cost)

These Questions require some explanation for they constituted the basis for the action style classification.

The first question is straightforward. Obviously strategists should be higher on involvement in this game of strategy with chance than potent-strategists. With the second question, the strategists should be lower on realism since they should place less value on verisimilitude, while the potent-strategists should place a greater value on realism even at the price of higher cost. Potent-strategists, then, were defined as respondents who were low on involvement and high on realism. Strategists were defined as respondents who were high on involvement and low on realism. Respondents who were both high on involvement and realism and low on involvement and realism were placed in a residual category. Respondents who were very low on both involvement and realism were thought to be liabilities in their teams with the result that their presence could be used in breaking ties.

After action styles of the team members were coded, the team composition was established, and the associated outcomes were determined. It was not possible, here, to determine team composition in advance. This first set of games simply constituted a situation which was subject to very little manipulation.

Of the 26 games played, 21 were defined as usable for research purposes. The other five were discarded because of absent data—some respondents did not complete the questionnaire in full, and the absence of a single score eliminated the two teams in the game from consideration. All in all, 300 respondents provided usable information, and 256 of these were in games which could be accepted.

The second set of games was played after the preliminary analysis of the data provided by the first set had been completed. In this set 59 players grouped into 12 teams played six games. These players were Reserve officers with the ranks of lieutenant commander and commander, and they also appeared to be equivalent in terms of competence and intelligence.

These players were given a pregame questionnaire which elicited the favorite game played, involvement in games of strategy, involvement in games of

physical skill, involvement in games of chance, preference for being a director of a large-scale organization, preference for being an influential person behind the scene, and preference for an occupation which might involve physical hazards. In addition, they solved six Tick Tack Toe problems designed to determine whether they played to win or to draw in a simple game of strategy. Time did not permit the full analysis of the results of this questionnaire before game play, but it was possible to make an impressionistic judgment of the action styles of the respondents. Teams were then assembled in such a way that the hypothesis that teams containing both a potent-strategist element and a strategist element would defeat all others. It might be noted that none of these respondents knew anything about the TEMPO game before play or about the research which was being conducted.

With the second set of games, TEMPO was played for a 6-hour period. Eight game years were played, the first four individually and the last four as a block. Wars occurred in years 2 and 4. In all other respects, this game was the same as the earlier one. The two sets of games were enough alike to permit comparison for present purposes. The same postgame questionnaire was administered to these players on the conclusion of play.

Finally, as part of quite a different venture reported by Robinson in a paper entitled "An Element of International Affairs–The Military Mind,"[19] personality data were collected on 200 of the respondents who had completed the postgame questionnaire in the first set of games. It was possible to relate the information provided by this elaborate inventory to the somewhat arbitrarily defined action styles to see whether or not these styles had some independent validity.

The Results. Because of the skewed distributions, the categorization of action styles for the first set of games was somewhat arbitrary. Basically, strategists were defined as being above the median involvement and below the median on realism, and the potent-strategists were the reverse. In detail, though, the strategists were coded as having involvement of seven or six, and this figure had to be greater than or equal to the realism score plus two. Potent-strategists had realism scores which were seven or six and which were greater than the involvement score. The high residuals, respondents who were high in both realism and involvement, had the following scores with involvement listed first–7,7; 7,6; 6,6; 6-5. The intermediate residuals had scores of 5,5 or five or less on involvement and five on realism. The low residuals had scores of four or less on both involvement and realism. Seventy-six respondents were coded as strategists, 25 as potent-strategists, 73 as high residuals, 47 as intermediate residuals, and 32 as low residuals. The total number N was *253*. The outcomes, though, were based on the presence or absence of the 73 strategists (*28* percent), the 25 potent-strategists (*10* percent), and the 32 low residuals (*13* percent). The low residuals were only used in breaking ties.

Of the 21 games, 14 were encounters between teams with different action style resources, and seven were between teams with the same resources. Nine of the 14 games involved potent-strategist plus strategist teams versus other teams.

Of these, eight games were between potent-strategist teams and strategist teams. It was predicted that the potent-strategist teams would defeat the strategist teams, and this was the case in all eight instances. In a ninth game, a potent-strategist plus strategist team was matched against a residual team and once again, as predicted, the potent-strategist plus strategist team won. Table 2 gives the results. The one-tailed probability for the binomial test for winning the first eight games is .004,

TABLE 2—OUTCOMES FOR POTENT-STRATEGIST + STRATEGIST TEAMS

Game	Net Util Difference	Potent-Strategist + Strategist	Strategist	Potent-Strategist
#1	4,790	Winner	Loser	
#2	4,431	Winner	Loser	
#3	2,400	Winner	Loser	
#4	1,500	Winner	Loser	
#5	1,305	Winner	Loser	
#6	734	Winner	Loser	
#7	610	Winner	Loser	
#8	90	Winner	Loser	
#9	643	Winner		Loser

TABLE 3—OUTCOMES FOR STRATEGIST TEAMS

Game	Net Util Difference	Strategist	Potent-Strategist	Residual
#10	2,793	Winner	Loser	
#11	1,189	Winner	Loser	
#12	335	Winner	Loser	
#13	2,074	Winner		Loser
#14	4,720	Loser		Winner

and the one-tailed probability for winning the nine games is .002. These findings definitely support the hypothesis.

There were three games in which strategist teams played potent teams and here, as predicted, the strategist teams won each time. There were two games in which strategist teams played residual teams. Here it was predicted that the strategist teams would win, but the strategist teams lost one game. Table 3 gives these results. In the five encounters between strategist and lesser teams, the strategists won four times according to the prediction, but lost once with a one-tailed probability for the binomial test of .188.

For the 14 games where the theory predicted the outcome, the results matched the predictions 13 times. This result has a one-tailed probability for the binomial test of .001.

Seven of the games were between teams which were matched for action styles—two potent-strategist games, four strategist games, and one potent game. Here, in order to break these ties, it was held that the presence of a low residual would be detrimental to a team and that the teams possessing one or more would lose to teams lacking such members. In the case of both of the potent-strategist games the results, when this rule was used, did not fit the prediction. It might be argued, however, that the presence of low residuals would mean the least in the case of strong potent + strategist teams. With the four strategist games the rule operated as predicted in three cases and not in one. With the last potent game the rule again operated as predicted. Thus, in four of the seven cases the rule for breaking ties produced the predicted result, but in three of the cases it did not. Table 4 gives the results.

Even if the results of the unsuccessful tie-breaking operation are included, the overall outcomes fitted the predictions. In 17 of the 21 games the outcomes fitted the theory, and in four they did not. This result has a one-tailed probability for the binomial test of .004.

TABLE 4—OUTCOMES FOR MATCHED TEAMS

Game	Net Util Difference	Potent-Strategist + Strategist	Potent-Strategist + Strategist with Residual
#15	8,220	Loser	Winner
#16	943	Loser	Winner
		Strategist	**Strategist with Residual**
#17	3,280	Winner	Loser
#18	2,625	Winner	Loser
#19	2,340	Winner	Loser
#20	980	Loser	Winner
		Potent	**Potent with Residual**
#21	470	Winner	Loser

TABLE 5—OUTCOMES FOR ORGANIZED TEAMS

Game	Net Util Difference	Potent-Strategist + Strategist	Strategist	Potent-Strategist
#1	8,270	Winner	Loser	
#2	6,340	Winner		Loser
#3	2,880	Winner		Loser
#4	2,410	Winner		Loser
#5	270	Loser	Winner	
#6	250	Loser	Winner	

Unquestionably, the sample of games is too small and there were too many ties. Still, the results fitted the predictions.

With the second set of games, the teams were organized in terms of quick predictions. Unfortunately, the sample of six games is altogether too small. In any case, six potent + strategist teams were established on the basis of the pregame data, and three strategist and three potent teams were established to oppose them. It was predicted that the potent + strategist teams would win in every case. Table 5 shows the outcomes.

Table 5 shows that the three encounters between potent-strategist + strategist teams and potent-strategist teams resulted in wins for the former and losses for the latter. This outcome fits the prediction. The power differences between potent-strategist + strategist teams and strategist teams are not so great, and here the prediction that the potent-strategist + strategist teams would win held in one case and not in two cases. Note, however, that the net util differences with the two games which did not fit the prediction were small. This sample of games is too small, but the results present a pattern which, while nonsignificant, clearly lies in the predicted directions.

