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THE AIR POWER OF CIVIL DEFENSE
AND AIR SUPPORT TECHNOLOGY
IN THE RATION OF NAVAL POWER IN THE
POST-WAR DEFENSE OF WESTERN EUROPE

1964

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FINAL SUMMARY REPORT

10 July 1985

THE EUROPEAN POLITICAL ENVIRONMENT
AND NATO MARITIME STRATEGY:
THE FUTURE ROLE OF NAVAL FORCES IN THE
FORWARD DEFENSE OF WESTERN EUROPE

VOLUME TWO

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VOLUME TWO

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AND NATO MARITIME STRATEGY:
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U.S. NAVAL FORCES AND NATO PLANNING

by

Francis J. West, Jr.

There are differences in some of the planning assumptions of NATO as compared with those of the U.S. Navy. This paper will explain the evolution of these conceptual plans, point out why they diverge and suggest the future of naval roles related to NATO's security and capabilities.

I.

The 1970s was a period of malaise and turmoil for U.S. national security interests and organizations, and the U.S. Navy was not an exception. At the beginning of the decade, Navy force planning stressed ASW and convoy protection in the context of a NATO war, and procurement suggestions such as the Sea Control Ship were hotly debated. High respect was given publicly to Soviet naval power, including statements that the Soviets could have defeated the Sixth Fleet during the 1973 Mideast War, that the U.S. Navy had less than a 50 percent chance of prevailing in a major U.S.-Soviet war, and that a SLOC to our allies and geopolitical friends (i.e., the PRC) across

the Western Pacific might not be maintained in a major conflict. While some of these assessments may have been for public consumption in order to influence budgets, they did reflect a defensive and pessimistic tone.

Similar resonances could be heard in the other Services, while in the Office of the Secretary of Defense in 1977 an effort was made to codify the self-perceptions of reduced capabilities by assuming a reduction in foreign policy commitments, e.g., U.S. forces would not have to transit the Norwegian Sea to reinforce Norway. In the resultant furor over capabilities versus commitments, the Department of the Navy produced its own version of naval missions and capabilities, called Sea Plan 2000, asserting that a NATO war would actually be global in nature, due to the worldwide interests and alliances of both superpowers, and that U.S. naval forces should, where prudent, attack and not sit back on the defense. A goal of 600-ship Navy was suggested, with special emphasis upon attack submarines, which were designed for the offense, as well as on the introduction of phased-array radar ASW cruisers into 15 carrier battle groups, and electronic warfare.

Working with the fleet CINCs and testing the development and employment concept through repeated wargaming at the Naval War College, two successive CNOs -- Admirals Thomas Hayward and James Watkins -- steadily developed an overall concept for the maritime forces; it did not give tactical rudder orders to the fleet and unified

CINCs, who are responsible for the development and execution of operational war plans. Instead the Maritime Strategy, as it was called, provided the policy parameters for operations, relating campaign options and employment choices to operational risks and realities on the one hand, and to strategic accomplishments and national goals on the other. When Navy Secretary John Lehman began speaking publicly about the forward employment of U.S. naval forces to place Soviet forces on the defensive and about protecting geopolitically distant U.S. allies, he was drawing upon an empirical body of doctrinal concepts and touching a resonant chord both inside the Navy and among the larger audience of Americans concerned with national security.

This is because the Maritime Strategy is based upon concepts which transcend naval considerations. As Dr. Robert Wood of the Naval War College has expressed it, "Any deterrence strategy that does not consider how the war will be fought and terminated is a hollow shell." The Maritime Strategy is concerned with the actual employment of naval force capabilities -- that is, with consideration of how a major U.S.-Soviet war would be fought. The strategy does not address the employment of nuclear weapons; instead it focuses on the employment of conventional forces and campaigns to safeguard Western interests and to secure leverage for ceasefire negotiations. Its premise is to plan for a protracted conventional conflict. The strategy takes seriously Dr. Kissinger's observations that it is foolish to

base the security of the West upon the threat of mutual suicide. The U.S. Navy is confident that, with the coordination of the other U.S. Services and with allies, the wartime naval missions of the West can be accomplished, the offensive can be seized and Soviet naval power can be gradually destroyed, enabling Western military assets to be deployed across oceans around the globe. These principles have been stated repeatedly by Secretary Lehman, Admiral Watkins, and other naval officials. Similar statements have been contained for the past several years in the Secretary of Defense Posture Statements. They reflect a growing consensus about the wartime employment of conventional naval power, and how confidence in those capabilities in hand reinforces the stability of deterrence.

In large measure, U.S. naval planning is based on the logic of how to fight if deterrence breaks down. In the event of actual conflict, as Admiral Harry Train, USN (Ret.) and former SACLANT, has expressed it, there are only a limited number of options. First, it is possible that the Soviets would be stopped and would quickly accept a ceasefire on status quo ante terms in order to avoid possible escalation. This is unlikely. Second, the Allies could be quickly pushed back and accept a ceasefire on Soviet terms. This, too, is unlikely. Third, the Allies, losing ground, could initiate nuclear war and a full nuclear exchange would follow, killing hundreds of millions of people. Fourth, the Allies, losing ground, could employ

nuclear weapons in a "limited" way and the Soviets would respond in kind. Tens of millions would be killed and afterwards either the Allies would accept a ceasefire on negotiated terms or would continue the war without further resort to nuclear weapons. Fifth, the Allies, despite initial setbacks and loss of ground, continue a conventional war until able to negotiate an acceptable termination.

Naval planning proceeds from the fifth case. It is based on two assumptions. First, that the professional military officer must plan seriously for actual conflict. Second, that history supports real capabilities rather than deterrent theories. Since historically deterrence has broken down time and again when an aggressor logically should have remained deterred (e.g., Japan initiating war against the United States), the U.S. naval officer believes that deterrence should be based on plans for fighting with existing capabilities. This belief marks a fundamental difference in outlook as compared with NATO Europe. The U.S. naval officer is reinforced in his military philosophy by the environment and the culture in which he operates. Each time a submariner goes to sea, there is some chance he may be in acoustic contact with a Soviet attack submarine. Each time a surface warfare officer deploys, he may see Soviet warships and, by radar and electronic warfare means, he will sense their presence and know he is being tracked. Each time a naval aviator embarks on board a carrier, he knows he may soon be flying

sorties in or near one crisis-torn nation or another. Unlike the Air Force and the Army, by virtue of the conflict environment, naval officers on deployment are in contact with Soviet forces, and this culture encourages serious planning for conflict, as well as the belief that deterrence requires the capabilities to fight conventionally and successfully.

II.

NATO planning, of course, derives from a different wellspring. Having fought a terribly destructive war forty years ago, the West Europeans are determined not to repeat the experience. Nuclear weapons, because they do risk the mutual suicide of nations, have been perceived as the guarantor of non-war. Hence, West Europeans tend to take warfighting seriously only as a means to make credible the use of nuclear weapons. Clearly, for instance, one battalion of soldiers defending the boundary of the Federal Republic of Germany could be construed as weakness and not a credible deterrent to Soviet aggression in a crisis atmosphere. However, when hundreds of thousands of Allied troops are involved, then any Soviet military aggression would engage the pitched emotions of the 15 Western nations, making credible Western resort in desperation to nuclear war and destruction. Therefore, any serious planning for conventional defense weakens deterrence because it weakens

the supposed automatic resort to nuclear weapons. Serious U.S. naval planning for conventional war is not perceived in many circles in NATO Europe either as helpful or as deserving of support.

The NATO deterrent theory is based on the credible possibility, in the event of major conflict, of catastrophic nuclear destruction, including the American and Soviet homelands. This means there can be no clear firebreaks among battlefield, theater and strategic levels of nuclear war. To many West Europeans, firebreaks provide a means for the destruction of Europe while the United States and the Soviet Union remain intact, which would not sufficiently enhance the deterrence of war in Europe. Instead, the initiation of nuclear war in Europe must, for deterrence purposes, be linked to destruction in the United States and in the Soviet Union. The SS-20s in the western Soviet Union provide one such link, while the U.S. cruise missiles in the UK provide another. Nuclear weapons are not seen as redressing conventional setbacks for the West through superior U.S. nuclear strength. At best, the nuclear balance is one of clinging parity for the United States, and perhaps one of imbalance due to the Soviet capability to destroy U.S. hardened missile silos and C³ facilities.

NATO conventional forces must at least be strong enough to put up a stout defense, preventing any quick fait accompli by a Warsaw Pact blitzkrieg. Enough time and treasure must be expended so that the peoples and

islands. The first deduction to be made relates to the care which every government needs to take over the signals which it may transmit inadvertently. More bluntly, it is the perceptions of would-be aggressors which need to be borne in mind and not simply the situation as seen from your end of the telescope. The action taken by the British, and the consequences for the aggressors were, of course, in their turn observed by other would-be aggressors and by prospective victims. The second deduction is the precept that in preparing for wars which you will not have to fight you must not impair your capability to deal with the conflicts which you cannot avoid. For example, the motivation for the Nott "Way Forward" proposals was the urgent need to mold future defence budget patterns to encompass the re-equipment of Britain's submarine-launched ballistic missile system with Trident-fitted boats, as well as the Royal Air Force re-equipment program, notably with Tornado aircraft.

Attempts have been made to kidnap the word "peace" for the exclusive use of those holding unilateralist views on defence and disarmament. "Deterrent" and "deterrence" have drifted, more innocently, into the hands of nuclear strategists of all professions and persuasions. It is inevitable that the main emphasis of discussion on deterrence relates to the Soviet Union, but it seems desirable to focus on the concept that the NATO allies are concerned to deter war. Individual member states may

"deterrence" with nuclear weapons has tended to obscure the fact that it involves the whole spectrum of politico-economic and politico-strategic options open to governments for the protection of their interests worldwide.

This is not an essay on British defence policy in the second half of the twentieth century, but it might be accepted that there are other significant deductions to be made from the British experience. It would be inaccurate as well as unfair to blame the Nott regime in the UK Ministry of Defence for the failure of deterrence in the Falklands. Successive governments in the United Kingdom must share the responsibility for reducing the capability of Britain's armed forces without facing fully the need for equivalent cuts in commitments. The Argentine perceptions of British attitudes to the security of the Falkland Islands were not only influenced by the lack of any regular Royal Navy presence in the South Atlantic, such as that provided in former times from the America and West Indies Squadron, and latterly by the South Atlantic Squadron. The final indicator of disinterest seemed to be provided by the announced intention to withdraw HMS ENDURANCE, the ice patrol ship. Lack of interest implied lack of will, and the general tenor of Command 8288 strongly suggested loss of capability. Had the Argentine government, in fact, delayed military action for one year, cuts in capability would have been such that it would not have been possible for the United Kingdom to launch a force capable of retaking the

strains and tensions in the transatlantic relationships of the Alliance in the past three years. Nor is it healthy in terms of global politics for it to appear that the United States has perforce to engage in "global unilateralism." However, it is essential to accept the economic realities which complicate solutions to this problem.

A Failure of a Deterrent Posture

In 1981 a climax was reached in the tussle to reconcile the defence commitments of the United Kingdom with the economic resources likely to be available. This took the form of Defence Secretary Nott's Statement on Defence "The Way Forward" Command 8288.² Within a year the main thrust of Secretary Nott's proposals for economy, which were chiefly directed at the capabilities of the Royal Navy, had been disrupted by the Falklands Conflict and its immediate aftermath. Reference to some of the questionable attitudes and ideas revealed in Command 8288 will occur later, but two cardinal points deserve mention at the outset of a study under this title. The first is the vivid illustration, mercifully on a small scale, of the cost in human and material terms of a failure to maintain a credible deterrent posture. Credibility depends upon an evident capability to respond to aggression from whatever quarter and an evident will to employ that capability if the need arises. The second cardinal point is that the association of the word

NATO STRATEGY AND EXTENDED DETERRENCE:
THE CHANGING ROLE OF SEA-BASED FORCES

by

Rear Admiral E. F. Gueritz

Introduction

The purpose of this paper is to examine the changing role of sea-based forces. As a European contribution to this analysis of NATO strategy and extended deterrence, it seems necessary that it should present views on some European perceptions of the whole subject of NATO strategy. This follows upon the presumption that European allies ought to appreciate the need for extended deterrence and, wherever possible, contribute to it, in any or all of its forms. One can argue that the chief point to establish is not so much the changing role of sea-based forces, but Allied perceptions of the traditional role of these forces and their willingness, as member states of the Alliance, severally and collectively, to provide the means of discharging the role. As Secretary of Defense, Caspar Weinberger, has said: ". . . The American people will not want to march alone" and "If our effort is not joined by all who are threatened we could lose at home the critical public support for which we have laboured long and hard."¹ The truth of these words has been borne out by the evidence of

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mankind. Nuclear weapons are a deterrent in their terror and in their illogic. They will remain so.

Conflicts can come, however, and spread, and involve the superpowers in combat, and, ironically, even leave the Central Front on a state of full alert but without fighting due to the nuclear trigger. With or without the Central Front, U.S. naval planning has been analyzing how to fight conventionally. Because this involves a protracted war (meaning destruction in Europe), NATO Europe has not addressed the issue, preferring to cling to a deterrent-only theory. Yet naval planning reinforces deterrence. As the credibility of initiating nuclear war weakens, so the comparative strength of mobilization economies rises in the calculus of those who must make the decision to go to war. The effect of \$500 billion per year in U.S. conventional forces and \$500 billion per year in U.S. nuclear forces would weigh very heavily upon the decision-makers in the Politburo. Lastly, U.S. naval planning is premised on a basic assumption: a military professional must have a concept and a plan for how he is going to fight.

becoming more credible is the weakness of the Soviet economy and the enormous strength of the U.S. economy and of many other allied or friendly nations. In a major war, regardless of how the first month of conventional war went in certain theaters, the Soviets would have to calculate the one year, two year, three year consequences of the United States, with a one trillion dollar annual Defense budget and perhaps 200 billion dollars annually devoted to Strategic Defense -- a concept former Defense Secretary James R. Schlesinger said would take 100 billion dollars to bring into the realm of the feasible.

In effect, U.S. naval planning is suggesting the addition of one deterrent concept to another. The only concept was to threaten nuclear escalation. That threat will always pertain and most definitely will inhibit any direct clash between Soviet and NATO (including U.S.) forces. The threat of escalation most particularly pertains to the Central Front, where there are so many thousands of nuclear weapons that a major Soviet blitzkrieg could very well result in nuclear war because for decades the planning staffs on both sides have viewed the nuclear systems in the context of a continuum across the spectrum of conflict. That logically nuclear weapons should not be so viewed is not the point. In the heat of war, with thousands upon thousands being killed, with chaos and confusion everywhere, the release of some nuclear weapons could well happen, despite the later anguish of policymakers, historians and

European nations, equally as wealthy per capita as the United States, who are unwilling to put forward half the effort of the U.S. on a per capita basis. It also presumes conflict will occur in the Central Front, or that other areas of Western Europe and of the globe would benefit less from the mobile power of U.S. naval forces. Because strategically the challenges to U.S. interests have been increasing outside the Central Front, the argument for more Central Front forces at the expense of more flexible forces has not been received as cogent.

U.S. naval focus has been on persuading all U.S. Services that the issue is not a force structure debate, but rather the need to develop a conventional warfighting concept, because the initiation of nuclear war is not militarily sensible and is morally bankrupt, especially when rhetorically cited as a reason why wealthy nations do not have to provide prudently for their common defense by conventional means.

Naval planning has momentum because it is not based on Service interests. Strained of the salt water, it is a plan for a protracted, conventional conflict. Because democracies often do not sacrifice sufficiently for security during peacetime, the planning recognizes there may well be initial setbacks if war occurred. In its realism, however, it can be seen as strengthening deterrence. Given Soviet strength, the Western initiation of nuclear war, after a conventional setback, is becoming less credible. What is

they look at theaters around the globe, not at one battlefield; they envision a long struggle, perhaps punctuated by episodic ceasefires, and not a very short war followed by a very enduring peace; they view deterrence as resting on the conventional capabilities to achieve policy objectives, not capabilities to achieve an emotional commitment and intensity of sacrifice to compel the initiation of nuclear war without calculation of the consequences.

III.

NATO Europe has not yet recognized the seriousness or the extent of the evolution in U.S. Naval doctrine and strategic thought. Within American circles, there are reservations and suspicions about the naval doctrine, which is analogous to the U.S. Air Force doctrine of the 1950s in terms of matching a strategy to a national mood. Some suspect naval motivations, for reasons of force structure justification, especially of carriers. The cutting edge of naval strategy, however, begins with the attack submarine and ASW. Others believe that the naval effort is misdirected strategy in terms of geopolitics, and that naval resources allocated instead to U.S. forces and equipment in Europe would yield a capability to stop a Soviet blitzkrieg. This reallocation of forces, however, presumes the U.S. Congress would vote to do even more for West

benefit of placing some potential pressure upon the Warsaw Pact (at least the GDR would not be a sanctuary), without appearing to make NATO, and especially the FRG, look too offensive-minded in peacetime and thus jeopardizing West European efforts to extend political, cultural and economic sustenance to Eastern Europe.

While the trend in U.S. tactical air forces -- Navy, Air Force and Marines -- is clearly toward PGMS, FOFA conceptually has been linked to the U.S. Air Force. It will require, to be taken seriously, ten billion dollars not yet allocated. It is doubtful if serious planning should rely upon the application of naval tacair along or beyond the Central Front in the initial week or two of a major war. The Soviet submarine and air-to-surface missile threats, the demands of other regions and the sheer ocean distances naval forces must traverse -- all suggest that naval tacair not be planned as a substitute, or as a routine complement, to land-based tacair in the region of the world most densely populated by land-based air systems. So FOFA will be a U.S. Air Force concept.

In summary, by virtue of their environment and systems, U.S. naval forces show marked differences in planning assumptions compared to those endorsed by NATO Central Front doctrine and the deterrence theory of automaticity. These differences can be papered over, but they are serious. U.S. naval planners look to employ conventional systems, even if that means initial setbacks;

have no such luxury of delay in time or strategy. Clearly, largescale naval battles may not begin until weeks after momentous land battles have been decided. So the school of thought which holds that the initial Central Front battle is key to NATO planning, logically wants to reduce resources for naval forces and to insure that those naval forces procured are nevertheless committed early-on in a way which supports the Central Front battle.

SLOC support for the Central Front is perceived as achievable with less investment in carrier battle groups. Carriers, in turn, are perceived as contributing less per dollar in Blue tactical air than fixed air bases near the Central Front. Only if one views conflict with the Soviet Union on several fronts, or probably at least as global (as were World Wars I and II), does the mobility inherent in naval air power make sense in a major conflict.

In 1984, the perception of Blue tactical air superiority gave rise to proposals to utilize it more fully as an offset to Soviet armor. The general notion was that Emerging Technologies (ETs) would, on a cost-effective basis, enable NATO to target, primarily by airborne detectors, Soviet vehicular forces 100 to 300 miles to the rear and then to attrite and disrupt those forces by precision-guided munitions (PGMs) launched mainly from tactical aircraft and secondarily by land-based intermediate-range missiles. The concept of Follow-on Forces Attack (FOFA) or Deep Strike had the added political

measures, the Allied inputs are not equal to the conventional warfighting task, unless early setbacks and initial loss of territory are accepted as a real risk.

The democracies of Western Europe are neither willing to accept that risk nor to increase peacetime spending. The preferred solution is to rely upon an automatic linkage between Soviet conventional aggression and an Allied nuclear response. Serious U.S. Navy thinking and planning for conflict upsets the comfortable theory of automaticity, (which may not be so automatic if put to the test).

A second West European reservation is that U.S. naval planning is global and slow. NATO Europe links an attack upon one nation as an attack upon all. Therefore, the onslaught of hostilities will spread quickly to the Central Front as the key battlefield in a ferocious and short (certainly less than 30 days) war. In contrast, the U.S. Navy is spread out in at least the North Atlantic, Norwegian Sea, Mediterranean and Western Pacific. The Central Front is not central to naval forces and naval forces are not central to the Central Front.

And, while NATO land forces are tied to a political deterrent policy of forward defense along a thin line that permits little maneuver backward or forward, naval forces are freer to employ strategy and maneuver, testing the enemy before maneuvering far forward. Hence, the military logic for naval forces is to rely fullscale engagements until enemy capabilities have been probed, while NATO land forces

European nations. Hence, the NATO strategy is solely about the deterrence of war; it is not a plan for fighting a war.

In stark contrast, the Maritime Strategy begins with the failure of deterrence and articulates a set of means in a protracted conflict which are premised on avoiding unconditional destruction. The Maritime Strategy says that having a coherent plan for warfighting, as the Soviets do, strengthens deterrence. If war comes, it still might go nuclear, an acknowledgement of the Apocalypse Strategy. But if war comes and it does not go nuclear, the Maritime Strategy seeks a termination satisfactory to U.S. interests.

NATO Europe prefers to observe that, since any war is unsatisfactory to Western interests, no realistic planning for conventional war will be done, because such plans would reduce the automatic resort to nuclear weapons and so might encourage the Warsaw Pact to use its superior conventional strength. This is a serious dilemma. The U.S. Navy, together with allied support, can probably achieve its wartime tasks of insuring allied resupply worldwide, and of delivering mobile firepower, while threatening to destroy all Soviet naval assets. In similar fashion, U.S. and allied tactical air can probably destroy Soviet tactical air. But these achievements do not offset the extraordinary Soviet investment in land, armored warfare.

U.S. defense spending fluctuates between zero and six percent real growth, and West Europeans spending between zero and three percent. By the standard, quantitative

policymakers of Western Europe and the United States fully appreciate that the war is a struggle to the death. Once the West is that deeply and emotionally committed, then resort to nuclear weapons is credible.

Critics argue this theory of total, even suicidal, commitment is incredible, not least because those advocating the theory are doing so in order to avoid very modest peacetime increases in conventional forces. If West European democracies are unwilling to support even five percent of GNP for defense in peacetime, critics have observed, they will not choose the final sacrifice in wartime. The ferocity with which the Western democracies fought in two world wars, suggests that the level of sacrifices cannot be predicted in advance. But the objective in prior war was to build strength in order to win, and preserve or restore the societies of the West; the theory for a future war is to blow up the societies.

This theory leads to the unacceptability of any defense planning which lessens the likelihood of the nuclear apocalypse, because that is perceived as the essential element for deterrence. By assuming a protracted conflict, the Maritime Strategy rejects the assumption of the early resort to nuclear war and thus is a threat to the theory of "deterrence only." The deterrent theory refuses to plan for conventional warfighting, because such a plan might include initial setbacks or destruction and maneuver within the FRG, and such plans are unacceptable politically in most West

consider themselves limited in their concern within the geographical limits of the area. The NATO authorities have made clear repeatedly that the writ of the Alliance does not run beyond these limits. On the other hand, member states have demonstrated that they are prepared to deter aggression, unilaterally or in multinational groupings, whether or not such aggression has been instigated or supported by the Soviet Union. The action by Commonwealth forces in defence of Malaysia 1964-66 is an example. The actions of Alliance members may be altruistic, but certainly can help to reduce the risks of local conflicts which could draw in NATO and Warsaw Pact powers. Moreover, although the wars and politico-military unrest in the Middle East represents the most obvious threats to the interests of West European economies, the future will produce others under the influence of ambition, greed, or fundamentalism of religion or race, e.g., Islam and Apartheid.

Flexible Response Revisited

In certain circles, encouraged by Soviet propaganda, the strategy of Flexible Response has been attacked on the grounds that it is simply a pretext for reliance upon nuclear weapons and multiplication of them. Such accusations may be festered unwittingly by the use of the term Graduated Response, which has been employed as an alternative to Flexible Response. Literal interpretation of

the word "graduated" suggests "step by step" and by presumption, step by step up an escalatory ladder. The strategy of Flexible Response evolved from the realization that governments in the West could be driven into an all-or-nothing impasse. Armed forces, as with other elements of democratic government, are intended to maintain for the ministers of their government the maximum possible degree of freedom of action within the means which can be made available to them. Demands for resources beyond the economic capacity of the country can, if gratified, only lead to inhibition on ministerial freedom of action in other areas. Even the "ministers" in the Kremlin have been made aware of this unpalatable fact. Nonetheless, the situation in the early 1960s was one in which it seemed possible that the range of responses available to NATO governments was inadequate. Acceptance of the strategy of Flexible Response was the result of years of anxious deliberations in the military and political hierarchy of NATO. Satisfaction with this general strategy does not rule out the possibility of changes of emphasis in deployments, capabilities, tactics, and resource allocations.

The recent trend of strategic debate in Europe has been towards "raising the Nuclear Threshold" and "Improving Conventional Capabilities." Furthermore, even from people who ought to know better, there have been demands for "no-first-use of nuclear weapons" to be declared as the key element of NATO policy. It shows the extent of the misin-

terpretation of the term Flexible Response, whether through ignorance or malice, that there are those who believe it is necessary to abandon this strategy before one can hope to proceed to improve NATO's conventional capabilities. In fact, successive major NATO Commanders have sought the means by which to improve conventional capabilities. General Bernard Rogers, in his capacity as SACEUR, has recently stated: "Instead of possessing genuine flexibility for executing our strategy, our current military posture will require us -- if attacked conventionally -- to escalate fairly quickly to the first use of nuclear weapons. This is the result of a lack of adequate sustainability: manpower, ammunition, and reserve materiel to replace losses and expenditures on the battlefield . . ."³ The obstacle is, and always has been, the reluctance of most member governments to lay out the extra economic, industrial, and scientific resources to make substantial improvements possible.

The 1977 commitment to increase expenditure by 3% in real terms showed the right spirit. However, in democratic countries the flesh may not match the spirit when it comes to diverting money from butter to guns. The final communique of the Defence Planning Committee in May 1977 reads as follows:

Against the background of adverse trends in the NATO-Warsaw Pact military balance and in order to avoid a continued deterioration in relative force capabilities, an annual increase in real terms in defense budgets should be aimed at by

all member countries. This annual increase should be in the region of three percent, recognizing that for some individual countries, economic circumstances will affect what can be achieved; present force contributions may justify a higher level of increase. Specific target figures for each country will need to be determined in the normal course of the Defence Planning Review. Nations should provide full compensation for the inflationary impact of rising pay and price levels to ensure that planned real increases are achieved. It is, moreover, imperative that nations increase the cost-effectiveness of their defense expenditures, in particular the percentage of such expenditure devoted to major equipment, but without detriment to combat readiness. The effective use of resources will depend to a large extent on progress in Alliance cooperation.⁴

It seems unlikely that more than three or four European member states will achieve the target this year, and the United Kingdom has announced the intention to abandon 3% as a target for real growth per annum in defence spending after 1985-86.

Although percentage growth figures are only one form of measurement of Allied effort, it is one likely to be well used as a yard stick in political circles. The Congress of the United States, for example, is giving particular attention to the improvement of NATO's conventional defence capability with the object of lengthening the period of effective resistance to aggression using conventional means alone. European members will be left in no doubt that failure to make adequate resources available will induce unfavourable reactions in the attitude of the Congress towards support for the Alliance.

The preliminary documentation for this Conference has remarked that: "Most discussions of NATO strategy, at least until quite recently, have focused on the land defense of the Central Front." This is the sad truth and would be so without the qualifying clause. As already mentioned, a fashionable subject for published work in Europe is the improvement of conventional capabilities, but whole articles and even books appear without reference to the broader implications for any NATO front except Central Europe.

In any event, the acceptance of the possibility of prolonged military operations in Europe surely presupposes that reinforcements and supplies will be deployed by sea and air from the United Kingdom. If NATO is to adopt a policy based upon Emerging Technology and Follow-On Forces Attack, or variations on these themes,⁵ is it not likely that Warsaw Pact forces may play the same tunes using any technology, new or old, which comes to hand. Taking, therefore, the rear areas of Allied Command Europe, in the Low Countries and Britain, there will presumably be a massive demand for increased expenditure on air defence forces, mine countermeasures and Civil Defence, to take only three simple examples. It seems hard to credit that this extra provision is encompassed within the sort of proposals argued by General Bernard Rogers, even when he raises his bid for members' budget increases as high as 7%.⁶

This argument can be carried a stage further. Those concerned with budget provision for land and air forces have

been known to deny the value of maritime forces on the grounds that there will be no time for a Battle of the Atlantic because war in Europe will be so short-lived. How could there be time to load ships, assemble convoys, fight them through, find workable port facilities, etc., etc.? If the land operations are prolonged, this line of argument loses validity. No SACLANT has ever underestimated the task which he would have in defending the shipping needed to sustain SACEUR. Nor has any SACEUR publicly rebutted the estimates made by his fellow major NATO Commanders of the tonnages of equipment and supplies which have to be delivered by sea. Anyone seriously concerned with the defence of Western Europe has to consider the full range of problems involved in mobilizing, transporting and distributing reinforcements of men, equipment, and supplies for Allied Command Europe. The evident determination to overcome these problems is an essential element in the process of deterrence. The British government gave practical evidence of their acceptance of this view by mounting Exercise Lionheart in the fall of 1984. Exercises in the Reforger series have been reported recently. To do less could encourage the idea that ACE is simply a beleaguered garrison.

From the other side of the British Armed Forces budget table comes a very seriously argued case for an improvement in NATO's conventional capabilities by a form of specialization. This involves a significant reduction in

expenditure on the standing deployments of British land and air forces in Europe. The money saved would be devoted to the expenditure for maritime forces, although it is never clear when real savings, as opposed to reduced foreign exchange costs, would be realized in fact. This happy naval solution to a very difficult defence problem of matching commitments to resources misses a key point.