If the same postgame questionnaire is used, then the results are less interesting inasmuch as three games fitted the prediction and three did not. If the differences between the two sets of games are ignored and these results are combined, there were 27 games with a total of seven which did not fit the predicted pattern—a one-tailed binomial test probability of .02. For the potent-strategist + strategists alone, however, there were 15 games between teams with different resources, and three of these were losses—with a one-tailed probability for the binomial test of .018.

The foregoing analysis has been based on encounters between one team and another in a single game, but it is obvious that the different types of teams can be listed in an ordinal scale in terms of predicted likelihood of success, i.e., Potent-Strategist + Strategist > Strategist > Potent-Strategist > Residual. If this ordinal scale is associated with the two-valued ordinal scale of winning > losing with the 14 games where teams of different scale types played each other, the Goodman-Kruskal coefficient of ordinal association is +.852 ($Z=3.256$, $p<.01$ two-tailed). It is possible however to group the 28 teams into quartiles on the basis of their net util difference scores (see table 6). Since there were no ties in net util differences, it is easy to regard the entire 28 team series as a 28 element ordinal scale. When this is done, $G=+.498$, $Z=2.803$, $p<.01$ two-tailed. It is very clear, then, that the ordinal scale of team types is positively associated with the ordinal scale of net util differences.

When the tie-breaking rules are added, a seven element ordinal scale is created: Potent-Strategist + Strategist > Potent-Strategist + Strategist + Residual > Strategist > Strategist + Residual > Potent-Strategist > Potent-Strategist + Residual > Residual. When this ordinal scale is associated with the two-valued ordinal scale of winning and

TABLE 6—UTIL DIFFERENCES AND TEAM SCALE TYPES

	Team Scale Types			
Util Differences	Potent-Strategist + Strategist	Strategist	Potent-Strategist	Residual
+4,790 to +1,500	4	2	0	1
+1,305 to +90	5	2	0	0
-90 to -1,305	0	4	3	0
-1,500 to -4,790	0	4	1	2

N=28, G=+.622, Z=2.911, p<01 two-tailed

TABLE 7—UTIL DIFFERENCES AND TEAM SCALE TYPES

	Team Scale Types						
Util Differences	Potent-Strategist + Strategist	Potent-Strategist + Strategist + Residual	Stretegist	Strategist + Residual	Potent-Strategist	Potent-Strategist + Residual	Residual
+8,220 to +2,625	2	1	3	0	0	0	1
+2,400 to + 980	3	0	4	0	0	0	0
+ 943 to + 90	4	1	1	0	1	0	0
- 90 to - 943	1	0	3	0	2	1	0
- 980 to - 2,400	0	0	4	1	1	0	1
- 2,625 to - 8,220	1	0	3	2	1	0	0

N=42, G=+.343, Z=2.164, p<.05 two-tailed

TABLE 8—UTIL DIFFERENCES AND TEAM SCALE TYPES: SIX GAME STUDY

Net Util Differences	Potent-Strategist + Strategist	Strategist	Potent-Strategist
+8,270 to +2,880	3	0	0
+2,410 to + 250	1	2	0
- 250 to - 2,410	2	0	1
- 2,880 to - 8,270	0	1	2

N=12, G=+.744, Z=2.170, $p < .05$ two-tailed

losing, the Goodman-Kruskal coefficient of ordinal association is +.675 (Z=2.974, $p < .01$, two-tailed). Table 7 gives a distribution when the team type scale is compared with a util difference scale. When the util difference scale is treated as 42 rank scale, it can be compared with the seven rank team scale type scale and here G=+.2756, Z=2.014, $p < .05$, two-tailed.

If the smaller series of games is considered, there is no significant association between the three-class ordinal scale of team type (potent-strategist + strategist > strategist > potent-strategist) and the simple winning-losing scale. If, however, the 12 teams are ranked in terms of net util difference, the 12-element util difference scale is positively associated with the three-class team type scale with G=+.689 (N=12, Z=2.310, $p < .05$ two-tailed). Table 8 shows the distribution when the 12 teams are divided into quartiles in terms of net util differences. Note that the association between the two ordinal scales is significant and substantial. Even with the lesser study, then, the predicted association held even though the sample was too small to permit a significant treatment of simple winning and losing.

The above analysis suggests that the scale of team types does have validity and that the order of the scale types is meaningful. This circumstance will permit a more fine-grained analysis beyond simple winning or losing in the future.

It has already been mentioned that a secondary analysis was made of the results obtained by Robinson in administering the "Job Analysis and Interest Measurement Test" designed by Walther.[20] The use of this test is reported more fully in the article cited as well as in earlier works by Walther.[21] Two hundred respondents coded for action styles also provided this personality information. When the potent-strategists were compared with all other respondents, they differed significantly from all other respondents in a number of ways. (See table 9.) Table 9 shows that the potent-strategists were distinctive as compared with all of the others with 11 of the 28 scales. Two of the 11, however, namely the low systematic-methodical and self-assertive scores, did not fit the impressions gained of the potent-strategist, but the other nine seem to make sense. The reader, however, is cautioned not to give the above results much weight for the authors are not competent to interpret such data. The results are listed simply to show that potent-strategists may be different.

The strategists did not have such a distinctive profile. They scored below the average scores of other groups at a significant level for: Trusting-Even-Tempered: The degree to which the individual trusts others and maintains an even temper, and Social Service: The degree to which the individual values himself by contributing to social improvement. Both of these findings fit the impressions of the authors.

The high residuals scored significantly above the mean on "plan ahead," "systematic methodical" and "supportive of others," and below the mean on "concrete-practical" "accept rou-

TABLE 9—JOB ANALYSIS AND INTEREST MEASUREMENT TEST RESULTS FOR POTENT-STRATEGISTS

A. Potent-Strategists had mean scores which were significantly lower then those of the others in the following categories:
   1. Systematic-methodical: The degree to which the individual uses step-by-step methods for processing information and reaching decisions.
   2. Self-Assertive: The degree to which the individual likes competition and tends to pursue his own goals when they are in competition with others.
   3. Move toward Aggressor: The degree to which the individual tries to "pour oil on troubled waters" when someone acts toward him in a belligerent or aggressive manner.
   4. Motivate by Results: The degree to which the individual believes that people are best motivated by the chance to accomplish something (intrinsic motivation).
   5. Intellectual Achievement: The degree to which the individual values himself through his intellectual attainments.

B. Potent-Strategists had mean scores which were significantly *higher* than those of the others in the following categories:
   1. Cautiousness: The degree to which the individual is cautious, plays it safe, and does not like being differant from others.
   2. Concrete-Practicel: The degree to which the individual considers himself as prectical, sensible with both feet on the ground in contrast to being imaginative, ingenious, and having novel idees.
   3. Likes Structure: The degree to which the individual likes schedules, believes in moral absolutes, end does not like unplanned activities or doing things in an unconventional way.
   4. Mechanical Activities: The degree to which the individuel likes machanical activities.
   5. Accept Routines: The degree to which the individual likes to have definite procedures available which he can follow.
   6. Directive-Controlling: The degree to which the individual believes that an executive gets the best results by making decisions himself and that most people require external controls.

tines" and "authority identification." The intermediate residuals were significantly below the mean on "likes structure," "self-assertive," "supportive of others," "accept routines," "group participation," "directive-controlling," while they were above the mean on "motivate by rewards." Finally, the low residuals were significantly below the mean on "plan ahead," "systematic-methodical," "orderliness-perseverance," and "intellectual achievement," and significantly above the mean on "accept routines" and "approval from others."

The various action style types seem to have some meaning in terms of other personality variables. The potent-strategist, in particular, is distinctive on these scales. The strategist, however, is not clearly defined although there may be an indication of the Machiavellian character which he probably possesses. High, intermediate, and low residuals may be distinctive. The low residuals are particularly interesting.

Discussion. It would appear that action styles have weight in situations where intelligence and competence are roughly equivalent. The styles themselves, however, are only estimates of "ways of behaving" in action situations—they are not the products of careful personality analysis. However, in many action situations the resources, competence of the investigations, and time available do not permit the systematic treatment of personalities, and only rough and rapid estimates can serve a useful purpose. At best, then, the action style categorization represents only an approximation of a complex multivariant situation.