The British standing deployments on the European continent have similar symbolic significance to those of the United States, but also very considerable weight in political terms on both sides of the Iron Curtain, particularly in relation to the Federal Republic of Germany. Indeed, it is probable, as may emerge later, that a reduction of U.S. force deployments in Europe could be absorbed more readily in the political environments of Western and Eastern Europe than any significant British redeployment. It might be thought that naval officers should have a well-founded sensitivity to the political impact of the deployment of military forces, observing that "flag-showing" was originally a politico-naval conception. It is a curious fact in recent history, as was pointed out at a similar conference in 1982, that the Standing Naval Force Atlantic was not formed until several years after the successful evolution of the ACE Mobile Force. It is of importance in the study of the role of maritime forces in the NATO forward defence, and this aspect of it, that the psychological elements in the prosecution of successful strategies should not be ignored.

"Lose the War in an Afternoon"

Few would dispute the claim of Sir Winston Churchill⁷ that Admiral Sir John Jellicoe, commanding the British Grand Fleet, was the only man on either side in World War I who could have lost the war in an afternoon. He was presumably referring to the fact that tactical error could have led to strategic disaster, not only for the British, but also for their allies. For some of today's naval students this may seem to be an award-winning glimpse of the obvious, but it has always been easy for the brightness of tactical success to obscure the strategic consequences of military operations. Enthusiasm about Lord Howe's triumph over French warships on the Glorious First of June 1794 enabled generations of British naval officers to miss the fact that the real objective of the French operation was the passage of a convoy carrying food to nourish the forces of revolution in France. As far as Admiral Jellicoe is concerned, Professor Marder declares: "Jellicoe's primary objective was retention of the command of the sea and this was accomplished."⁸ However, there is one area of high command in which Jellicoe was at fault and which deprived the Allies, at least temporarily, of an advantage which was handed instead to the Germans. The communique reporting the Battle of Jutland, which was issued from the Admiralty, "filled the nation with anxiety and disappointment and enraged Jellicoe's men . . ." according to Richard Hough.⁹ He could have added comments upon the

damage to the morale of our allies and the corresponding encouragement of our adversaries whose propagandists made the most of British losses. The Admiralty communique was based upon Jellicoe's initial reports. He must, therefore, share the blame for a gratuitous wound to alliance morale. He seems to have favoured the Silent Service tradition and had resisted the efforts of the chief censor to provide facilities for newspaper correspondents to visit the Fleet.¹⁰

When the Select Committee on Defence of the British House of Commons conducted an Inquiry into the handling of public information in the Falklands Campaign, they took evidence from the principal naval officers concerned. Their attitude can be summed up in this statement by Admiral of the Fleet Lord Lewin:

Our military concern as I have already outlined was, to us, absolutely paramount. Eventually we won, which I assume was what the Government and the public and the media all wanted us to do. Looking back, I can see no time when I was greatly concerned about items that appeared in the media. We had our problems. We had our differences but they were of a relatively minor nature certainly looking back on them. I am somewhat surprised that there is a need now to have this great post mortem into media aspects of the campaign in the South Atlantic.¹¹

There seems to be an echo of the allegation that if Fleet Admiral King had his way, the Navy would have issued only one communique, and that at the end of the war, consisting of the two words: "We won."¹² Quite apart from the uncharacteristic tactlessness of the last sentence,

Lord Lewin's remarks, and the general tenor of the other evidence given by him and by his colleagues, the Chief of Naval Staff and the Fleet Commander, seemed to lack appreciation of the psychological aspect of the military arm of the government. It is necessary to take account of the help which wise application of psychological warfare, in its most open forms, can provide in the achievement of military objectives, by diplomacy and by clear and frank exposition of the national cause. In the Falklands instance the support of Allies and the benevolence of unaligned states were crucial to success. In World War I the military success of the unrestricted submarine warfare campaign had to be set against the alienation of American public opinion. The initial success of the Soviet invasion of Arghanistan in terms of military deployment had to be set against the hostile reaction of unaligned states. Curiously, for a power so heavily dependent upon psychological warfare, this reaction seems to have come as a surprise to the Soviet leadership. In remarking particularly on the attitudes of senior military officers, it needs to be made clear that all the member states of NATO need to give far more attention to psychological warfare. This will best be achieved by the study of our politico-strategic assets and vulnerabilities in every sphere of national life and inter-allied relationships.

An All Round Look-Out

It is evident from what has been said already that one of the problems for the Atlantic Alliance is that of keeping a look-out for threats from both likely and unlikely quarters. In England in the 1960s it used to be said that the Chiefs of Staff were going to erect a statue in Whitehall dedicated to the Unforeseen, following the Greek example condemned by St. Paul.¹³ This political poison-dart was directed at the prudent military advice that precise arithmetical calculations of the sort being conducted at the time were unrealistic. These calculations sought to match every battalion, ship and aircraft squadron to defined tasks. Military men know by hard experience that it is the unforeseen which usually, if not invariably, happens.¹⁴ Politicians are prone to be disgruntled if the military cannot immediately respond in the manner which would be the most convenient politically. On the other hand, no British Secretary for Defence would have wished to justify an identifiable element of his budget to allow the Royal Navy to include visits to the Falkland Islands as a regular feature of its operational program on the basis of the general deterrent effect exerted by "presence." Indeed, the proposed withdrawal, to effect a trifling saving, indicates that no such idea would have been countenanced. The obvious alternative was to face the political consequences of open recognition that no provision would be

made for the defence of the Islands. This unpalatable choice, it now appears, had been laid before ministers as far back as thirty years ago according to the latest set of cabinet records released.

The reason for belaboring this recent example is that it is possible to draw a wide range of scenarios in which armed forces may have to play a part, as the deterrent support of diplomacy or in protective deployments, or in more active roles. It is difficult to forecast all the situations, the circumstances in which some situations may arise, or the best kind of military assistance which may be required in the event. Military men can only advise on the level and type of forces which are likely to be able to meet the demands which Ministers may find it necessary to make. In British Staff Colleges it is the accepted doctrine that the principle of war enshrined in the word Security does not mean that it is a fault to take risks. It is a fault not to know that a risk is being taken. Military advice has to include a clear statement of the risk which may arise from a Ministerial course of action. For example, the withdrawal of the British presence from the Persian Gulf was justified by a bland (non-military) assertion that "The oil will always flow." This particular slogan has been consigned since 1972/73 to the same pile of rejected wisdom as "Two can live as cheaply as one" and the recent addition, speaking of Europe at least: "There are no votes in Defence." Meanwhile the Statement on the U.K. Defence Estimates 1984 states that:

Other naval deployments last year have included the continuation of a patrol of two frigates plus afloat support in the Indian Ocean, available to come to the assistance of merchant shipping should free passage in and out of the Gulf be threatened. For much of last year one of the warships was provided by the Royal New Zealand Navy.¹⁵

This passage incorporates the very important phrase "to come to the assistance of merchant shipping." More will be said on this subject later, but it seems appropriate to make the point that careless use of words has led to some loose thinking about the maritime elements of our strategy. It may have been acceptable for the officers and men in the time of Jellicoe and Beatty to talk about "keeping open the sea lanes." There were indeed remarkable successes in shipping Imperial Forces about the globe with minimal casualties but, from the outset of World War I rising to a crescendo in 1917, a handful of German officers and men in submarines made a mockery of a fundamental element of British maritime power, the defence of merchant shipping. This remains a primary role of sea-based forces in peace, in war and in times of tension. Today's talk of sea lanes, of SLOCs (Sea Lines of Communication) and even (heaven defend us!) Sea Bands (Sousa goes to Sea?!)¹⁶ can suggest to scientists, statisticians and politicians that these are highways to be patrolled with precisely calculated force levels. These concepts are elaborated with hunting groups of ASW forces, aircraft patrols and mine barriers, all supervised by sensors operating in every conceivable dimension without natural or human interference.

All these elements will form part of the maritime struggle, but the potential battleground is not the smooth surface of the plotting table in a research centre. The arguments about convoys or reversion to the concept of fast independent sailings must be left for the present. Two points only need be recorded now. Accepting that modern reconnaissance methods and precision weapons have changed the setting, the so-called fast independents will need some defensive equipment against missiles, and even possibly some ASW capability. Convoys originated with ships huddling together for mutual protection and this natural reaction may recur. How long will it be before a warship or two join in in order to direct and multiply the defence potential? The importance of merchant shipping is not a matter which is restricted to war plans and preparations. Whatever the circumstance, the countries of NATO Europe are dependent upon the continued movement of seaborne traffic for their well-being, and all member states depend upon it for their prosperity. Despite some hard experiences during peace and war (e.g., 1973 and 1940-45) there appears to be a general case of tunnel vision obscuring the dangers of neglect of this fundamental fact.

A significant reason for this tunnel vision may be the West European preoccupation with the Central Front which has already been mentioned. A contributory cause of this, in turn, may be the fact that all members of the European end of the Atlantic Alliance, except Luxembourg and the

capability in air forces of the future means that sea-based forces will have a variation on their accustomed role of deploying integrated air power with a fleet.

Even if the deployment of army units is by air power, parachute assault or air-landed, heavy equipment and logistic support have to be brought in by sea. The problem lies in providing the necessary shipping resources, not least to enable all units which may be involved to receive adequate training, a necessity underlined by Falklands experience. There is, therefore, a need for purpose-built ships, but also for a strong auxiliary element. The latter must be economical to man and to maintain. They can be adapted from existing commercial hulls or constructed to commercial standards. The vessels required will include Roll-on/Roll-off ferries, VSTOL aircraft support and transport ships, helicopter carriers for Commando vertical envelopment operations, and support vessels capable of providing ship-to-shore fuel pipe lines or dracones to supply advanced tactical fuel installations. This auxiliary element, manned by naval crews or members of the Fleet Auxiliary Service, would in turn be supported by vessels taken up from trade in an emergency. There will be strong objections from the naval and military staffs that only purpose-built ships will do, but it is unrealistic to suppose that resources can be made available to achieve the desirable force levels at Rolls-Royce standards. The use of containerized equipment for Command and Control, defensive

Internationally, the accession of Spain to the Alliance offers the possibility of increased amphibious capability on the Southern Flank and both parachute and air-portable brigades from the Immediate Intervention Force.²³ However, the future status of the Spanish forces, in relation to the NATO integrated military system, remains uncertain, as does the status of French forces. The latter, it must be noted, have acquired a very significant new capability in the shape of the Force d'Action Rapide (FAR). This Force of 47,000 men under a single commander comprises five divisions: airborne, naval infantry, light armored, air mobile, and mountain.²⁴ The formation of FAR provides a clear recognition of the true nature of Flexible Response, with forces trained and equipped to meet a diversity of situations, including those which may arise out of area in NATO terms.

The role of sea-based forces is not only the provision of sea lift, of safe passage and fire support for landing forces, but it is also the provision of mobility for air power, whether based in aircraft carriers or deployed ashore. In the Falklands Operation Air Force VSTOL aircraft were carried in adapted merchant vessels from which they flew to join units deployed afloat or ashore. The provision of sea transport and sea-based staging posts for VSTOL aircraft, normally land-based, has added a new dimension to the term "flexibility of air power" which is much favored by Air Force officers. The inevitable increase in VSTOL

least in the U.K., and the tale might be depressing. However, it may be salutary for those tempted into dogmatic statements to learn that ten years ago a very senior British Army officer declared that it would be impossible to maintain a Brigade Group (Regimental Combat Team) on lines of communication as long as 2,000 miles; e.g., in Italy or Thrace. A very senior naval officer of the same era was of the opinion that amphibious landings on the pattern of World War II, supported by aircraft carriers equipped with VSTOL aircraft, would be out of the question.²² The British Force in the Falklands Campaign amounted to approximately three Brigade Groups operating on lines of communication which were 8,000 miles long. Perhaps it was a legacy of such high level misconception that, according to Secretary Nott's 1981 plans, the LPDs were to have been disposed of, leaving the Royal Marines without dedicated sea lift, the surviving LPH having long since been reassigned for ASW duties as a CVS. It was disquieting that the loss of amphibious shipping lift seemed to enjoy the acquiescence, to put it no higher, of the Naval Staff. The present situation is in some respects rosier, both nationally and internationally. The Royal Marines have recovered their sea lift by the reprieve of the LPDs, an Army Brigade is available for Mobile Force duties with SACEUR, and two parachute battalions are being retained. The parachute assault capability of the Royal Air Force is being recreated in terms of air lift, training, and equipment.

Mobile Forces

It was a coincidence that at the time of the adoption of the Flexible Response strategy the redeployment of U.K. forces from bases east of Suez made possible the declaration to SACEUR of the United Kingdom Mobile Force (UKMF) of one infantry division and one parachute brigade, and the U.K. Amphibious Force of a Commando Brigade of four Commandos with associated amphibious shipping. The latter consisted of two Commando ships (LPH) and two Assault ships (LPD), with the call on some of the six Landing Ships Logistic (LSL), normally on routine duties for the support of British Forces in Germany. Other naval forces were declared to SACLANC at improved notice of availability. Deployments to North Norway, the Baltic area, Greek and Turkish Thrace, and Northeast Italy were envisaged for these and other national contingents which could be made available. For example, plans for amphibious reinforcements for Southern Europe encompassed Italian San Marco battalions as well as British and United States landing forces for deployment to Thrace. In the North, the Royal Marines embarked on long-term Arctic training and the Royal Netherlands Marines contributed a force to operate with them. A Canadian brigade and U.S. Amphibious Forces have been included in the planned reinforcements for the Northern Flank.

It would occupy too much time and space to record the fluctuations in the fortunes of mobile force assets, at

mobile forces and maritime contingency forces (MARCONFOR) generally. The whole concept of mobile forces is based upon the assumption that effective deterrence is best served by maintaining the certainty of uncertainty as expounded by the late General Andre Beaufre. There must be certainty that there will be a response, and uncertainty about what the response will be. Expressed in another way, one must be concerned that the more reliance placed upon fixed installations and static force deployments, the easier it is for the enemy to make calculations of potentially successful aggressive action. Mobile forces can be looked upon as a significant element in deterrence, and in the delicate process of crisis management, providing, as they do, additional options for governmental action. Their existence, and their deployment for exercises and acclimatization, can provide evidence of both capability and strategic interest. In the signalling system of international diplomacy they can provide encouragement for friends as well as cause for reflection for potential adversaries.

The remarks which follow are intentionally oriented towards European contributions with a full appreciation of the very substantial power reposed in U.S. Amphibious Forces and, more recently, in the large increments of capability represented by the formation of the Rapid Deployment Force (RDF).

unsettled circumstances since his death the Italian area has taken on increased significance.