In a metaphorical sense, the action styles resemble dexterity. Thus the potent-strategist may be considered right-handed and the strategist left-handed, but right-handed persons make good use of their left hands just as left-handed people use their right hands. Some people are ambidextrous. Usually individuals have preferred action styles, but it may also be the case that some people are facile with more than one action style. This must be studied in the future.

In the real world a single individual may bear all of the responsibility for a decision, but even such a decisionmaker may arrive at his decisions through dyadic discussion or other small group interaction. To the anthropologist, at least, it is not surprising that successful dyads or small groups possess a mixture of action styles, for the strong chief with crafty advisers or the crafty chief with strong advisers appear often enough in the literature. The potent-strategist king with the strategist adviser is a familiar combination. Some fundamental units of social organization such as the nuclear family may represent a profitable mixture of action styles (in our society, for example, the potent-strategist husband with a strategist wife may be a successful combination and vice versa). If the most effective decisionmaking groups were identified in the real world, they might well possess a mixture of action styles.

Many decisions, of course, are made in stratified contexts, particularly in military organizations. It did not appear to be the case that rank made a difference within the artificial world of a TEMPO game, but surely differences in power and authority carry weight in real group decisions. Observation of part of a war game played by actual fleet officers showed that information flow is restricted by differences in ranks, but that informal channels of communication exist which bypass formal lines of information flow. One junior officer, who was classified as a strategist on an impressionistic basis, managed to communicate with the most senior officer (who was classified as a potent-strategist on an impressionistic basis) by giving his views to an intermediate figure who then relayed the information to the senior officer. This incident proves nothing, but it may be possible for potent-strategists and strategists to cooperate in the presence of some formal barriers to communication.

In general then, the present research would indicate that mixed styles are most effective. If there is no mixture, then the style of the strategist is more effective than that of the potent-strategist in strategic situations. Finally, having a clearly-defined action style, no matter what, is probably more effective

BIOGRAPHIC SUMMARIES

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than having none at all. Perhaps, to some readers at least, this formulation will make intuitive sense.

If this loose and preliminary formulation, however, has some validity, then one can ask if the mixture of decision-making styles is preserved in important groups. If, for example, the achievement pattern is so structured that only potent-strategists get to the top of the ladder, then groups of decisionmakers at the top which are composed only of potent-strategists may not be terribly effective. Important decisionmaking groups should have means for the recruitment of members with a variety of action styles, although it can be argued that the overriding decisions should be in the hands of the potent-strategists.

All of the foregoing is speculative. There is a great need for further research, and indeed such research is already under way. The present study, however, is not as much as a presentation of conclusive findings as it is a stimulus to somewhat different thinking in this important area of decision-making.

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12. Cf. Roberts and Sutton-Smith, "Child Training and Game Involvement"; Roberts and Ridgeway; and Roberts and Forman.

13. Roberts and Sutton-Smith, "Child Training and Game Involvement."

14. Roberts and Ridgeway; Roberts and Forman.

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18. The TEMPO game was developed by H. Hatry, F. Jackson, and P. Lever of TEMPO's Economic Analysis Section and is fully described in SP-174, May 1962, TEMPO, General Electric Co., Santa Barbara, Calif.

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Management is now where the medical profession was when it decided that working in a drug store was not sufficient training to become a doctor.

Lawrence Appley, President, American Management Association, Men at the Top, 1959

INTERNATIONAL CONTROL OF DEEP SEA MINERAL RESOURCES

Within the general context of international law the position of deep sea mineral resources is somewhat unique. Although there appears to be general agreement among a majority of the world's nations that deep sea resources are "the property of all mankind," the prospect of codifying the legal principles and machinery under which they might be developed and marketed without antagonizing strongly entrenched national interests poses considerable difficulties. Only by addressing first the fundamental question of how to bring deep sea minerals onto the international market without upsetting world metal prices can the delegates to the upcoming U.N. Law of the Sea Conference hope to draft a lasting agreement in this area.

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Introduction. The United States is committed as a matter of national policy to enter into negotiations with all countries in the United Nations in a serious attempt to bring the law of the sea in line with "...the needs of modern technology and the concerns of the international community."[1] These needs and concerns are numerous and often conflicting, and their resolution is complicated by the fact that even the preliminary negotiations are being conducted in the political forum of the United Nations rather than on a quieter technical level as in the case of the 1958 conventions.[2] If a general codification of principles for the law of the sea is to be agreed upon, then common interests and elements upon which agreement can be based must be found, and found in relatively short order or the Law of the Sea Conference scheduled for the summer of 1973 will surely founder in its own rhetoric. The place for agreement to start is in the area in which the affected interests are least entrenched. Using this criterion one can quickly eliminate the issues of territorial seas and the right of free transit since national security interests are involved. Likewise legal clarification of the seaward limit of the Continental Shelf can be eliminated because strong interests in oil, fisheries, et cetera, are intimately connected with this question. The highly emotional question of pollution in the oceans is recognized to be a part of the larger question of the total environment and as such is being dealt with in a separate conference. Further away from land, the so-called high seas are again connected with national

security interests, and the water column beneath them is the concern of strongly entrenched fishing interests. The deep seabed is another matter, and it is here that interests appear least entrenched. There are two reasons for saying this. First, commercial recovery of any deep seabed resource has not started. Second, on a national and international political scale there appears to be general agreement that the deep seabed and its resources should be reserved for all of mankind. The "property of mankind concept" appears then to serve a useful purpose as a starting point from which more general agreement can commence. Indeed, the disagreement that exists on the deep seabeds is not to whom do they belong, but rather on the form of an international regime to oversee them.

Resources of the Deep Seabed. If there were nothing of interest to nations, industries, or individuals upon or under the seabed, then agreement on an international regime would be a relatively easy matter.[3] Indeed, a simple scientific coordination agency such as the existing International Oceanographic Commission would suffice. Such is not the case, however, and a summary of the known mineral wealth of the oceans which is important to the problem of international agreement is given by Wang.[4] In the deep oceans, recovery of metal-rich oozes is speculated about, as is the existence of oil and vein mineral deposits, but the only resource which has been identified beyond the speculation stage are manganese nodules. These deposits are of particular interest in this paper since their occurrence in grades of commercial interest occurs in depths generally in excess of 3,000 meters, in geographical areas far from even the most liberal interpretations of the boundary of the Continental Shelf, and well within the area considered the property of all mankind.

Manganese Nodules as a Resource. That interest in the nodules as a resource has passed beyond the speculation stage or that of oceanographic curiosity is amply demonstrated by the fact that today no less than 33 major companies have active programs of exploration and development. These include Deep Sea Ventures (Tenneco), Kennecott Exploration (Kennecott Copper), Hughes Tool, Lockheed and Global Marine, Ocean Resources, Metallgesellschaft, Kaiser, International Nickel, Nippon Steel, Sumimoto, Mitsubishi, Mitsui, Societe le Nickel, et cetera.[5] If one is to deal with the problem of policy formation concerning the resources of the deep seabed, then the place to start is with the least abstract resource, the manganese nodules.

In focusing on the manganese nodules one is immediately confronted with the question of why major companies from the United States, Japan, Germany, and France are interested in these as a resource.

The answer to this essentially lies in the composition of the nodules, the location of analogous land deposits, and the location of the companies involved. The major elements composing manganese nodules are silica, manganese, copper, iron, nickel, cobalt, lead, and aluminum. Of particular interest are cobalt, copper, nickel, and manganese. Over 80 percent of the world's supply of cobalt comes from the Congo. The United States produces only slight amounts as byproducts of the copper industry. Germany, France, and Japan produce none. The principal use of cobalt is as a high-temperature alloying agent in steel. Russia produces over 60 percent of the world's manganese. Manganese is vital to the steelmaking process. Nickel is also used, principally as an alloying agent in steel. In many instances nickel and cobalt are interchangeable. Japan, the United States, Germany, and France rank in the top five as producers of steel, but none have major land-based deposits of com-

TABLE I

Metal	% Drywgt Content of Nodules[a]		Principal Land-based Producers[b]
	Low	High	
Cobalt	0.2	0.5	Congo, Zambia
Coppar	1.2	1.6	United States, U.S.S.R., Zambia, Chile
Nickel	1.2	1.6	Canada, New Caledonia, U.S.S.R., Cuba
Manganese	20.0	25.0	U.S.S.R., Brazil, Republic of South Africa, India, Ghana

Source: [a]These are generally accepted values obtained by personal contact with geologists at Woods Hole and various companies.