The accession of Spain to the Alliance adds a new dimension on politico-strategic terms, but the maritime developments will have to await decisions on the status of Spanish armed forces in the integrated military system. It will require high diplomatic skills to establish and maintain sound and helpful relationships between the Allied states of the Northern Mediterranean and the states on the North African littoral. If France chooses to play a more active role in the military system, and Spain decides to participate, there could be satisfactory military developments. However, with a decreased U.S. naval presence and only occasional British representation, there may be delicate matters of command and control, not to say politico-military predominance, to be resolved. The position of Greece and the status of her forces in the military system of the Alliance remains uncertain. The recent developments over Cyprus have not been as satisfactory as was hoped. The continuing dispute between these two Southern Flank Allies and the difficulties over air space, management, territorial seas, and command and control are greatly to be regretted. Be that as it may, it is most desirable that the multinational character and capabilities of the Alliance need to be demonstrated in the Mediterranean.

As a consequence of interest in the Flanks, it seemed in the late 1960s that there could be further development of

new credibility. Similarly, in days gone by the Shetland Islands would not have been a prize for which it would have been worth risking a major confrontation with NATO. Today, a threat to the Islands, as a key centre of Britain's oil trade, could be seen as a potential hostage for politico-economic duress. Would the whole might of the Alliance be invoked to retrieve the national position in either of these cases? If the will is there, does the capability exist? The simple answer lies in effective deterrence based on clear demonstration of Allied capability in the form of multinational mobile forces. Energy resources of the North Sea and the Arctic must be embraced by the deterrent shield, just as the platforms and rigs are protected by well-advertised capabilities for response to terrorism.

In the Southern Area the support of Greece and Turkey has figured largely in Allied plans and training. The latter has been inhibited of late by the attitude of the Greek government. Nonetheless, the cohesion of the Alliance is a critical factor. Without NATO and the personal effort of NATO military and civil officials over the years it seems doubtful if direct conflict between Greece and Turkey could have been avoided. Bulgaria, unrestrained by Warsaw Pact-NATO relationships, could have intervened, and the Balkans might have resumed its role as the powder keg of Europe. Even during the "reign" of Marshall Tito it was essential to give clear evidence that the NATO Allies had an interest in the continued independence of Yugoslavia. In the more

but it does entail for NATO the full realization that the rear areas of the continental deployments include the oceans of the world.

Look to the Flanks

One of the fruits of the adoption of the strategy of Flexible Response in the 1960s was that greater attention was paid to the Flanks of the NATO area; that is, not only to Norway in the north and Greece and Turkey in the south, but also to the general situation in the Mediterranean area. The possibility of Soviet aggression across the Finnmark area of Norway has long been included among the sharp concerns of NATO Commanders. The attractions of military movements on the Northern Flank may have been advanced in Soviet eyes with the increase in Norwegian oil wealth. More significant in terms of Russian political tradition and of Soviet strategic sensitivities is the persistent thorn in the flesh of the Norwegian presence in the Spitzbergen (Svalbard) archipelago. Disputes over the exploitation of the resources of the area are one thing, the existence of a Norwegian (NATO) presence on both sides of the door to the sensitive Kola-Murmansk area is another. If, as one is led to suppose, the Kremlin leaders place great weight upon the SSBN fleet as the ultimate defence of the Ark of the Communist Covenant, the possibility of swift military action to secure their base and transit areas has a

past relating to the Southeast Asia area and off the West African coast to justify this concern.

A number of the examples cited have been located outside the NATO area and there must be a clear understanding that participation in international action outside the geographical limits set by the Alliance is a matter for member states and not the North Atlantic Alliance as such. However, the NATO limits do not sever the links which exist for member states either in the generality of free commerce, the safe transport of oil supplies or through the special associations which exist. The Five Power Agreement between Australia, Malaysia, New Zealand, Singapore and the United Kingdom is such a one. There are good reasons why as many members as possible should maintain the capability to project power as part of international groupings "out-of-area," as it is called, as well as within the Alliance limits. The forces which provide this capability are likely to be compatible with the demands of deterrent tasks within the NATO area as will be seen later. Their tasks are likely to serve the best interests of the Alliance, and it is worth repeating, to emphasize this point, a simple definition of Maritime Strategy. This is the policy adopted by a state which wishes to secure its interests in more than one landmass and on the seas between. This, therefore, is inevitably the strategy for NATO countries, and has to all appearances been adopted by the Soviet Union. Such a strategy is not incompatible with a continental commitment,

Java Sea from President Sukarno of Indonesia and the resistance to his aggressive move against Malaysia in 1964-66 provide alternative examples of cooperative effort.

Turning to recent examples, the New Zealand participation in the naval patrols in the Gulf mentioned earlier is compatible with the concept of a Commonwealth Ready Force, foreshadowed in the "Sea War" chapter of "World War III"²¹ edited by Shelford Bidwell in 1978. The tasks for which naval intervention may be required include action against pirates, attempted illegal detention of merchant vessels or hindrance of free passage through international straits (the Corfu Channel Incident 1946 and the Sunda and Banka Straits Disputes 1958 et seq are examples relating to warships). The development of agreements of International Law of the Sea has enlarged the putative rights and responsibilities of coastal states with increased possibility of disputes. Even accepting that some local difficulties may arise, it is in the interests of everyone that illegal acts such as piracy, the smuggling of arms and drugs, illegal immigration and slave running be suppressed by cooperative action of littoral states as well as of countries with merchant shipping interests. The word "piracy" is intended to embrace terrorist acts lest the misapplication of fancy words like "hijacking" gives false colors to acts which have, for nearly two centuries at least, attracted international condemnation and retribution. There have been sufficient incidents in the recent

phrase "sea-hooliganism."¹⁹ It is disadvantageous to the NATO allies if the smooth passage of commerce is disrupted by illegal acts which can be so described whether these acts are perpetrated under government authority or by private enterprise, or by accident or design in local conflicts. The recent attacks on shipping in the Gulf demonstrate the point. Seaborne forces are needed to provide direct protection of power by way of deterrence to adventurism. Later in the book Admiral Richmond makes reference to the establishment of international naval forces. He suggests that:

It is incorrect to say that joint international naval action is an impossibility. The ships blockading Crete and preventing the spread of the disturbances were French, Italian, British and Russian. The fleet which destroyed the Turks at Navarino was composed of British, French and Russian ships. The vessels employed in the Mediterranean in the War of 1914-18 were Italian, French, American, Japanese and British.²⁰

Shortly after these words were published action against merchant shipping during the Spanish Civil War generated another considerable example of international cooperative effort. Much experience has been gained in this aspect of naval operations not only in World War II, but also in the troubled forty years which have followed. Commonwealth forces operated in the Formosa Straits during the Korean War in the early 1950s, ready to interpose themselves between merchant ships and possible hostile vessels. The Commonwealth actions in defiance of the threats to shipping in the

hand, and as a potential vulnerability open to exploitation in politico-economic as well as politico-strategic terms on the other.

Admiral Hubert Moineville has laid emphasis upon this aspect of deterrence in his book Naval Warfare Today and Tomorrow:

Today, since the vulnerability of industrial countries in relation to maritime transport has increased and submarines' potential has been magnified, this still appears to be one of the most important problems facing a naval command which is concerned with either defending or attacking commercial shipping.

We have seen, however, that the nuclear factor has changed matters insofar as an immediately convulsive total war would probably not allow time for a war on commerce to develop. But our research into the possibilities of naval warfare has equally made it evident, to our way of thinking, that a war on commerce could quite possibly take place as a preliminary to total war or as a prolongation of a total war that had been halted, or it could be waged during practically any kind of limited war, particularly if, by reason of the vulnerability of the countries concerned, there is an imbalance causing deterrence to be bypassed . . . 18

The Maintenance of Good
Order at Sea

Apart from misgivings about the implications of a decline in the general maritime assets of NATO countries, there is cause for concern about the maintenance of good order at sea, outside the NATO area, as much if not more than within it. Writing in another context in his book Sea Power in the Modern World, Admiral Richmond coined the

home and abroad, were neglected. In these and other ways, economy and a belief, if not in the practicability of eternal peace, at least in the probability of peace for many years, brought the Navy and our security at sea to their lowest level by the early 1930s.¹⁷

These sad comments could now apply not only to the British mercantile fleet, which may fall as low as 700 ships during this year, but also to shipbuilding and repair, and to all the associated services offshore, in ports and harbours, and to the fishing fleet. The loss of trained seafarers and the decline in training resources matches the decline in hull numbers. It is not only a matter of concern that there is a rapid decline in the number and type of vessels available for use in emergency as support for the armed services or the loss of seafarers as a potential reserve for the Navy, but the decline in the shipping industry as an independent resource can be viewed as creating a dangerous national vulnerability. This is also an Alliance problem to which reference was previously made at the Conference sponsored by the Institute for Foreign Policy Analysis in 1982 when it was chosen by Senator John Tower as the theme for the address delivered by him on that occasion. Since that time increasing concern has been expressed in the United Kingdom, up and down the country and in both Houses of Parliament; the subject is being addressed with vigor by the Select Committee on Defence in the House of Commons. It is most important that members of the Atlantic Alliance should give more serious attention to shipping as a resource on the one

United Kingdom, have compulsory military service. This is predominantly service in the Army. Moreover, traditionally only in Britain is the Navy given pride of place in national esteem and, therefore, to some extent at least, in political calculations. The Federal Republic of Germany (FRG) may be a special case, but whatever historical examples have been set by the mariners of Portugal, France, the Netherlands, and Spain, and even earlier by those from Norway and Denmark, land forces have been predominant. This is not the place to examine all the reasons, but the British apparently never have forgotten the period of military rule endured, in fact if not in name, for most of the period from 1649 until 1660. The Royal Navy has tended, especially since the Press Gang was abolished, to maintain a discreetly distant image of gleaming paint and bridgework in misty northern harbours, or the sunlight in the Solent off Portsmouth. Unfortunately, the position enjoyed by the Royal Navy in public imagination has not been matched by the resources devoted to it. Neglect has extended to most, if not all, of the elements of which maritime power is composed. It is curious to reflect upon the words of Professor F. G. Hinsley with particular reference to the Royal Navy in the 1930s:

The trained personnel of the Navy was seriously reduced by 11,000 men in a few years. The great firms on which we depended for guns, armour and naval instruments were allowed to decay and lose their highly skilled labour. There was a great falling-off in British shipping and our ship-building yards were allowed to decline. The defences of our harbours and naval bases, at

weapon fits, accommodation and equipment maintenance, can overcome some difficulties. An important consideration is that all European member states might be prepared to share in the provision of some elements of this important shipping lift. Similarly, the very substantial commercial helicopter fleets which operate in European countries offer a potential bonus to support mobile force concepts. The fixed-wing air transport fleets are, no doubt, already incorporated into plans, but probably the vision relates more to reinforcement forces than to the use of mobile forces in the manner here proposed.

Allied pronouncements leave no room for doubt about the increased Soviet capability for amphibious and airborne operations. The threat which they pose to Allied flanks and rear areas is not underestimated in NATO military discussions. The Red Army and Navy traditions include a considerable reliance upon flanking operations and, no doubt, there is recognition of the continuing potential of such tactics. Putting these points together, it must be evident that Soviet commanders would not ignore the manifestations of increased Allied capabilities for flank and rear area operations by mobile forces. One has only to reflect upon the forces held in reserve in two world wars against the possibility of invasion. This was done without any proper estimate of the availability of the shipping required for the initial landing, let alone its subsequent support. Curiously enough, about fourteen divisions were

held in Britain as late as 1917-18, and a similar number of German divisions in Norway in 1944, well after the Normandy invasion had been successfully progressed.²⁵

The possible use of mobile forces as an element in FOFA must be evident, but the main emphasis of present discussions seems to be upon weapon technology. Moreover, there is a serious misunderstanding of a strategic truth. NATO is a defensive alliance based upon the "no use" of any weapon unless aggression occurs, let alone "first use." The adoption of a defensive strategy has never precluded the development of offensive tactics. History records the Churchillian mind-block that the convoy system was a passive defence to be scorned in favor of escorts dashing about the oceans being offensive! In fact, once a convoy was attacked the escorts had something at which to direct their offensive. It seems hard to draw a distinction between the threat of attacking enemy Follow-On Forces with air weapons and the threat of deploying mobile forces against them. Moreover, a deterrent strategy has much in common with the concept of the Fleet in Being. The Germans tied down enormous British (Allied) naval resources in two world wars by applying the concept normally attributed to Lord Torrington.²⁶ They could not have done so without giving clear evidence of their capability to fight, and of the will to employ that capability. These, as already stated, are the pillars of deterrence. Within NATO's present policy, mobile forces can provide another application of the Fleet

in Being concept. The uncertainty which they create for military commanders must reduce the confidence with which their plans can be presented to Ministers and appraised by them. This is what the NATO strategy of Flexible Response is all about.

Bombardment and Blockade

Recent reports²⁷ have remarked upon the successful launch of Tomahawk missiles from submerged submarines. The incident in which a missile, allegedly a Shaddock launched from a submarine, landed in Finnish territory, provides a reminder of the large number of submarine-launched missiles available in the Soviet Fleet. There seems no reason why sea-based forces should not be incorporated in FOFA plans, assuming that missiles launched from submarines were equipped with conventional warheads. The sea-based cruise missile principle has already been accepted in the development of the U.S. battleship armament. It can be argued that future developments round the globe call for action, if only deterrent deployments, in which a conventional missile capability would be an essential ingredient. Again, it is possible for a number of NATO members to play a part in developing a sea-based missile capability. There is a view, widely held in informed circles in the U.K., that it would be far better if the Polaris force were replaced by a submarine-launched cruise missile (SLCM) capability. To

gain maximum budgetary and operational advantage by a shift from the Trident programme to SLCM, the capability should be incorporated in a number of submarines. A small squadron of dedicated SSBNs may seem to be a neat arrangement, but it allows little flexibility, and is disproportionately costly in manpower, training and equipment. The arms control objections are appreciated, but verification would have to rest upon the number of warheads and not upon the number of missiles. The purely British requirement to pose the threat of unacceptable damage to the Soviet Union is planned to be transferred from Polaris to Trident-fitted boats in 1995, or, as seems more likely, in 2000 AD.²⁸ This presupposes that all circumstances at that date will favor Trident as the choice for this purpose, as it appeared to the responsible authorities in 1980. Whether this proposition is right or wrong, the distortion of the British Defence budget caused by estimates of the Trident program costs is a matter for serious concern. According to reliable estimates these costs have doubled in five years. Another matter, of more general significance, is the fact that sea-based nuclear forces are open to objection from antinuclear lobbyists, as has been evident in the Pacific and Australasia. The land-based missiles deployed in Europe are claimed to create vulnerability as targets for Soviet attack. Sea-based missiles avoid this objection and are, of course, themselves less vulnerable to pre-emptive First Strike attack. As far as Britain is concerned, the main-

tenance of conventional capability is a matter of public concern, without taking account of the pressure to improve it across the Alliance. The current atmosphere in relation to arms control may create the opportunity for reviewing priorities, but there seems unlikely to be any immediate change in France. It will be recalled that the Vice-Chief of the Air Staff resigned recently in order to publish his objections to a perceived bias away from expenditure on conventional forces in favor of the triad of nuclear forces.²⁹

One aspect of the balance of forces between NATO and the Warsaw Pact is that the latter are divided between the Western and Eastern frontiers and between four main naval centers. A long-standing role of sea-borne forces has been the blocking of the Baltic and Black Sea exits and, to the limits of practicability, the surveillance and inhibition on movement through the so-called Greenland-Iceland-United Kingdom gaps. This is an area of strategic theory in which, as mentioned earlier, scientific theory has to be chastened by the uncertainties of war at sea. Experience of mine warfare in two world wars has given little encouragement to those who have advocated mine barriers on a grand scale. The expenditure of effort on such projects as the North Sea barrage in World War I, and similar projects, is disproportionate to the practical results achieved. In general, however, mine warfare such as that practiced by the German and British air forces in World War II, causes expenditure

of effort to defence out of all proportion to that required for minelaying. Part of this defensive effort can be caused by elementary deceptions and psychological devices. A single splash observed from shore in a port area, associated with hostile aircraft movements, could cause an onerous and time-consuming minesweeping effort and a delay in shipping movements. From the figures currently available³⁰ and from the assessments of Soviet addiction to mine warfare, NATO is at a disadvantage. One part of the balance can be rectified quite simply and comparatively cheaply. NATO needs more resources for offensive and defensive mining. There are indications that measures are being taken.³¹ The second part will demand more expenditure of resources, on the construction of mine countermeasures vessels, adaptation of auxiliary mine-sweepers and the improvement of surveillance and defensive measures in port approaches and channels. In both cases it has to be emphasized that it is the impact of preparatory action on the perceptions of a would-be aggressor which is most significant. Again, all NATO members can make contributions to the aggregate of Allied preparedness without intolerable budgetary burdens. It must be added that to create a credible deterrent posture with emphasis on conventional capabilities, Allied preparations in Europe have to embrace alternative port, road, rail, and water transport facilities.