[b]*Commodity Yearbook 1971.* For a complete listing of the more than 50 manganese producing countries, see U.S. Dept. of Interior, Bureau of Mines, "Manganese in 1963, *Mineral Industry Surveys.*

mercially minable manganese, cobalt, or nickel. Known world reserves of high and good grade manganese ores, cobalt ores, and nickel ores appear to be adequate to supply all known and forecast needs well into the 21st century.[6] None of these strategic mineral deposits exist in the major non-Communist countries. On the other hand, the principal producing countries are, with the exception of Canada, countries which either have relatively unstable governments or are not particularly friendly with this country or the other major free world steel producers. It would seem desirable from a national security point of view to develop an independent source of these ores.

Indeed, this point seems to have been recognized for some time. In particular regard to the sea, the 1966 Marine Resources and Engineering Development Act declares that "The marine science activities of the United States should be conducted so as to contribute to the following objectives": and lists as the first objective "The accelerated development of the resources of the marine environment."[7] The 1968 Report of the President to the Congress on Marine Resources and Engineering Development notes the national need for "continuous access to an adequate, dependable, and economic supply of raw materials to meet the demands of an expanding population with a rising standard of living." It further sets the criteria for Federal policy designed to implement this. The policies should contribute to economic development and national security by assisting the Nation in:

- developing adequate and dependable supplies of needed mineral raw materials;
- acquiring mineral supplies at lowest costs consistent with the satisfaction of other national objectives;
- emphasizing domestic supplies of mineral resources to assist in maintaining favorable balance of payments;
- providing a climate for American industry to produce efficiently under competitive conditions, the minerals required for the domestic economy and foreign trade;
- conserving the Nation's mineral resources by using them wisely and efficiently;
- preserving the quality of the environment while obtaining needed minerals.

These criteria are repeated in subsequent reports made by the International

Oceanographic Commission throughout its entire existence.

The Bureau of Mines has a long history of having supported development and exploitation of low-grade domestic deposits of manganese. Nevertheless, there is no such project currently in existence. David B. Brooks in his 1966 book *Low Grade and Non-Conventional Sources of Manganese*[8] clearly sets forth that, of the possible alternate sources of manganese not residing in foreign territory, the deep sea manganese nodules were the most attractive and the most likely to be economically feasible. The only domestic sources of cobalt are closely tied to copper because the production of cobalt in this country is strictly as a byproduct of the smelting and refining processes of the domestic copper industry.[9]

In the preceding few paragraphs the first of the pressures upon any international convention becomes clear. It is the highly developed nations which are interested in exploiting the sea. It is in their national interests to do so. In the United States, to do so is clearly stated national objective and policy. Hence, any international agreement which must be submitted for ratification to the U.S. Senate clearly must foster the exploitation of the deep sea resources. On the other hand, the nations which have major land-based deposits with which the minerals from manganese nodules must compete all belong to the group called the emerging or developing nations, and their interests would be to protect their own production. Hence, any international regime from their point of view should be, in general, repressive of deep sea mining.[10] Any agreement or convention which hopes to be useful must provide for a reconciliation of these views.

Less disagreement exists concerning the copper contained in the nodules. The United States is a major producer with only Chile and the Congo having substantial deposits among the developing nations. The static reserve index of the Bureau of Mines indicates a 40-year world reserve of copper at current usage. However, this index is based on a linear usage prediction while, in fact, both domestic and world consumption of copper has been increasing exponentially. In the case of copper this increase has been about 3 percent per year even with the considerable material substitution and scrap recovery efforts that currently exist. Calculations using this more realistic exponential usage curve show a world reserve of only 26 years. In other words, we are possibly coming toward a period of resource deficiency.[11] A good illustration of the advanced degree of depletion of copper reserves lies in the fact that some 60 years ago the raw ore extracted from the earth contained an average of 1.88 percent copper. Today it contains about 0.7 percent.[12] When one considers that the analysis of copper in manganese nodules has produced results ranging from 0.3 percent to over 3 percent with an average in many areas of over 1 percent,[13] the potential importance of the source can be seen.

Economic Aspects of Nodule Mining and Production. It would seem to be in the international interest to develop a new source of copper. The nodules present such a new source. The difficulty in this approach of using copper as a common meeting ground lies in the economics of mining and extraction of the minerals from the nodules. The nodules which are minerally enriched generally lie at depths of 3-5 km., thus requiring development of new technology to gather or mine them. Further, the copper and other minerals contained in them are imbedded in a silica matrix unlike any mineral deposits found on land. Thus, in general, land-based methods which are well developed will not work on the deep sea nodules.[14] Mining of any mineral deposit, be it land- or sea-based, requires very high

levels of capital investment. In the case of the sea-based mines the new technology required adds a high risk factor onto the high capitalization. Alvin Kauffman of the Bureau of Mines gathered together many estimates.[15] Independent investigation has revealed that, in general, the higher estimates of Kauffman for production costs are those in use today. The cost of operation can be said to be relatively low. When one considers the cost of capital in with the cost of operation, then the total cost presents a different picture.

Table III assumes in all cases an output of 1 million tons per year, taxes at 50 percent of return on invested capital. Kauffman assumed a 12 percent return on $100 million before taxes. This paper uses 30 percent return on an investment of $200 million before taxes.[16] The total costs of a manganese nodule mining and refining company can be seen to be somewhat higher than previously thought, and the dominant factor in the operation is clearly the

TABLE II—ESTIMATED COSTS OF PRODUCING METALS FROM THE DEEP SEA MANGANESE NODULES ($/TON)

Cost Item	Kauffman	This Paper[a]
Exploration	$ .70	$ .70
Lease Acquisition	2.50	-------
Mining Cost	5.00	4.00
Transportation to Shore	1.00	1.00
Unloading	1.00	1.00
Benefication	2.00	2.00
Processing	20.00	20.00
Waste Disposal (Environmental Protection)	5.00	5.00
Overhead	4.00	4.00
Cost of Operation	$41.20	$37.70

Source: [a]No lease acquisition costs are included because they in part depend on the regime under which rights are granted. Mining costs are based on those of John L. Moro, Offshore Technology Conference 1971, Paper No. OTC 1410. Processing costs are based on a process such as reported by Deep Sea Ventures in D.M. Taylor, "Worthless Nodules Become Valuable," *Ocean Industry*, June 1971, p. 27-28. All other costs are those of Kauffman in lieu of better figures.

TABLE III—TOTAL COSTS OF PRODUCING MANGANESE NODULES ($/TON)

Cost Item	Kauffman	This Paper		
		4 year Writeoff	6 year Writeoff	8 year Writeoff
Return on Capital Investment	$ 6.00	$ 30.00	$ 30.00	$ 30.00
Taxes	6.00	30.00	30.00	30.00
Depreciation	-------	50.00	33.33	25.00
Cost of Capital	$12.00	$110.00	$ 93.33	$ 85.00
Cost of Operation (From Table II)	41.20	37.70	37.70	37.70
Total Cost of Production	$53.20	$147.70	$131.03	$122.70

capital involved. The viability of the industry can be examined by comparing the recoverable value to the total cost. No single answer is apparent here. Using 1970 average market prices,[17] assuming an optimistic 100 percent recovery of the metals from the nodule, and using the metal content range from table I, the recoverable value of a million tons of nodules would be as shown in table IV.

What is immediately apparent from comparing these figures with the costs involved is that the whole operation is somewhat marginal. If one is interested only in the copper, nickel, and cobalt content, then the capital investment required had better be less than $100 million. Considering that projected capital costs for the recovery of the same tonnage of nickel from lateritic ores as from a million-ton nodule operation, according to Le Que, is over $200 million,[18] serious doubt is cast on the credibility of the $100 million capital investment figures. It is obvious that if $200 million is required for a million ton nodule operation, it will be profitable only if the manganese is recovered and used in competition with the existing ferromanganese market. Even in this case the operation, while definitely viable, leaves little margin for error in cost estimation or for market fluctuations.

The Problem of Market Impact. If the nodules are to be mined then for their total mineral content, they will be in competition with land-based sources of many countries and will have an effect on and be affected by the manganese, copper, nickel, and cobalt markets. The question then is to what degree is the concern of the developing countries justified? To put this in perspective, assume the same million ton per year operation presented in table I. Bertrand de Jouvenil has estimated that such an operation would yield the following as shown in table V.

While these figures would tend to indicate that the impact of a million tons of nodules per year would be minimal, this is not necessarily so. The true impact of the metals from the nodules derives

TABLE IV—RECOVERABLE VALUE OF METALS FROM DEEP SEA MANGANESE NODULES ($/TON)

Metal	High Content Value	Low Content Value
Nickel	$ 41.00	$30.50
Copper	19.30	14.40
Cobalt	18.50	7.40
Total Recoverable Value Without Manganese	$ 78.80	$52.30
Managanese Considered As a 50% Mn. Content Ore Equivalent	$ 13.25	$10.60
Recoverable Value of Other Metals	78.80	52.30
Total Recoverable Value	$ 92.05	$62.90
Manganese Considered As a Ferromanganese Equivalent	$ 47.50	$38.00
Recoverable Value of Other Minerals	78.80	52.30
Total Recoverable Value	$126.30	$90.30

TABLE V

Metal	Production Yield	% of 1968 World Production
Nickel	12,600 tons	2.5
Copper	10,000 tons	0.15
Cobalt	2,400 tons	12.5
Manganese Ore (Equivalent)	800,000 tons	5.0

Source: Bertrand de Jouvenil, "The Economic Potential of the Oceans," Paper prepared for Pacem in Maribus working group meeting, October 1971.

from the fact that they act and are classed as commodities. A commodity exhibits the following characteristics:

- It is indifferentiable. Thus no producer can obtain a higher price or better trading terms through advertising or product modification. He must accept the open market price which prevails at the time of the sale.
- Its marginal production costs, labor and material, are a very small fraction of total production costs. Thus there is little short-term response to price changes by producers.
- Its cost is generally a small fraction of the total cost of the products in which it is used. Thus consumption is relatively price inelastic.
- Price and production rates of commodities are quite unstable, generally varying from 1 year to the next by 5 to 25 percent.[19]

It is in the instability of the price and production rates that the true effect is exhibited. Examination of production and price data for manganese reveals many instances where a production increase of 10 percent resulted in a price decrease of 20 percent and production increases of 5 percent resulting in price decreases of 10 percent. In general, such a 2 to 1 (price change to production change) ratio is also apparent in the cobalt cycle. While this is a very simplistic view of a highly complicated process, the point is that the effect of the relatively sudden placement of the metals from the manganese nodules on the market will be out of proportion to the fraction of the market which they represent.[20] Since, in general, commodities account for some 90 percent of the foreign exchange of the developing countries,[21] it would seem their concern is justified. For example, a change of only 1 percent in the price of copper means $6 million a year in foreign exchange to the Government of Chile. Further, if the mining companies survive the price dip caused by their entry, it can be expected that their presence will have a continuing destabilizing effect upon the commodity market which will affect them as well as the land-based producers. These market fluctuations thus would appear to be a common element linking the land- and sea-based producers. It would be in the interests of both to preclude a market dip when the sea-based metals come onto the market and to stabilize the market in the long run, that is, to rid the market of the major year-to-year fluctuations in price.

Conclusions. Thus we may contend that market impact is a common key to the problem of deep sea resources. No matter what the difference in technology required or special legal considerations or even the difference of humanist philosophies behind the mining and extraction of land- and sea-based mineral resources, they face common problems in the world market place. The central issue in defining a policy for exploitation is *not* how to mine the nodules or how to define a

tract of sea bottom or even who should own the sea bottom. It is rather how these minerals are to be used after they have been extracted from the nodules which is critical. A policy defining the desired impact that the deep sea minerals have upon the international mineral market is the one against which all other policy considerations should be placed in perspective. The choice is simply whether the minerals originating from the seabed should be used to stabilize an unstable commodities market or not. The choice is relatively clear. To opt for a free market means that, if an international regime is to be brought into being, each of the subsidiary questions—such as who owns the seabeds—must be dealt with as generally separate, standing on its own merit. This could be expected to lead to a long and acrimonious series of negotiations, which in turn would severely decrease the chances of any international settlement. On the other hand, once agreement is reached on the principle and means of using the deep sea minerals to help stabilize the world metals market prices, then one would expect resolution of all subsidiary questions in a logical and more rapid manner. Since the unstable market affects both developed and developing nations, it is in the interests of both to adopt the premise of stabilization, provided the strategy of stabilization appears to be a feasible one.

Even if one adopts the long-term view, as did the U.N. in its Secretary General's Report on the Economic Effects of the Deep Sea Minerals,[22] the shorter term commodity fluctuations are important. It is the purpose of the Law of the Sea Conference to provide legal principles and machinery with some enduring qualities. The performance of the international regime must be such that it can deal effectively with the initial shorter term economic problems as well as the long-term issues or a crisis of confidence in the usefulness of the regime will result. The attention span of the lesser developed countries is too short to wait for long-term market expansion. If the international regime is to succeed and be supported in the long run, considerably more attention must be paid to the impact of the deep sea minerals on the commodity cycles.

BIOGRAPHIC SUMMARY

Lt. Comdr. Wayne J. Smith, U.S. Navy, earned his master of science degree in electrical engineering from the U.S. Naval Postgraduate School and has had duty in the U.S.S. *Boston* (CAG-1) as main battery officer and missile officer and in the U.S.S. *Newport News* as fire control officer and later as weapons officer. Lieutenant Commander Smith is currently completing a year's sabbatical under the Navy's professional development program as a research fellow in Marine Policy and Ocean Management at Woods Hole Oceanographic Institution, Woods Hole, Mass.

FOOTNOTES

1. See "United States Policy for the Sea Bed," Statement by President Nixon, *Department of State Bulletin*, 15 June 1970, p. 737-738.

2. For a history of the 1958 conventions, see B.F. Oxman, "The Preparation of Article 1 of the Convention on the Continental Shelf."

3. An example of this is the treaty to prohibit emplacement of weapons of mass destruction on seabed and ocean floor. U.N. Resolution 2749 (XXV) (A/C .1/544). This was adopted 108 to 0 with 14 abstentions. No nation had emplaced such weapons prior to adoption. Only the United States had both the technology and the strategic need to do so. The domestic political support to do so was lacking, hence it was not viable. Thus no nation had an interest in emplacing such weapons, and agreement was relatively quickly reached.

4. F. Wang, "Mineral Resources of the Sea," U.N. Report ST/ECA/125, dated April 1970.

5. There are several sources on this, including *Ocean Science News*, 15 October 1971.

6. David B. Brooks and Barbara S. Lloyd, "Mineral Economics and the Oceans," *Proceedings of a Symposium on the Mineral Resources of the World Ocean*, University of Rhode Island Occasional Publication No. 4, Kingston, R.I., 1968.

7. U.S. Laws, Statutes, etc., *Marine Resources and Engineering Act*, Public Law 89-454, 89th Congress, 2d sess. (Washington: U.S. Govt. Print. Off., 1967), p. 204.

8. David B. Brooks, *Low Grade and Non-Conventional Sources of Manganese* (Baltimore: Johns Hopkins Press, 1966).

9. J.C. Burrows, *Cobalt: an Industry Analysis* (Lexington, Mass.: Heath, 1971).

10. For an analysis of this trend of thinking as exhibited in the voting patterns of developing countries, see almost any paper by Robert L. Freidheim, including "Ocean Science in the United Nations Political Arena," Professional Paper No. 50, Center for Naval Analysis, June 1971.

11. For an excellent exposition of the Dynamic Reserve Index see William W. Behrens, "The Dynamics of Natural Resource Utilization," Club of Rome *Project on the Predicament of Mankind*, May 1971.

12. J.W. Shuster, "Copper Price Behavior in the Short Run 1949-1966," M.S. Thesis, Massachusetts Institute of Technology, Cambridge, 1967.

13. Clifford E. Schatz, "Observations of Sampling and Occurrence of Manganese Nodules," Offshore Technology Conference 1971 Paper No. OTC 1364; also personal contact with C.E. Hollister, Woods Hole Oceanographic Institution.