Conclusions

The conclusions can be quite brief. The strategy of NATO, by whatever title, is to deter war. The successful prosecution of this strategy, as always, requires attention to economic assets and vulnerabilities as it does to the influences of public opinion, nationally and internationally. Psychological considerations have therefore to be encompassed in policy-making and crisis management. In particular, plans and preparations need to be viewed from the perspective of a would-be aggressor. The process of providing equipment for armed forces requires ten to fifteen years. Circumstances and situations cannot be foretold over such periods with any certainty. The forces which are created need, therefore, to be sufficiently flexible and versatile to respond to future contingencies however they appear. The maintenance of peace has depended upon the collective defence effort of NATO, and the multinational character of Alliance defence needs to be demonstrated. Mobile forces provide an effective method by which allies can participate without unacceptable expenditure of resources, as will the capability to pose the threat of bombardment and blockade. It is the privilege of each individual member state to determine the nature and extent to which it may be appropriate to deploy its military forces outside the NATO area for action unilaterally or in a collective grouping. None of the members can afford to ignore the consequences of events which occur across the

globe. There is, therefore, a moral responsibility to share in keeping the peace and deterring aggression beyond European horizons as well as within Alliance limits.

FOOTNOTES

1. Statement at the Nuclear Planning Group Meeting in Bonn, April 1981.
2. The United Kingdom Defence Programme: The Way Forward, Cmnd. 8288, (London: HMSO, 1981)
3. Cited by Ambassador David M. Abshire, "The Need for Resources Strategy," NATO Review, October 1984.
4. Defence Planning Committee, Final Communique and Ministerial Guidance, 18 May 1977.
5. As described, for example, by Robert A. Gessert in the Journal of the Royal United Services Institute, (London: 1984), p. 52.
6. Reported in UK Press.
7. Attributed to Winston S. Churchill, World Crisis.
8. Arthur Marder, "Jutland and After," From Dreadnought to Scapa Flow, Volume 3, (London: OUP, 1978).
9. Richard Hough. The Great War at Sea 1914-18, (London: OUP, 1983).
10. Reference untraced.
11. First Report from the Defence Committee Session 1982-83, "Handling of Press and Public Information During Falklands Conflict," Volume II, Q. 1364, (London: HMSO, 1982)
12. King and Whitehill, "Fleet Admiral King," Naval Record, (London: Eyre and Spottiswode, 1953), p. 444.
13. The Acts of the Apostles. Chapter XVII, V. 22. The passage reads: "For as I passed by, and beheld your devotions, I found an altar with this inscription, TO THE UNKNOWN GOD. Whom therefore ye ignorantly worship, him declare I unto you."
14. From the author's conversations with the late Admiral of the Fleet Earl Mountbatten of Burma.
15. Statement on the Defence Estimates 1984, Cmnd. 9227-1. (London: HMSO, n.d.), paragraph 450.

16. A Report entitled "Diminishing the Nuclear Threat" (sic) issued by a Working Group composed of members of the British Atlantic Committee. The Group did not include a naval officer, a diplomat, or a serving Member of Parliament.
17. F. H. Hinsley, Command of the Sea, The Naval Side of British History 1918-45. p. 27. Christophers, London 1950. Professor Hinsley, Master of St. John's College, Cambridge, England, has recently served as Vice-Chancellor of the University. He is Editor of British Official History on Intelligence in World War II.
18. Hubert Moineville, Naval Warfare Today and Tomorrow, (Translated by Commander P. R. Compton-Hall R.N. (Ret.)), Basil Blackwell, London, 1983.
19. Herbert Richmond. Sea Power in the Modern World p. 115, G. Bell and Sons, London, 1934.
20. Herbert Richmond. op cit. See also Depuy and Depuy, The Encyclopedia of Military History (Macdonald and Jane's, 1974), p. 780-1. And Clark G. Reynolds, Command of the Sea, (London: Robert Hale, 1976) p. 303. These refer to the U.S. Navy and international action against Barbary Coast pirates in the early 19th century. The Austrian Navy was involved in 1829.
21. Shelford Bidwell, editor, World War III, (London: Hamlyn, 1978). This chapter was contributed by the writer in collaboration with Richard Humble.
22. Comments made in the hearing of the author c. 1970.
23. The Military Balance: 1983-84. (London: Institute for Strategic Studies, n.d.)
24. La Loi de Programmation Militaire (Five-Year Military Programme: 1984-88).
25. See the works of John Terraine and Ronald Lewin published respectively by Sidgwick and Jackson and Hutchinson, London.
26. Peter Padfield, The Tide of Empires, (London: Rutledge and Kegan Paul, n.d.), p. 135. He emphasizes that the laurels for application of the principle go to Dutch Admirals such as De Ruyter in the Third Anglo-Dutch War.
27. In Jane's Defence Weekly, for example.

28. Statement by Secretary of Defence Heseltine to House of Commons, 28 January 1985.
29. General (Air Force) Etienne Copel, Vaincre La Guerre.
30. For example, UK STATEMENT on the Defence Estimates 1984, Volume One, Annex A, p. 40.
31. For example, report in Aviation Week and Space Technology. 15 October 1984 on Fiscal 1985 Defense Authorization Act Conference.

THE RULES OF ENGAGEMENT ISSUE

by

Dr. Norman Friedman

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Although "rules of engagement" are only rarely discussed in explicit form, they underly much of the continuing development of naval technology and tactics. Their peacetime relevance was made apparent, for example, in Beirut in 1982, when the nature of the Marines' rules of engagement was blamed for their failure to stop or destroy the explosive-laden truck which, a few moments later, destroyed their barracks. They also appeared, in a more tacit way, in the behavior of U.S. warships assigned later to patrol duty at the mouth of the Persian Gulf, which were permitted to destroy without warning any airplane approaching them more closely than five miles at an altitude below two thousand feet. On the Soviet side, the destruction of KAL Flight 007 might be ascribed in part to rules of engagement reflecting a philosophy differing radically from that common in the West.

For the purpose of this paper, rules of engagement are the standing orders which govern a commander's ability to open fire. They will be varied with the perceived political situation; the rules at issue here are ones devised for peacetime and for periods of crisis. Note

that accounts of the sinking of the Argentine cruiser Belgrano mention that the submarine commander asked for, and received, a modification to his rules of engagement prior to attacking.

In a truly prewar crisis, NATO standing rules of engagement might well determine the extent to which NATO land and naval forces could meet their attackers on a favorable basis. However, behavior suitable to the beginning of a war would hardly be appropriate to many situations superficially similar to a prewar crisis. The task of the writer of proper rules of engagement is to minimize the likelihood of initial wartime disaster while also avoiding embarrassingly aggressive peacetime military behavior. The extent to which this is possible depends on a combination of factors, including the current state of military technology and current military and naval dispositions. It is clearly not necessarily the case that proper drafting of instructions can make up for gross technical, tactical, and strategic deficiency.

Thus, it is possible to imagine two modes of failure of rules of engagement in a NATO context: military disaster due to excessively restrained rules, and political disaster due to excessive looseness. On a larger scale, both types of behavior are proper subjects for national political decision-making. Yet the written rules will govern what the Captain of a ship or the pilot of an interceptor will do -- actions at a level of detail beyond the likely competence of a national government.

forces can be deployed almost covertly, at least from the point of view of the Allied populations; their movements therefore arouse no feeling of prewar panic, and thus have only a very limited political price. Similarly, to place (say) an aircraft carrier or a surface action group on alert is far less publicly escalatory than to place any Army unit on a war footing, or to mobilize an air base. The inherent naval combination of apolitical mobilization and survivability capability might be used quietly to improve the crisis military posture of the Alliance.

Naval forces present another interesting possibility in this regard. It seems much easier to develop effective rules of engagement for them than for the land forces. Naval forces may also be much better equipped to survive an initial attack, given modern passive and active defensive systems, and also given the greater distance between naval forces and their potential enemies. It may follow that powerful naval forces would be an effective means of providing NATO with a measure of military power which would survive an initial surprise attack. Such a possibility belongs in this paper because it would allow NATO to maintain both its current strategy and its current rules of engagement on land.

It would seem to follow that it is in the interest of NATO to move some fraction of its tactical firepower to sea, to force the Soviets to open the war with clearly-defined naval attacks. The obvious example would be surface ships

Europe through strikes on Soviet deep-echelon forces is a step in this direction, but it does not take into account the fundamental NATO problem. A Soviet attack would probably be a genuine military surprise, not because of a paucity of intelligence resources, but because the NATO governments are unlikely to be able to act on intelligence indications. Given their past record, the fundamental planning assumption probably should be that only the most limited defensive and mobilization measures would be taken prior to the attack, and that defensive arrangements should therefore be based on an unmobilized NATO force.

A naval variant on this question would be to consider the appropriate NATO response to a massive Soviet deployment of submarines in the North Atlantic. Prior to a war, many or most of the submarines could be tracked by systems such as SOSUS, and so could easily be engaged. It is entirely conceivable that the Soviets would be able to destroy the SOSUS arrays upon or before the outbreak of war. Should the destruction of any array be allowed to trigger the associated ASW campaign? Can the arrays be destroyed in some way which would not justify the outbreak of war?⁴

It might be argued that naval operations somehow involve a lesser degree of escalation than do major operations on or over the European land mass, and therefore that NATO might be able to respond to Soviet naval preparations for a major land attack more effectively than to the land aspects of the attack itself. Certainly naval

Yet it is equally clear that they would be politically unacceptable. Military logic would seem to imply that, if preemption is unacceptable (as it is), then the Alliance should be able to withstand the initial overt act which would allow it to begin to fight. That in turn requires some equivalent of defense in depth. More generally, rules of engagement are meaningful only as part of a larger military strategy. If the strategy and the rules are not integrated, disaster may easily follow. The potential scale of the military disaster will dictate the acceptability of the mismatch.³ That is, if the disaster can somehow be limited, then the political advantages of adopting mismatched rules of engagement may well make them attractive. It is important, then, to be aware of the likely military costs of such political choices.

These costs are rarely calculated because of the overriding tacit political assumption that virtually any conflict would soon escalate to a nuclear exchange. It seems often to follow that the details of a NATO defense in Europe are almost irrelevant; what matters is that the Soviets know that, beyond almost the first step, they face inevitable nuclear disaster. To the extent that such threats are no longer credible (given nuclear parity or Soviet superiority), the entire question of the military/political balance in drafting rules of engagement deserves detailed study.

The current movement towards a nonnuclear defense of

Similarly, how would NATO air commanders react to a large-scale Soviet air offensive? The answer may seem obvious, but it is not. The NADGE operators would sense a few hundred aircraft flying West, some perhaps following normal airline routes. If the attack occurred by surprise, NATO would probably have relatively few fighters available to scramble to identify the intruders. The Hawk missile belt might destroy many of them -- if NATO were willing to shoot without warning on a large scale. That seems unlikely. Yet it also seems unlikely that NATO will maintain very large numbers of fighters on continuous ground alert. Only the fighter pilots could be empowered to identify and then destroy Soviet intruders.

Note that standing orders -- rules of engagement -- almost certainly do not empower each fighter pilot to shoot at any Soviet combat airplane he sees. We know that because we know that defectors fly out of the Warsaw Pact and survive. The best the NATO pilot can do in peacetime is to try to force down the plane he intercepts. Given the small number of interceptors, this system would easily be saturated. The rules would change only if there were a perception at some high level that all of the intruders were coordinated. That might come quite late.

In this sense, NATO is particularly exposed. Its politically-oriented forward defense strategy would seem to require that the rules of engagement be preemptive, something like those sketched in the preceding paragraph.

redolent of armed conflict with the Soviets, on the tacit assumption that escalation from minor incident to nuclear war is likely to be easy and rapid. This escalatory myth in turn determines the nature of Western rules of engagement.

By way of extension, imagine a Soviet Army massing in the approaches to West Germany; imagine, too, that a high-ranking Soviet officer has leaked the attack plans to the United States. Even under such circumstances, would any Western government preemptively attack the concentrations? Would it matter that analysis after analysis showed that only through such an attack could NATO defeat the coming attack?

In theory, proper rules of engagement should help resolve this sort of question. In theory, for example, NATO could obtain a Soviet agreement that any concentration beyond a certain level in certain areas of the western Warsaw Pact was to be considered an act of war. Upon detecting such a concentration, NATO forces would, in theory again, be able to act. Merely stating such a possibility shows that it is politically unrealistic. The rules allow behavior which the public, and the political leadership, would instantly condemn.² The conclusion must be that successful rules of engagement must combine military utility with political acceptability. That may not always be possible, in which case the military requirements may be much easier to change than the profound political assumptions.

This problem was well understood, and it led to a different and more activist U.S. policy: the intelligence services would be strengthened, and preemptive action taken against terrorists. This, too, corresponds to a particular type of rules of engagement, and it carries the problems that preemption always carries. It must be based on inherently vague intelligence information, and it is subject to public error. In the case of terrorism, preemption requires killings. Every time the wrong man dies, the publicity is damning. Here the most prominent case in point is probably the Israeli murder of an innocent Arab waiter in Norway about a decade ago, which error apparently ended a long-standing Israeli campaign of revenge against organizations such as Black September. The cost of error was not merely anti-Israeli publicity but, much more importantly, an Israeli government decision to abandon a useful preemptive tactic.

The underlying political reality is extremely important. Western societies require much stronger standards of military and paramilitary behavior than do most others. Both Israel and the Soviet Union have shot down airliners in peacetime, in circumstances in which they had the nominal right to do so. For Israel, the effect was shattering, and restitution was paid. For the Soviets, it was a passing annoyance, soon almost forgotten in the West.¹ This latter willingness to forgive and forget again reflects the Western determination to avoid anything

The general problem of terrorism is a good example. After the Beirut massacres, it is clear that at least some terrorist organizations are able to attack almost without warning, and on a very large scale, because they command individuals quite willing to die in those attacks. From a military point of view, such organizations are not subject to deterrence. The only sure defense against a truck bomb attack would be to stop and search (or demolish) any vehicle approaching a U.S. embassy or other potential target. The rather visible measures used to block vehicular access to the Pentagon and other Government buildings in Washington exemplify this approach -- which is equivalent to a particular kind of rule of engagement.

There are two drawbacks. One is convenience; there is a reason why vehicles used to crowd all of those buildings. The government presumably pays a real and substantial cost for the delays involved in moving people and goods among its buildings; it must also pay for more guards, and for more sophisticated security measures. The other drawback is more subtle but also much more important. The barriers are a tacit admission that a very small band of criminals can come close to closing down the U.S. government. So much of the day-to-day power of any major government depends on its supposed capacity to control events that any such admission must be extremely damaging. Even worse, it is by no means clear that the strong measures already taken would be effective in the face of really determined attack.

of Western concepts of operational restraint (i.e., rules of engagement) against us. The "D-Day Shootout" long propounded by Admiral Gorshkov is a major case in point. It would succeed only if its targets were caught essentially by surprise. Moreover, the Soviets have raised substantial forces of terrorist-like "spetznaz" which present rules-of-engagement problems not unlike those posed by more conventional terrorists.

From a military point of view, the ideal response to these threats would be a general relaxation of operational restraints, so that commanders could fire on suspicious aircraft, ships, or people approaching them. If threats can arise suddenly and essentially without warning, then surely we should be able to take the most active countermeasures. However, the forces of restraint are at least as strong. The world is not on the brink of war, nuclear or otherwise, and little is to be gained by keeping forces on a war footing. Overreaction to potential threats, moreover, tends to suggest a weakness which is at least as harmful to Western interests as the actual destruction those threats can wreak. Moreover, a war footing is expensive, in that it gradually expends resources, both human and material, which would certainly be in short supply in a real crisis.

This is a very general problem. The choice of proper rules of engagement, i.e., of proper tactical doctrine, is one aspect of its solution, an aspect which is meaningful only if it is taken in the context of other solutions.

limited-war or edge-of-war situation, the cost of erroneously injuring or killing those neutrals is very high. Antiterrorist preemptive strikes are, therefore, difficult at best. The most common rule of engagement is to emphasize defense, to force the terrorist to identify himself either by striking or by crossing some other clearly-drawn line. That the situation has some of the features of a war is illustrated by public willingness to undergo searches in such places as airports -- procedures which would surely have been unthinkable twenty years ago.

The major potential military adversary, the Soviet Union, seems to differ fundamentally from the West in its own perception of the international situation -- a perception reflected in its own rules of engagement, as in the KAL 007 incident. That is, the Soviets often say that they are continuously at war with the West, albeit by non-military means. If that is the case, then they can expect the war periodically to veer over towards marginal military operations. Since the Soviets appear to have no concept of a stable form of peace as we understand it, they do not have the sort of peacetime restraints common in the West. On the other hand, they do wish to avoid incidents so serious that they would lead almost automatically to full-scale warfare. Hence their willingness to agree to such measures as the convention to avoid incidents at sea.

Soviet military doctrine espouses surprise attacks and strategic deceptive measures, and even the exploitation

errors therefore bulk large. To the extent that they permanently embarrass the Government which fought in the Falklands, these difficulties can deter future British Governments (and possibly future U.S. Governments) from similar limited action. The detailed analysis of the Grenada operation is a parallel case in point.

No war can be fought without error, whatever rules of standing orders are made up before hand. The question is how to balance the prospect of embarrassing error with the prospect of military embarrassment.

The significance of rules of engagement depends upon how imminent conflict may be. If conflict is very distant, then military units will virtually be forbidden to fire under any circumstances. For example, although there are areas of the United States over which aircraft are not permitted to fly, it seems unlikely that air defense forces would be allowed to fire on aircraft violating these rules. If war has been begun, then errors of commission on the part of military forces may be understandable and forgivable. The rules are most important in the gray area between peace and war, which is increasingly the current situation.

To terrorists, for example, the current situation may be described more as war than as peace. Their rules of engagement, for example, are wartime rules: sink (kill) upon sighting. To their Western opponents, however, they are nearly indistinguishable from innocent civilians, i.e., from the equivalent of neutrals. As in any other

issue is limited warfare. To what extent can a commander fire when he cannot be certain of the identity of his target? In a major war, the emphasis would be on whether he might accidentally hit a friendly target, and much effort has gone into IFF systems. Damage to neutrals would be regrettable but it would be assumed that they would be entering a combat area at their own risk. Priorities would change drastically in a limited conflict. Accidental damage to neutrals would have enormous political significance, and the potential for such damage would surely affect any choice of rules of engagement. Such rules in turn may determine the efficacy of some weapon systems. The failure of long-range air-to-air missiles in Southeast Asia can be seen, not as a failure of technology per se, but as a consequence of a particular situation as reflected in rules of engagement (identify before firing) peculiar to that situation.

Similarly, accidental loss of friendly forces takes on an entirely different significance in a limited conflict, in which the political acceptability of each action may be examined. The Falklands War is a case in point. Precisely because it was so limited, commentators (and opponents of the current British Government) can try to examine each engagement, each death, in detail. They can expend enormous efforts on incidents which would not even have become footnotes in the histories of larger, albeit still limited, wars, such as Vietnam and Korea. Minor embarrassments and

not to say that they intend to strike militarily at the West. Rather, it is to say that they believe (or say they believe) that their own existence will move the forces of history in such a way as to undermine the West. War will come, if at all, from a Western attempt to salvage the capitalist position.

What makes matters worse is that the Soviets do not clearly distinguish between military and nonmilitary types of conflict. They may, therefore, choose to reply to what they perceive as nonmilitary pressure in a decidedly military way. For example, they might well have claimed that the Polish Solidarity Union was a CIA operation -- and that the appropriate countermeasure was to destroy the base of that operation, in West Germany.

In the West, the emphasis is on distinguishing the military from the nonmilitary so as to limit the possibility of an armed clash; avoiding war is the single major priority. Our rules of engagement reflect that priority. At least in a formal sense, the Soviets cannot agree without paying a major internal political price. It seems logical to conclude that, wherever their own rules of engagement counsel restraint, that restraint has been chosen because of a perceived weakness: there is no point in beginning a war which will probably end in defeat. If that is correct, then it seems likely that the Soviets will show less and less restraint as their relative military power grows.

Another important aspect of the rules of engagement

centralized command and control; they do not rely on individual initiative, and even shun it. We say that each commander must act on his own, but in practice (in crises) we try to revert to central control. The problem is not new; during the Crimean War the French naval commander resigned because he was unwilling to operate under day-to-day commands issued by telegraph from Paris.

The vital difference between Western and Soviet perceptions is in the concept of war itself. To most Westerners, war, at least major war, would be an unfortunate accident, something to be avoided if possible, and terminated as rapidly as possible. Rules of engagement are a means of avoiding the sort of military accident which would cause a war. It is tacitly assumed that the Soviets, too, wish to avoid unfortunate incidents. Behind these assertions is a much larger assumption, that all parties wish to preserve the current status quo in international affairs.

The Soviets view matters very differently. At least on an official level, their entire ideology emphasizes the dynamic character of history. To admit that the current status quo were desirable would be to diminish the legitimacy of the current Soviet regime. Although it seems unlikely that the Soviets would actually benefit from major change, they cannot admit that they are a status quo power. Consequently, they cannot (at least overtly) develop measures designed to stabilize or limit conflict. That is

The U.S. National Command Authority did try to control events on a detailed scale during many crises, such as the Mayaguez incident and the 1973 Middle East War, presumably because it had little faith in the existing rules of engagement. This micromanagement was militarily practical only because the forces involved were limited in number and in scope of operation. Even then military efficiency was clearly sacrificed; the failure in Iran is often blamed on excessive high-level management. In theory, satisfactory rules of engagement would provide sufficient confidence on the national level for such micromanagement to be withdrawn. That is clearly not a sufficient condition for such an improvement in practice. However, it seems unlikely that a U.S. NCA would be physically able to micromanage forces during a very large-scale, rapidly-developing, crisis. Standing orders and the judgement of commanders on the spot (who might well form their views on the basis of the content of the rules of engagement) would have to suffice. In this sense the relative success of past attempts at micro-management, and the technical success of such command and control instruments as WMCCS probably provide a deceptive sense of security at the top of the U.S. and other Western governments.

This is not to suggest that the Soviets, with their highly centralized system, are any better off. However, they (much more than we) are aware of the nature of

equipped with land-attack cruise missiles. Aircraft carriers, which at present survive only in the French and British Navies, would be far more effective in the nonnuclear tactical role. They might, for example, help to make up for the probable widespread destruction of NATO land air bases -- which would be vulnerable to early air attacks not countered for rules of engagement reasons.

For naval forces, modern interest in rules of engagement is essentially a consequence of the emergence of the antiship missile, in both air- and ship-launched versions. The Soviets deployed both types widely, and then announced their "D-Day Shootout" doctrine: on the day, they would attack together without warning. In areas like the Mediterranean, with Soviet warships constantly keeping close company with U.S. carriers, and with Soviet missile bombers often within attack range, what could a U.S. commander do? In peacetime he certainly could not attack the Soviet ships and aircraft. How could he know that war was imminent? What Soviet act would be so clearly overt as to support U.S. military action?

The D-Day Shootout, repeated on a worldwide scale, was potentially devastating because the United States Navy had concentrated its own tactical offensive power in a very limited number of large carriers. With all five forward-deployed carriers put out of action at the outset of a war, the U.S. Navy would probably have no more than five more easily deployable units. Thus the rules of engagement

decision would be crucial: defensive failure through a failure to act in time would be catastrophic.

Intelligence sources might alert a U.S. commander to the possibility of attack, but their product would be unlikely to justify a preemptive U.S. attack on Soviet forces, from the point of view of the National Command Authority. For those in Washington, no matter what the consequences, the Soviet attack would be the first move in a complex game, not the entire game. For the United States to strike first would be to abandon a moral superiority which the West greatly values. The choice would surely be to allow the Soviets to make the opening overt move; to try to minimize the cost, but not to avoid it through preemption.

The history of U.S. approaches to this problem well defines the technological side of the rules of engagement issue.

One possibility was to escort each Soviet missile ship within range of the carrier. The rule of engagement was that a missile launch was a hostile act; the escort could try to disable the enemy ship as soon as it fired. The drawback was that the Soviets might be able to fire off their missiles very quickly, and that it might take some minutes to disable their ships. Similar objections applied to "SUCAP," the practice of orbiting U.S. attack bombers loaded with antiship munitions over Soviet ships in times of crisis.⁵ The most serious objection, however, was that the surface ships, the ships accessible to preemption,

represented only a small fraction of the total threat, compared to Soviet naval aircraft and submarines. In some cases the threat platform could not legally be engaged before it came within attack range; in others (such as Charlie class submarines) it was not always clear that the threat platform could be detected at all in advance of shooting.

The U.S. ships were hardly defenseless, but their weapon systems were relatively slow to react, particularly against very rapidly appearing threats, such as pop-up missiles. There was also a general belief that the element of surprise would in itself inhibit defensive fire.⁶

So strong was this feeling that missile surprise attacks could be devastating that several analysts at the Center for Naval Analysis proposed the radical step of removing the big carriers from their forward positions, substituting recommissioned battleships. The battleships would be difficult to sink, and attacks on them would be the "overt acts" so important in the transition from peace to war. Here again was an attempt to minimize the cost of a rules of engagement failure. Similarly, from time to time Admiral Zumwalt justified his proposed Sea Control Ship as an inexpensive pawn which could be forward-deployed in place of the valuable carriers.

The only obvious alternative was a rule of engagement so stringent that the Soviets would have to commit an act of war in order to begin their attack. In one war game, for

example, as a Soviet force approached attack range, a U.S. commander asked for a revision in the rules which would have prohibited any Soviet airplane from approaching within a set (long) range. He had in mind the necessity (now gone) for the Soviets to use a BEAR D reconnaissance bomber as a targeting link for long-range missile attack. In this particular case, those playing the National Command Authority did not veto the changed rule, the Soviets did put up a reconnaissance airplane, and the U.S. fleet preempted and won. Again, the rule made sense militarily -- but could not have been justified politically. After all, the Soviets could have argued, they had vital interests in the area. How did the Americans know that they were about to attack? Did they not have a real and vital interest in knowing what the Americans were doing?

One solution, if it is one, has been to abandon any real hope of preemption in favor of more and more effective defensive measures against the missiles themselves. Surely, it can be argued, there is no harm in shooting down a missile approaching a ship. Therefore there is no harm in automating (or largely automating) the decision to engage -- as in the Phalanx Close-in Weapon System, or NATO Sea Sparrow, or even Aegis. In these cases there is a human to veto the engagement, but the rules of engagement issue has been reduced to a mechanical decision based on the estimated parameters of the likely threat weapons.

This technicality may be important, because in

avoiding the hesitancy of a human the system may also leave itself open to conventional attack. If, for example, the threat is defined as a missile flying at Mach 0.8 or faster, how will the system react to a light civilian airplane loaded with explosives and guided by a suicidal pilot? The answer may have been supplied by the Navy's widespread practice of supplying hand-held Stinger missiles to ships off Lebanon, where such unconventional threats seemed very real.

Similarly, automated threat recognition implies that the system is supplied with a library of likely threats. What happens when it is faced by a missile of Western or, in future, Third World origin? After the Falklands War some claimed that the British had failed to jam Argentine Exocets because their automated detection devices classified the Exocet as a friendly missile. That would not have been a frivolous issue. If several British ships were to fire their Exocets together, then some might detect the others' missiles flying over them. Surely any rational policy would exclude mutual interference.

This type of problem will probably become more and more prominent as Third World states improve their own military position. The Iranians, for example, currently operate much U.S.-furnished hardware, which may include Harpoon antiship missiles similar to those in the U.S. inventory. Moreover, the Soviets themselves must have access to the relevant technology, and they must be aware of

its potential for defeating what amounts to an automated version of the rules of engagement.