14. For a current assessment of the technology for solving these problems see E.J. Lecourt, Jr., and D.W. Williams, "Deep Ocean Mining—New Application Oil Field and Marine Equipment," Offshore Technology Conference 1971, Paper No. OTC 1412; Yoshig Masuda, et al., "Continuous Bucket-Line Dredging at 12,000 Feet," Offshore Technology Conference 1971, Paper No. OTC 1410; A. Blake Caldwell, "Deep Sea Ventures Readying Its Attack on Pacific Nodules," *Mining Engineering* (Reprint volume number and date not available).

15. Alvin Kauffman, "The Economics of Mining," *MTS Journal*, v. 4, no. 4.

16. Thirty percent is a generally accepted figure for return on high-risk investments whose costs are not proven. Two hundred million dollars capital investment requirements have been announced by Deep Sea Ventures in "Ocean Firm Launches $100-200 Million Mining Venture," *Ocean Industry*, March 1969, p. 66-72. It is not uncommon for such announced values to be underestimated by 25 percent, hence this figure is considered conservative.

17. *Commodity Yearbook 1971*; U.S. Dept. of Interior.

18. F.L. Le Que Panel Statement; Draft Report of Pacem in Maribus 2.

19. Classnotes Course 15, 872 MIT, Assoc. Prof. D.L. Meadows.

20. This view differs from the generally used supply/demand elasticity of 1:1. Further, while cobalt and nickel markets are oligopolistic now, it is highly doubtful they would remain so in the face of an influx of deep sea minerals. The history of transition from dominated to free market is often one of violent oscillations (see footnote 12).

21. Classnotes Course 15.

22. U.N. Doc. A/AC.138/36.

. . .the seas and oceans as we all know are the world's one vast remaining common pasture; the one great treasure trove, unreserved and open to all seekers. . . .

Senator Warren Magnuson, April 1964

THE BAROMETER

(Writer's comments on Captain Fiske's "The Challenge of Logistics: An Open Letter" which appeared in the April issue.)

"The Challenge of Logistics" by Capt. C.O. Fiske, U.S. Navy, is an excellent comment on a vitally important subject. Since the paper does not pretend to be a complete discussion but only an introductory challenge, further amplification may help the cause he espouses and further additional thought on the subject.

The key to such amplification is found in the JCS Pub. 1 definition of logistics:

> The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance, operation, and disposition of facilities; and d. acquisition or furnishing of services.

The first sentence is simple and clear—"The science of planning and carrying out the movement and maintenance of forces."

It should be obvious that "the movement and maintenance of forces" is fundamental to their tactical operations. In fact, forces must be maintained and moved *before* they can be employed or operated. In other words, logistics is just as inherent a part of operations as is tactics.

In spite of this, we still all too frequently speak of operations as being separate from logistics. Our basic thinking and planning would be greatly improved if our officers had an intuitive understanding of the fact that operations are an intimate blend of logistical and tactical action to accomplish a strategic purpose.

This raises the important question of a *definitive meaning* for command control of logistics—a complex and controversial issue with no single simple answer. A clue to it lies in the assertion that the commander should have the same control over his logistical resources as he has over his tactical resources.

The second sentence is not simple nor have its implications been adequately understood by more than a tiny minority of the officers of the Armed Forces, military intellectuals, or civilian officials of the Department of Defense. In its most comprehensive sense, logistics is the *creation* and *sustained support* of combat forces.

This very important and fundamental concept was first adequately expressed in American military literature in Col. Cyrus Thorpe's splendid little book, *Pure Logistics—Land and Sea—the Science of War Preparation*, published in 1917.

It was restated by Duncan Ballantine in the introduction to his brilliant analysis, *U.S. Naval Logistics in the Second World War*, where he wrote:

> Broadly conceived, the logistic process is thus the means whereby

the raw warmaking capacity of the nation is translated into instruments of force ready to be employed in pursuit of strategical or tactical objectives. As such it is both an economic and a military undertaking. . . .

. . .

On the basis of this distinction logistics may be divided into two main parts, the first being the logistics of production and the second the logistics of consumption. The former is that phase of logistic effort which is carried on under civilian auspices as a predominantly economic function and within a set of conditions imposed by the nature of the nation's economy. The latter is the phase of logistics more intimately involved in military operations in which the determining conditions are those of the military situation. . . .

. . .

It is, therefore, the function of logistics to bridge the gap between two normally alien spheres of activity, to make intelligible to the producer, for example, the needs of the military commander and conversely to infuse into the calculations of the strategist an appreciation of the limits of the materially possible. As the link between the war front and the home front the logistic process is at once the military element in the nation's economy and the economic element in its military operations. And upon the coherence that exists within the process itself depends the successful articulation of the productive and military efforts of a nation at war.[1]

In effect Ballantine said that the logistics process is the bridge between the economy of the nation and the tactical operations of the combat forces. This has several important corollaries:

- The logistics system must be in harmony both with the economic system and with the tactical concepts and tactical environment of the combat forces. This gives it inherent duality.
- Thus, as it moves from its base in the national economy to its payoff in combat operations, *logistics changes* both its nature and the criteria of judgment.
- This change and inherent duality creates continuing controversy as to organization, particularly at the middle of the bridge.

When we ponder these ideas, several points are clear. Logistics can be considered as Military Economics. Logistics in its comprehensive sense is too vast and too complex to be adequately handled in all its phases by any single organization within the Department of Defense. Logistics is, in fact, a huge major system composed of a variety of functional systems and subsystems.

These functional systems have very real physical properties of mass, inertia, momentum, and resonance. The physical properties of these systems create the element of lead-time which, in turn, is one of the major factors which dominate strategy because only when the forces are ready can the strategy become operational and tactical feasible. Thus the understanding of logistics in its comprehensive sense is essential to the effective planning and control of logistics in its narrow sense of being the movement and maintenance of forces. I believe that the failure to understand this critical concept is the most important reason for the undesirable situations and attitudes that Captain Fiske discusses in his article.

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[1] Duncan S. Ballantine, *U.S. Naval Logistics in the Second World War* (Princeton, N.J.: Princeton University Press, 1947), p. 1-3.

When we examine these logistics systems, we see that many of their component parts are included in what is known as Military Management. But if we go further into these matters, it is evident that some of the most important elements are never studied in management literature or discussed in management symposia.

From the foregoing we can draw some important conclusions:

- Logistics and management overlap, but are not synonymous.
- There is no such thing as a military management system in the same sense that there is a military logistics system.

While good management must permeate the entire military system, management enters into the military system primarily as it operates in and throughout the logistic system. Military management, therefore, can best be defined or considered as the techniques which are used to control the operation of the logistics systems of the armed forces.

The study of military management should therefore be intertwined with the study of logistics because neither can be understood without the other.

One final comment on Captain Fiske's article. On p. 59, speaking of Vietnam logistics, he states: "Fortunately for the Navy, the general lack of interest by line officers to seek challenging jobs in logistics, per se, has not seriously jeopardized overall Navy logistical support. In fact, naval support of combat operations in Southeast Asia has been quite excellent. . . . " This excellent overall logistic support has been carried out in an environment free from enemy attack.

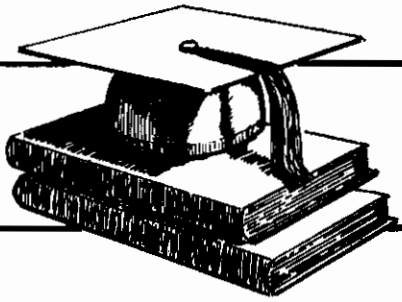
The tactical operations of our major forces were such that their location and general nature were known in advance and scheduled with good accuracy. These facts had enormous logistical implications.

There is little resemblance between this type of large-scale but routine operational logistics and requirements of widely dispersed combat operations against a competent aggressive enemy navy. Should such combat operations ever become necessary, the resulting challenge to the logistic system will come as a devastating shock to any line officers who may be satisfied that our logistic performance in Vietnam justifies a continuation of the general lack of interest mentioned by Captain Fiske.

Henry E. Eccles
Rear Admiral, U.S. Navy (Ret.)

But in its relation to strategy, logistics assumes the character of a dynamic force, without which the strategic conception is simply a paper plan.

C. Theo Vogelgesang, Logistics—Its Bearing Upon the Art of War, Lecture delivered at NWC



PROFESSIONAL READING

Parkes, Oscar, *British Battleships 1860-1950*. Hamden, Conn.: Archon Books, 1972. 701p., Rev. Ed.