Nor does automation entirely avoid the possibility of political disaster. In effect it declares a zone around each ship a free-fire zone; there is always the possibility of disaster in dense air and shipping zones. True, most aircraft do not fit the standard threat profiles, but computer software errors are not unknown.

Moreover, the free-fire zone may not be so very small. One of the major Soviet threats to Western warships is the AS-4 missile, which flies at high altitude and then dives steeply as it attacks. Conventional anti-aircraft weapons, such as the U.S. SM-2 of the Aegis system, tend to shear off the wings and control surfaces of their targets. AS-4 has a nuclear version, and it is often argued that, once it is diving, it is not really susceptible to such attack. Even without aerodynamic surfaces, it will fall ballistically, and its nuclear explosion will still damage or destroy its target.

The obvious solution is to deal with the missile before or very shortly after it can begin its dive. That, however, requires that it be engaged at very long range, tens of miles away from its target -- where there may be considerable peacetime air traffic. Effective engagement, then, requires a precise and continuous knowledge of the air environment of the fleet, out to hundreds of miles, in order to distinguish the very rare real target from the very

common commercial air traffic. The cost of failure would have to be a U.S. naval retreat from the world's oceans, which would be unacceptable.

The accompanying measure is much improved passive protection, which reduces the degree of damage which can be done by a weapon, and so increases the margin for political error. Improved passive protection also reduces vulnerability to terrorist ("cheap kill") attack and so allows for more relaxed behavior. That in turn is important because (as in the Washington case) much of the "presence" value of warships in the Third World is bound up with their apparent military power and invulnerability. A government which knows that the missile cruiser riding at anchor in its principal harbor can be disabled by a hand-held antitank rocket is unlikely to be immensely impressed by its naval potential. Behavior (rules of engagement) which testifies to that vulnerability will be politically debilitating, and therefore often avoided. This is quite beside the usual reasoning, that modern warships are too vulnerable to light fragment weapons such as ARMs.

The conclusion would seem to be that technology alone cannot solve the problem in any fully satisfactory way. Is there a tactical solution? One has been proposed: the Exclusion Zone. The U.S. government would announce the creation of a zone, within which it intended to operate naval forces. Any airplane or ship entering the zone would have to identify itself on a published radio frequency. The

zone would be large enough to give a U.S. commander within it time to decide what to do, before the airplane could approach missile attack range.

Again, from a military point of view the idea is very attractive. From a political point of view it is attractive because it leaves the overt act of war itself undefined; it provides time for the cumbersome decision-making machine to act. That leaves the question of practicality.

It is tacitly assumed that the Soviets, as interested as we in preserving international stability and so in avoiding military action, would be willing to respect an Exclusion Zone announced by the United States. Surely they would be particularly interested in such a zone during a period of great tension (as in the 1973 Middle East War). Wouldn't they?

One wonders. By violating an Exclusion Zone, the Soviets could hope to force the United States into an overt act. The result would be extremely embarrassing, and might have severe consequences for the Alliance as a whole. Certainly the logic of the Zone would quickly be forgotten. U.S. naval forces might have to withdraw from a critical area at a critical time, leaving the Soviets with major advantages -- at a minor cost, perhaps an obsolete Badger bomber.

The sort of Soviet adventurism that this scenario implies is quite foreign to the last two decades of Soviet military behavior. However, conditions are changing. The

Soviets probably feel that, with their nuclear superiority, they need not fear nuclear escalation by the United States -- and that view is unlikely to be affected by the sort of U.S. buildup currently in train. Quite soon the Soviets will be led by a new generation of men, men with little or no personal combat experience and perhaps also with an impatient desire to see results in a world situation which has, until now, frustrated their country. They may even have a strong need to overcome the military humiliation of failure in Afghanistan.

Perhaps most importantly, they may view the expensive Soviet fleet not as a major national asset, but rather as an investment in search of a return. Trading a small part of it for a U.S. national political disaster might not seem an improper means of realizing its value.

An alternative type of political/technical measure has been to disperse American offensive power, in the form of Tomahawk missiles. For many reasons, a group of surface ships armed with such weapons cannot compare with the firepower or the flexibility of a fully-loaded aircraft carrier. However, the existence of large numbers of Tomahawk-armed surface warships greatly reduces the advantage, to the Soviets, of disabling or destroying a limited number of carriers. It therefore increases the range of discretion -- the range of rules of engagement -- open to the U.S. government.

Similarly, the current practice of "flexops," in

which carriers will no longer operate in pre-assigned and fixed forward areas, increases warning time by forcing a potential enemy to expend more time in reconnaissance, perhaps revealing his intention. This advantage, however, is limited because it is not clear that the U.S. National Command Authority would be able to exploit the subtle information thus obtained. For example, it might be well understood in intelligence circles that the launching of a particular type of Soviet ocean surveillance satellite was a necessary precondition for a particular type of attack on a surface ship. Military and strategic logic might then dictate a preemptive attack as the Soviets formed up for their stereotypical anticarrier strike. But that would be to exclude the dominant political issue, the need for public justification.

The other problem is that the withdrawal of forward-deployed naval forces is a damaging admission of weakness. In many areas of the world, U.S. naval forces are seen, not so much as military force, but as a political guarantee of support, perhaps as a trip-wire for U.S. involvement. To withdraw them for military reasons is to pay a high political price -- to be caught between the military and political forces involved in choices of rules of engagement. Part of the "flexops" concept is to be able to move ships more freely without paying this type of political price, by providing particular numbers of steaming days in each deployment area without placing a carrier on a fixed schedule.⁷

The essence of any rules of engagement is the decision to shoot or not to shoot. It may depend on whether an observed potential enemy is or is not about to attack, or it may depend on whether an observed airplane or ship is or is not an enemy. Both kinds of issue are important, and they define the ends of a spectrum. Note that this definition extends even the basic national decision of how and whether to retaliate against an observed incoming strategic attack. Indeed, part of the urgency of the rules of engagement issue derives from a widespread perception among Western political leaders that almost any untoward use of military force can easily result in escalation towards nuclear war.

On the national level, this issue has been discussed intensely for many years. Is strategic surprise really possible? Can a strategic attack be unambiguously sensed before large numbers of weapons explode on the ground? How much must a President know before he orders retaliation? The enormous costs of error in either direction are well known. In which direction should the national or strategic rules of engagement be biased?

It may be useful here to note the degree of purely technical ambiguity inherent in most schemes for strategic warning. Missile launches can be detected by infra-red telescopes -- but other natural phenomena can also trigger such devices. One case in point was the dispute over the failure of a U.S. satellite. Had it been disabled by a

laser or had it detected a bright gas flare in a Siberian pipeline? As for the detection of nuclear detonations from space, the precise character of a supposed explosion several years ago over the South Atlantic has never really been resolved.

Once in flight, missiles and warheads can be detected by radar. Over thousands of miles, radar beams are relatively broad. Is the incoming warhead directed at Chicago? At a Minuteman base in North Dakota? The appropriate responses would hardly be the same. Moreover, is radar always reliable? What would be the appropriate response to a series of high-altitude explosions which merely blinded the strategic defense radars, without killing anyone?

Most mass-audience simulations of nuclear warfare feature a war room in which video screens graphically portray a developing enemy attack in excruciating detail. In these cases decision-making is relatively easy; there is no question but that 31 warheads are about to hit Detroit, 16 San Diego, and so on. The reality is much more vague. Under current conditions, the President almost has to choose between firing before any (or most) warheads impact, or losing much or all of his control over the situation. Yet, before warheads actually explode on U.S. soil, he cannot be certain of the nature of the attack against which he is retaliating. His most fervent wish must be to buy time, to limit the immediate consequences of the attack so that he

can make intelligent decisions based on actual destruction, not on expected damage.

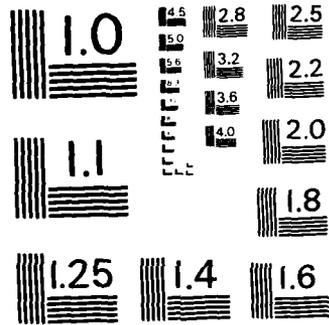
The analogy between strategic and naval tactical rules of engagement is not altogether fanciful. Most current warships are "soft" in the sense that they can be disabled by relatively small numbers of hits. Although the situation is changing, very often he who fires first can expect to win. On a very different scale, the essence of Mutual Assured Destruction is the "softness" of the superpowers. Retaliation aside, he who fires first is in a favorable position. Note that the threat of retaliation depends for its credibility on the ability to decide in time (i.e., on a rules of engagement issue). There is even a retaliation issue in missile combat between surface ships, in that a ship can launch her own "fire and forget" weapon even as an incoming missile locks onto her.⁸

Note, too, that in each case defensive capability tends to reduce the cost of an incorrect rules of engagement decision. A Captain who finds himself under attack before he can shoot may yet survive if he can deflect or destroy the incoming missile, or if his ship is so designed that it can absorb one or two weapons. From a national or strategic point of view, he may be able to tolerate much stricter rule of engagement, more in keeping with Western political values. From a tactical point of view, he may not have to press for a decision either to withdraw or to change the rules -- a decision which might well favor withdrawal during a crisis period.

Similarly, a President may find the decision to shoot or not to shoot not nearly so urgent if his strategic defenses can deal with the first few attackers or if he can somehow minimize the damage they can do. The strategic rules of engagement problem is perhaps best appreciated in view of the somewhat bizarre scenarios sometimes advanced as cases in which the United States would have to consider making a strategic attack: a Soviet decision to evacuate cities, the loss of strategic warning, even the loss of a fraction of the strategic reserve force. Is it really imaginable that a President would begin a strategic nuclear war after sensing some event which had not killed any American civilians? That is far from the nominal subject of this paper but it is a rules of engagement choice -- just like the choice to make the near approach of a Soviet bomber an act of war.

In both cases, the problem is ambiguity, not so much of capability, as of immediate intent and immediate action. Technically, the issue is how much is observable. Politically, the question is at which point enough is observable to be the basis for a publicly justifiable warlike decision. The second issue becomes more and more difficult to resolve as means of gathering intelligence become more sophisticated.

The Pearl Harbor story is a case in point. Well before December 7, 1941, the United States Government was aware that Japan planned some aggressive act. Yet it could



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A

not have made its evidence public, and for that reason it could not afford to act. President Roosevelt was aware that only an overt act by the Japanese could convince the American public that it had to go to war. Intelligence information is always somewhat ambiguous. At what point should positive measures be taken on its basis? To the extent that the only plausible measures are clearly offensive ones, the situation becomes more difficult.

The case of Tonkin Gulf seems apposite here. Two U.S. destroyers were on patrol, and one of them detected high-speed surface craft approaching -- or thought it did. Radar conditions were poor, and it was easy to "detect" false targets.⁹ They heard propeller noises which appeared to have been generated by torpedoes, and they reacted. This apparent overt act justified the initial U.S. strikes on North Vietnam. Later it was alleged that the North Vietnamese attack had never occurred, that the U.S. government had exploited the uncertainties of radar and sonar performance for its own ends. Whether that is true does not matter. What is striking is that, in the absence of U.S. blood actually having been shed, the evidence of electronic sensors is so ambiguous, at least in a public sense.

Intelligence indicators, such as increasing use of ports and airfields, or changing levels of radio traffic, are far more abstract, hence far less convincing. Moreover, the really convincing forms of intelligence, the photographs

and the communications intercepts, cannot generally be revealed to the public for fear of compromising the systems which produce them. As a result, what the government may think it knows may still not suffice to make war-and-peace decisions, decisions which must stand in public.

The foregoing discussion was largely concerned with one end of the spectrum of ambiguity which rules of engagement seek to resolve: the case of good visibility but ambiguous intent. The other extreme is ambiguous or poor visibility, in which the identity of nearby ships or aircraft may be difficult to determine. This case is typified by a carrier operating within bomber range of Soviet bases, in an area heavily overflowed by commercial aircraft. Backfires and airliners present very similar radar images. As in the case of the missile ship, a single Backfire, attacking by surprise, could achieve a great deal. Missile range is so great that the carrier commander cannot possibly exclude commercial airline routes from the area of potential danger. Should he shoot? Ever?

This is not a trivial issue. In 1974, Israeli fighters shot down a Libyan airliner which had strayed near the vital Israeli reactor in the Negev. At that time Israel and Libya were in a state of war, and the Libyans were known to be willing to take unconventional measures (such as using an airliner). The reactor area was marked as forbidden on air navigation charts, and the Israeli pilots tried to get the attention of the airline pilot. They failed, and

concluded that it was a camouflaged military airplane. They were wrong. Did that mean that their rules of engagement were wrong?

The U.S. Navy faced this type of situation during the Vietnam War. Although the air over the Tonkin Gulf was a combat zone, it was overflown regularly by airliners. Clearly the loss of such an airplane on innocent business would have been disastrous. The solution was technical. It was possible to keep track of all air traffic in the area, and so to identify the airliners by tracking them from before they entered the surveillance area. As long as friendly fighters were under full control of the computerized combat information centers (aboard PIRAZ ships), incidents could be avoided. It helped, too, that pilots had to identify their targets before shooting. However, the length to which the United States had to go suggests the gravity of the situation.

The Israelis' rules of engagement were much closer to wartime ones than are current U.S. or NATO rules. Clearly, too, the rules change with the situation. To what extent can we (or should we) expect to be able to sense changes in the international situation unambiguously enough to change our rules?

Two generic solutions have been advanced. One is tactical. Can we rearrange the rules so that an enemy must commit an act defined as hostile before he can actually cause harm? The other is to reduce the cost of error by

providing defenses, active or passive. In effect that, too, reduces ambiguity. It allows us to wait for President Roosevelt's "overt act" before taking active countermeasures which would result in damage to others. An intermediate step is to automate some defensive measures so that decision time is drastically reduced.

Ambiguity is particularly important in limited warfare. For example, failures of identification cost the United States hundreds of aircraft and even some submarines during World War Two. They were generally accepted as unfortunate but unavoidable aspects of large-scale warfare. In Vietnam, on the other hand, losses to friendly fire received considerable publicity. One class of such losses actually caused the rules of (air) engagement to be changed.

From the beginning of the war, some U.S. fighters were equipped with long-range radar-guided missiles, weapons which had no inherent means of distinguishing friend from foe. Inevitably, mistakes were made. Since the great bulk of all aircraft in the combat zone were American, the mistakes killed Americans. It became much more important to avoid similar errors than to destroy enemy aircraft at long range. Hence the change in the rules of engagement: a pilot has to visually identify an enemy airplane before he could fire a beyond-visual-range missile.

Such missiles were ill-adapted to the new rules. They were widely condemned as unnecessarily complex, examples of a U.S. predilection for goldplating. It was

widely argued, then, that in future fighter pilots would much prefer to close with their targets and use short-range weapons such as cannon and Sidewinder missiles. What was not appreciated was the extent to which a political calculation, the behavior acceptable in a limited war, determined the rules of engagement which in turn determined the apparent tactical worth of a weapon system.