Naval history texts normally concentrate on officers' wartime decisions on how to use the ships available to them, yet years before the war other officers participated in equally fateful decisions on what types of ships would be available. These actions are usually not studied, but in a peacetime navy, no officers make more important decisions than those about the selection of new ship designs. To Englishmen in the last half of the 19th century and the first part of the 20th century, the most important of that kind of decision dealt with battleships, the keystone of England's naval power. This book covers a period from broadside-mounted guns in full rigged iron ships to radar controlled 15 inch guns, yet the questions facing the men charged with determining the type of battleships to be built were always of a similar nature. If it is technically possible to build a larger gun, should we put it on our new ships even if that means a larger, more expensive ship? Should we sacrifice armor for speed or speed for armor or try for both at the price of fewer ships for the same money? Should we keep our reliable propelling machinery or try a new invention (compound engines, turbines, small tube boilers or oil fuel) which would improve the ship if it succeeded but render the ship worthless if it failed? Is the new weapon (ram, mine, torpedo boat, submarine, or airplane) as powerful as its supporters claim, and how much of the ship should we allocate to weapons and armor to resist this menace? What is a possible opponent's answer to the other questions, and what type of ship will they build? Can England afford to build such ships? Can England afford not to build such ships? Obviously such questions are still with us, and even though they worried about shell against armor instead of missile versus ECM, the English experience with battleship design is of interest.

The book explores what factors went into the answering of the questions and thus the selection of armament, size, and power of England's battleships. The tactical and technical factors are covered by small sections on the challenge presented by the ships other nations built during the same period. The state of the art in armament, armour, and antibattleship weapons like torpedo boats is discussed for each era. The author introduces short biographies of Directors of Naval Construction and Sea Lords to inform the reader of the caliber and personalities of the men involved in the decisions; professional rivalries could influence a design as well as military requirements. The political and budgetary forces which affected the designs are mentioned, and the distorting effects of peacetime scrimping followed by panic rearmament are well covered. Alternate designs that were considered and rejected are explored in some detail. The most interesting of these paper ships are the alternate *Dreadnought* designs and the canceled post-World War I battle cruisers.

The end products of the decision process were the ships that were actually constructed, and the book has a great deal of data on these vessels. Evaluations of seaworthiness, habitability, and usefulness by men who served on the ships are reported. The author gives his own interesting criticism on the armaments, armor, and purposes of each class of ships and has included many miscellaneous tidbits of information such as costs, comfort, and other items; modifications and modernizations; short summaries of the battles the heavy ships participated in and what lessons were learned from the ship's war service; and a brief listing of service life and final disposition is included for each ship.

Dr. Parkes spent 30 years in the making of this authoritative book on British heavy ships, with most of his data being drawn from Admiralty sources. The book is well written and is illustrated with over 450 rare photographs and plans. One regrets that this new edition's reproductions of photographs suffer slightly in comparison to the original English edition of 15 years ago due to being printed on flat instead of glossy paper, but this is probably necessary to control the cost of the book. The author's many sketches and plans are well drawn and informative. Individuals with an interest in naval history and what factors go into the evolution of ships would find this book well worth reading.

PHILIP J. SIMS

The Pentagon Papers: The Defense Department History of United States Decisionmaking on Vietnam. Senator Gravel ed., Boston: Beacon Press, 1971. Four vols. 2899p.

The publication of *The Pentagon Papers* by *The New York Times* on Sunday, 13 June 1971, was one of the most sensational events in the history of American journalism. Hitherto highly classified documents relating to national decisionmaking on Vietnam at top governmental levels were widely published. Their publication raised profound constitutional questions regarding necessary confidentiality of the U.S. Government balanced against the first amendment right of freedom of the press. This is an interesting issue, but it is a collateral issue as far as the professional military officer is concerned.

The Pentagon Papers are now a part of the public record. The study was commissioned by Secretary of Defense Robert McNamara for use within the Department of Defense. It provides a rich documentary source, including papers that many officers would never see in the course of their careers. It also contains short analytical summaries of the various major subsections, and these summaries are followed by extensive, but succinct, chronologies which help keep the important events straight.

This is not comprehensive history, because only documents in the possession of the Department of Defense were used. The anonymous authors of these volumes did not have access to State Department and White House files, and this limitation is a flaw in *The Pentagon Papers*. Still, *The Pentagon Papers* are an important source of primary material for the professional military officer.

In his emotional foreword to the four-volume edition published by the Beacon Press of Boston, Senator Mike Gravel of Alaska says the American people have been misled, misunderstood, and ingored in the pursuit of a "reckless foreign policy which the people never sanctioned." He concludes that if the facts had been known, the war would have ended sooner. This is a highly questionable and certainly unprovable thesis, which nevertheless, enjoys a degree of popularity in some circles. The Senator goes on to say that *The Pentagon Papers* do not reveal any military secrets, only "an appalling litany of faulty premises and ques-

tionable objectives, built one upon the other over the course of four administrations. . . . "

The question of objectives and the premises upon which they are based is of primary importance and interest to the professional military officer. In the course of the discharge of his military duties, the professional must protect and further the interests of the United States in terms of achieving specified objectives by the tactical employment of military forces. Not all national objectives can be achieved by the employment of military force, and the military professional must be able to distinguish which objectives can be achieved by the employment of military forces and which cannot. The ability to make this distinction is fundamental to military professionalism.

The Pentagon Papers provide the raw data and some exceptionally fine analysis for study of the entire panoply of U.S. involvement in South Vietnam from the low levels of aid and advice to the major ground war and bombing of North Vietnam. In view of the highly biased and emotional oral and written outpourings on the subject that have emanated from the academic and liberal intellectual communities, a dispassionate examination would itself be unique. These volumes provide a splendid opportunity for the military professional and particularly for those associated with the various War Colleges to examine some important aspects of the recent past.

In conducting his examination the military professional must first analyze the U.S. objectives in Vietnam, at least from the 1954 Geneva Conference to the Nixon Doctrine of 1970. These volumes show the U.S. objective in South Vietnam has always been a non-Communist South Vietnam. At first the objective was simply one of containment of a Communist monolith, as perceived at the height of the cold war and in light of the Korean experience. A decade later the objective was perceived in terms of a free and independent South Vietnam. The evolution of this development is in itself fascinating and is fundamental to understanding what happened.

The military professional must also be ready to challenge the assumptions upon which objectives and actions are based. *The Pentagon Papers* show that the assumption that President Diem or his successors could adequately fight the war was fundamental to the extent and methods of U.S. involvement. The validity of this assumption and the consequences that flow from such a determination are crucial to understanding what happened in Vietnam and to evaluating that experience.

Next, the military professional must appraise expectations. That is to say, he must know what he can reasonably expect to result from any situation as a result of actions taken. Expectations cannot be reasonably appraised if the objectives are unreasonable, vague, or incorrectly described. Similarly, relevant assumptions must also be valid.

The spectrum of U.S. actions ranging from limited aid in the early period to a major military endeavor involving over 525,000 men in country and an intensive bombing campaign against North Vietnam speak loudly and clearly to a continuing disappointment of expectations by U.S. decisionmakers. Indeed, this is a fertile field for examination by the military professional. *The Pentagon Papers* provide much fallow and hitherto virgin territory for rigorous, scholarly examination.

It is axiomatic in military planning and in military theory that a strategy, to be successful, must give tactics the means to achieve the goals of strategy. *The Pentagon Papers* point out that the United States saw the struggle in South Vietnam as determinative of the fate of Southeast Asia and quite possibly of all South Asia, i.e., the domino effect. Despite this almost apocalyptic per-

ception, until mid-1965 the United States employed means which were "consciously limited and purposefully indirect." Examination of *The Pentagon Papers* reveals little appraisal of expectations, beyond pious hopes that whatever course of action adopted, it would succeed and more force would not be required.

At the Naval War College students are taught to evaluate proposed military actions by the classic tests:

- *Suitability*—Will the action accomplish what is desired?
- *Feasibility*—Are the means available sufficient to accomplish what is desired?
- *Acceptability*—Is the accomplishment of the action worth the price that will probably have to be paid?

The military professional has the rare opportunity to use *The Pentagon Papers* as valuable source material to apply these criteria to the major U.S. military actions in Vietnam.

Leslie Gelb, Director of the Study Task Force that produced *The Pentagon Papers*, noted in his letter of transmittal to Secretary of Defense McNamara that writing history where it blends into current events is treacherous. Writing about Vietnam at this time is even more treacherous, because of the passions that disagreement, disappointment, and frustration have released. Military professionals can avoid compounding these errors by studying and analyzing what data are available. By utilizing the tools provided by a sound grasp of military theory, the military professional can make a positive contribution to American scholarship and to his profession.

(Editor's Note: Lieutenant Commander Simpson, of the College of Naval Command and Staff faculty, used *The Pentagon Papers* as textual material for his seminar "Conflict, Strategy and Politics.")

B.M. SIMPSON III
Lieutenant Commander, U.S. Navy

Powley, Edward B. *The Naval Side of King William's War*. Hamden, Conn.: Archon Books, 1972. 361p.

Marcus, G.J. *The Age of Nelson*. New York: Viking Press, 1971. 504p.

While there are few men who would dispute the claim that the physical and technological demands of modern naval warfare exceed any challenge faced by earlier generations of seagoing fighting men, it is difficult to read about the days of "wooden ships and iron men" without at least one small pang of regret. In our current state of rapidly advancing technology, it is occasionally satisfying to reflect on the age of sail and its more personalized confrontation with the elements.

Both of these new books recall that lost era, and it is appropriate that they be reviewed together for they represent the genesis and conclusion of the most protracted naval conflict in history. With only brief interludes of peace—often characterized by a feverish rebuilding of battered warships—England and France fought each other on the seas for over a century, from 1688 to 1815. In these two books we catch a glimpse of the personalities and weaponry, the tactics and strategies of naval warfare at the beginning and at the end of that struggle.

Both volumes are labors of love, and within their covers one can rejoice with the authors in the elemental challenge of the sea, and in the pleasure of a tale well told. But if attention to detail and exhaustive research are any measure, Mr. Powley hath the greater love.

His book is one of those rarely found and even more rarely appreciated volumes of historical purity. His sources are voluminous and unimpeachable, and he seldom allows himself to editorialize or glamorize historical events. The story of King William's War unfolds slowly and almost ponderously. Much of the work is, in the author's own words, "a factual journal to illustrate the course

and routine of naval business." (p. 71) Not that the story is not a good one, for it is.

The antagonist is the deposed Catholic King of England, the self-styled James II. The protagonist is the Protestant Prince of Orange, proclaimed by Parliament to be William II, the rightful King of England, France, and Ireland. Fleeing from the nation he once ruled, James turned to the Catholic King of France, Louis XIV, for protection. Louis, however, was not disposed to boarding houseguests unless they could prove to be useful. He therefore arranged for James to be sent to Ireland to lead a rebellion of the discontented Irish-Catholic majority against their British rulers.

This was the origin of the Naval War of 1688-89, and perhaps more significantly in our own view, it was also the origin of the bitter Catholic-Protestant antagonisms that scourge Northern Ireland today. It was a fierce struggle characterized by determined and courageous fighting on both sides. The siege of Protestant-held Londonderry by the Irish Army of James II rivals the heroic resistance of Leningrad in our own century. The story ends abruptly on the eve of the crucial Battle of Beachy Head in 1689 for the authors unfortunate death cut short the peroration to his work. But in any case, Beachy Head was not the end of the Anglo-French naval wars; the end came in 1805 with Admiral Nelson's victory at Trafalgar.

In *The Age of Nelson*, Mr. Marcus, like Mr. Powley, tells a good story, but, quite frankly, a story that has been told before. The author's assertion that "... the naval side of the War of 1793-1815 has never been fully and comprehensively treated," is simply not valid. (p. 11) Literally scores of works have been published during the past century dealing with the naval aspects of the Napoleonic Wars, of which A.T. Mahan's *The Influence of Sea Power upon the French Revolution and Empire* (1892) is the most conspicuous.

This latest work is for the most part well written, but offers little new material. The main contribution of the book is the narration it provides of the years of "lame duck" warfare which followed Trafalgar. During this period, the French Fleet remained continuously in port while the battleships of the Royal Navy beat back and forth across the harbor entrances in tedious blockade duty.

Both books were written primarily for history buffs, but *Nelson* will doubtless have some general readership because of the nature of the subject. They are, however, worthwhile reading, and in their pages the origins of our naval heritage can be rediscovered.

CRAIG L. SYMONDS
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Sellers, Robert C., ed., *Armed Forces of the World, a Reference Handbook*, 3d ed. New York: Praeger, 1971. 296p.

This reference handbook provides a summary of the armed forces of the world in terms of size, composition, major weapons systems and items of equipment, defense budgets, defense spending as a percent of gross national product, and other information of use in estimating the nature of the defense activities of a given country. The handbook provides no qualitative judgments as to the effectiveness of utility of these forces. A reader knowledgeable in current weapons systems and major items of equipment will find enough information to make some generalizations as to the modernity of the forces under consideration. There are a number of useful appendices dealing with key defense agreements and treaties, munition production capabilities, nuclear weapons potential (and interestingly here the editor includes Israel with the present five nuclear powers as having an immediate nuclear capability), capability

to use space to launch a nuclear attack, and, lastly, should one want to write for more information, the addresses of the national defense headquarters. The handbook is very similar in format to the *Military Balance*, published by the International Institute of Strategic Studies in London.

JOHN B. KEELEY
Lieutenant Colonel, U.S. Army

Sheehan, Neil. *The Arnheiter Affair*. New York: Random House, 1971. 304p.

Neil Sheehan has made a penetrating inquiry into an affair involving people, an institution, and a deeply revered Navy concept—command at sea. While on first reflection Arnheiter's command may conjure up memories of *The Caine Mutiny*, the entire episode is really more akin to a Greek tragedy with the leading characters committing professional suicide. Torn between the divine right of the sovereign—command authority at sea—and the need to maintain the integrity of *Vance*'s crew as well as their own psychic balance, the ship's officers tried to deal, within their own individual limits, with a situation which was nearly intolerable. However, the shenanigans and conflicts aboard *Vance* are not the prime concern of the interested reader. The issues are the reaction of the press to Arnheiter's being relieved as Commanding Officer of *Vance*, and how did the "system" allow him to gain command.

Once the Arnheiter episode became public knowledge, the Navy was quickly attacked by conservative and liberal alike. The American public, as evidenced by the *Pueblo* affair, is suspicous of any institution which might protect itself at the expense of the individual. Recognizing this, members of the press and some public officials (plus some senior retired officers, but for a different reason) were quick to make the affair a public controversy. Besides being plagued by instant communication, this affair was to suffer from instant analysis. As the author points out, members of the press—the author admitting he being one—were quick to report and comment on Arnheiter's dismissal without having conducted even the minimum research into the case's background. Mr. Sheehan's work is, therefore, instructive for the press and the Navy in the field of managing and reporting of adversary relationships between men and institutions, especially those instances involving individuals as aggressive and freewheeling as Arnheiter.

Both the naval officer and the layman will find the puzzle of how Arnheiter got command an intriguing one. Mr. Sheehan does his best to answer this knotty problem but admits that he is not fully satisfied with his research into Arnheiter's assignment to command. Captain Alexander's sponsorship of Arnheiter in the command selection process and some apparent irregularities (bypassing checks in the system) in his assignment to *Vance* do shed some pertinent insights into Alexander's later actions in which he supported Arnheiter. Alexander was warned by friends that the case was fraught with danger and would ruin his career, but he acknowledged "I was in trouble up to my neck . . . I guess I rationalized it [siding with the Arnheiter forces] as the best way to get out of hot water."

For the crew of the *Vance*, Arnheiter was prophetic when in departing the ship he said, "You will never forget me." Indeed they will not, nor will his seniors up to and including the Chief of Naval Personnel. And what of Marcus Aurelius Arnheiter? The reader must draw his own conclusions as to the man and his style.

R.M. LASKE
Commander, U.S. Navy

Ship's Log

February 2nd, 27th Day Out

LATITUDE	LONGITUDE	MILES	COURSE
25:16	65:30	306	W by S

Today running before strong trades. Set all kites flying except stunsils and couple of staysils. Heavy swells from the south shook us from stem to stern. All braces and sheets stretched taut as she staggered forward. Feared crashing seas might open seams. Sent First mate below to check water level in bilge. Came up with a record run of just over 300 miles.