Remarkably, too, the general lesson that limited wars breed restrictive rules of engagement, appears not to have been taken to heart in any other warfare area.

Antisubmarine warfare (ASW) would seem to be a potentially vital case in point. Many analysts believe that, although war with the Soviet Union itself is unlikely, the United States Navy will have to fight campaigns in the Third World, roughly analogous with the British campaign in the Falklands. There it will face a growing number of Western- and Soviet-built submarines in local hands. What rules of engagement will be appropriate?

As it is currently understood in the West, in an ASW campaign against the Soviets, Allied forces would sink submarines on sight. The only exceptions would be special safe areas reserved to friendly craft.¹⁰ The entire world ocean would be a free-fire zone.

A limited war, whether against some Third World state or even against the Soviets, would have to be different. Most submarines in the world ocean would be neutrals, and the U.S. government would want to avoid offending their owners.¹¹

One tactical solution would be to sink any submarine coming within torpedo range (or within active sonar range) of an American formation. It would be argued that only a hostile submarine would approach so closely; any submarine wishing to evade could easily do so.

This argument is itself somewhat questionable, but it may soon be overturned by technology. Within a decade many submarines will probably be equipped with torpedo-tube-launched tactical missiles, such as the U.S. Sub-Harpoon and the French Sub-Exocet, with ranges of 30 to 60 nautical miles; by way of contrast, a typical effective torpedo range might be no more than 2.5 nautical miles. To spread a free-fire zone as much as a hundred miles from a convoy or carrier would be to accept a substantial risk of attacking uninvolved submarines.

Such attacks would be perfectly acceptable accidents in a major global war. In a limited war, even a large one such as Vietnam, they would be unacceptable political acts. Once such an incident had occurred, therefore, the rules of engagement, themselves would be revised -- as in the Vietnamese case. It would be much too late to solve the problem technologically, if indeed there is a technical solution.

Such a solution would presumably be in the form of underwater IFF. The development of such an IFF system would be extremely desirable, partly because it would make cooperation between U.S. submarines and surface ships much

more effective.¹² It has, therefore, been sought at least since the end of World War Two, apparently largely without success. The limited war problem provides an additional incentive.

At the worst, rules of engagement requiring effective IFF may be promulgated from above, and their existence may make U.S. naval operations difficult or impossible. At the least, the existence of an effective means of (noncooperative) IFF might be a useful way of avoiding political disaster in the event of error. It would provide the U.S. government with a publicly acceptable excuse for a damaging rules of engagement error of commission. However, because IFF is so closely associated with the means of detecting submarines, it might well be argued that any success should be concealed, withheld against the possibility of a major war with the Soviets.

Military disasters such as Beirut focus attention on the failings of peacetime rules of engagement in a violent world. The thrust of much of the current effort in U.S. defense is on developing a military better adapted to warfare, and less mired in peacetime ways. Within NATO, however, the situation is very different. Limited war is unlikely, so the primary issue is the touchy border with the Soviets. Errors of commission, which might have few consequences if committed in the Third World, are perceived as a potential beginning of World War Three. Thus the issue in NATO is how much restraint can be applied, before entirely crippling the existing forces.

Naval forces are particularly critical in this discussion because they are so often engaged in warlike or near-warlike situations, and because they spend so much of their time so close to their potential opponents. Perhaps the greatest unsolved question is whether, as a crisis deepened, the Soviets would opt to disengage and so to raise the threshold for military action (as the West might), or to follow their very different world view to its logical conclusion. In that case, poorly drawn rules of engagement may, quite literally, sink us all.

FOOTNOTES

1. It is worth noting that the Soviets went to some considerable lengths to charge that KAL 007 was a spy mission and had therefore legitimately been shot down. However, the most important lesson of the incident was probably its short effective duration.
2. For example, in the case of the destruction of the Libyan airliner by the Israelis in 1974, air navigation charts of the area were clearly marked to show that intruders would be shot down without warning. Similar areas exist in the United States, yet such explicit rules of engagement have never been implemented.
3. December 1941 is an interesting case in point. The basic rule of engagement was to avoid combat until the Japanese had made an overt act. Yet it is now clear that President Roosevelt wanted to minimize the military impact of that initial disaster. It appears that he deliberately placed a U.S. auxiliary warship, the Lanikai, in the path of the Japanese fleet heading for the invasion of Malaysia in hopes that the Japanese would have to sink her. Similar trip-wire strategies have often been used elsewhere, some writers going so far as to suggest that U.S. Army troops in Europe are more trip-wire than effective combat force.
4. During the ABM debate in 1969, it was alleged that the deliberate destruction of a missile-launch detection system (by means of a nuclear explosion within the Soviet Union, which would eliminate the electromagnetic "mirror" over that country) would legitimately trigger a U.S. nuclear attack. Such a rule of engagement would be militarily logical but politically impossible. The same presumably applies to the SOSUS case.
5. The issue was actually more complicated. In the case of SS-N-3 and SS-N-12 missiles, the ship had to provide the mid-course guidance for some minutes after firing, so the escort or SUCAP tactic would have been effective. On the other hand, since these missiles have ranges as great as 200 miles, it might well be very difficult physically to provide escorts or attack aircraft to cover all of them.
6. The author remembers a manual war game fought at Newport about 1975, in which a Soviet missile strike against the Sixth Fleet (as in October 1973) was simulated. The players were all ex-destroyer

officers, and all were shocked by how much defensive firepower had been available. None could believe the Soviets would have failed as miserably as the game predicted. Finally, one found the flaw in the reasoning: initial reaction time. He believed the Soviets would get at least four totally free shots, unless the fleet had early and unambiguous warning of attack.

7. Even the basic deployment pattern, two carriers in the Mediterranean and two or three in the Pacific, reflects political rather than military requirements; many studies suggest that the ideal survivable unit is made up of three or four carriers. However, to keep such a unit concentrated in peacetime would be to uncover important areas vital to the United States. Surely the decision to withdraw or concentrate would be an important crisis choice, comparable to rules of engagement choices.
8. In the 1973 war, for example, the Israelis deliberately induced firing by Arab missile boats. From a rules of engagement point of view, such attacks eliminated any ambiguity concerning the identity of the boats; they also revealed the locations of the Arab boats and disarmed them. This tactic was viable because the Israelis had effective anti-missile countermeasures, particularly chaff rockets.
9. This is not intended as a political comment. During the Aleutians Campaign in 1943, several U.S. battleships engaged deceptive radar targets (possibly caused by several islands) in the "Battle of the Blips." Radar has improved, but radar propagation is still subject to uncertainty and to error.
10. World War Two experience suggests that such "safe" zones are far from secure, and thus that ASW campaigns are not very amenable to rules-of-engagement types of restriction.
11. It will be argued that each type of submarine has a distinctive signature. The problem is that most diesel submarines are not unique. Many countries operate Soviet-built Foxtrots; many others, such as Argentina, use the German IKL Type 209. How would one reliably and rapidly (tactically) distinguish a Libyan Foxtrot operating in the Indian Ocean from an Indian Foxtrot in the same area? This is entirely apart from the probability that, once a submarine campaign had begun, all parties would become far too trigger-happy to waste time in identification.

12. In the Falklands War, the British nuclear submarines appear to have operated for the most part either relatively near the Argentine coast or shadowing specific Argentine naval formations (e.g., the Belgrano group). In either case they were far from the Task Force -- which was threatened by a single Argentine submarine. Given the usual statement that submarines are the most effective ASW measure, one would conclude that IFF -- a rules of engagement type of issue -- precluded their use in this role.

"NO-EARLY-FIRST-USE" AND NATO STRATEGY:
SOME OBSERVATIONS ABOUT THE
TOMAHAWK CONTROVERSY

by

Mr. Clarence A. Robinson, Jr.

targetable by Soviet sea launched cruise missiles. I see little value in our being an instrument to the creation of a situation in which every Soviet ship lying off our Nation's shores is a potential Cuban missile crisis.

Mr. Chairman, our reported purposes in deploying nuclear-armed sea launched cruise missiles are to enhance the national deterrent and the Navy's warfighting capability. I question those goals. First, we already retain sufficient nuclear forces to withstand a Soviet attack and still remain able to destroy the Soviet Union as a society. Indeed, we each possess the capability to destroy the world. Why then do we need additional overkill capacity? Second in my mind, the deployment of nuclear armed sea-launched cruise missiles by the United States complicates, rather than enhances, the Navy's warfighting capability. The mission of all our naval combatants will have to be refined.

According to a fact-sheet provided to Congress under the title, "Nuclear Armed Sea Launched Cruise Missiles: An Overlooked Weapon With Underestimated Implications," the TLAM-N, the sole nuclear-tipped SLCM, is by far the most controversial of the various SLCMs, due to its potential for use in multiple situations, ranging from a limited nuclear conflict to a prolonged nuclear war. The TLAM-N, moreover, was developed to provide the Navy with both a limited nuclear war fighting capability and a strategic reserve that would add additional survivable warheads to the U.S. arsenal by dispersing U.S. nuclear capabilities to a much wider range of naval vessels -- thus complicating Soviet naval targeting strategies. It has a range of 1,500 miles, and can carry a 200-kiloton nuclear warhead to within 100-300 feet of its target, which is roughly comparable to the high

is possible to determine whether a sea-launched cruise missile is conventionally or nuclear armed, or by which it is possible to establish an upper limit on the number of such missiles that are nuclear armed. The amendment goes on to specify that both the Joint Chiefs of Staff and the Director of Central Intelligence Agency certify in writing a high degree of confidence in this verification regime. Further, the amendment in no way restricts Navy procurement of conventionally armed sea-launched cruise missile systems. Finally, it should be noted that once such a regime is established the Navy would be at liberty to begin procurement of nuclear-armed versions of this weapon system.

. . . The importance of this amendment cannot and should not be discounted. In my view, cruise missiles are not necessarily destabilizing weapons systems. They are, after all, subsonic in speed and retain practically no first-strike potential. Nevertheless, in terms of verification, sea-launched cruise missiles are an arms controller's nightmare because of the inherent design similarities between the nuclear-armed and conventional versions of this weapon system.

. . . The Navy Department has informed this Congress of its intention in the years ahead to deploy some 7,000 to 8,000 launch tubes for a variety of weapons on a variety of ships.

. . . These tubes will be capable of firing both nuclear and conventional loads. Under such conditions it is entirely possible that the Soviet Union would demand that every one of these ships be counted as a MIRVed nuclear weapons launcher. We, of course, would never accept such a demand which in my view will result in similar Soviet deployments. Would such an occurrence be in the best national security interests of our Nation? I think not and a brief glance at a world map bears me out. Our sea-launched cruise missiles will be limited in their ability to hit Soviet targets by the simple fact that it is a landlocked country. On the other hand, most of our cities, industrial centers and indeed, as much as 75 percent of our population would be

The recent position of New Zealand barring port of calls by ships armed with nuclear weapons could be the unraveling of the Western Alliance in the Pacific Basin. The United States neither confirms nor denies whether warships are armed with nuclear warheads. But it is a well known fact that certain types of vessels carry nuclear devices. Those vessels equipped with the Tomahawk weapon, even if armed with conventional warheads, would have to be considered armed with nuclear weapons, unless there was a declaration by the vessel. While it complicates life for Soviet war planners, it also complicates life for the U.S. Navy.

But it should be recalled that TLAM-Ns deployed on submarines and surface vessels are not offensive strategic forces. They would increase the number of sea-based nuclear weapons, but remain vulnerable to antisubmarine and submarine warfare, respectively.

An example of the controversy surrounding the deployment of Tomahawk in its diverse configuration includes the following Congressional colloquy:

The purpose of the amendment is straight forward. In the absence of a strict verification reigned on the deployment of nuclear-armed sea-launched cruise missiles, future arms control agreements could become non-verifiable.

. . . In this regard, the amendment endeavors to establish such a regime by prohibiting the Secretary of Defense from providing the \$240 million requested for the procurement of 75 nuclear-armed sea launched cruise missiles until such time that the President submits a report to Congress describing the method through which it

There is concern within the Congress that cruise missiles, especially sea launched versions of the weapon, have evolved without a well defined plan and assessment of their full implications. U.S. research and development programs tend to operate independently of policymaking, and sometimes drive policy.

Because there are several variants of cruise missiles, based at sea, SLCM is an issue that transcends government organizations and jurisdiction. The use of Tomahawk for the GLCM further complicates the situation, making strategic assessment even more difficult.

Cruise missile technology imposes challenges for policy makers because the missile is so multifaceted, and because the technology makes the weapon available at a critical juncture in U.S.-Soviet relations. SLCM, for example, makes negotiated arms control solutions much more difficult.

This highly versatile weapon, with its very small, very efficient turbofan engine, microminiaturized electronics, high-energy propellants, small high-yield warhead, and low radar cross section, provides wide application. While the versatility of the sea launched cruise missile makes it an ideal investment, that same versatility complicates strategy, policy, and verification of arms control agreements, if cruise missiles are to be included.

both houses that the Navy has not made a good enough case for all of the variants of the Tomahawk, and that it has failed to articulate a convincing strategy, especially for the TLAM-N weapon. As arms control negotiations progress in Geneva, the Navy may discover that it still has battles to fight, not at sea but in the halls of power in Washington, to protect the Tomahawk system.

A number of questions must be addressed by the Navy if it is to make a strong case for the nuclear-armed Tomahawk. These include:

- Whether arming attack submarines with TALM-N will require holding the submarines in reserve or whether the boats still will carry out their primary antisubmarine warfare role with torpedoes.
- Whether nuclear-armed Tomahawk will cause problems with U.S. allies in ports of call and homeporting. If every warship carries Tomahawk, it becomes a potential nuclear platform.
- Whether the United States will generate a new escalation by encouraging deployment of nuclear-armed cruise missiles on all Soviet submarines and surface ships, even though cruise missiles have been deployed in the USSR's fleet for years, some armed with nuclear devices.
- Whether deploying TALM-N on submarines will provide a second strike nuclear role and serve to replace submarine launched ballistic missiles, freeing them for accuracy improvements for use against hardened targets in a counterforce role.
- Whether sea launched cruise missile deployment with nuclear warheads will serve to focus Soviet strategic target planning against the fleet, increasing the vulnerability of naval forces to nuclear attack.

planned flight path. The radar altimeter generates a realtime altitude profile, which the computer compares with stored profiles along the route.

This guidance capability also permits extremely low-altitude flight to the target, including the avoidance of known areas where air defenses are located, making engagement of the cruise missile difficult. The missile also is so small in size that its radar cross section in clutter makes acquisition of the target by a defensive system equally difficult.

Since all Tomahawks look and perform alike in relation to aerodynamics, verification of only those weapons equipped with nuclear warheads will be impossible. And this is the rub in the arms control community and in the U.S. House of Representatives.

There are strong cores of opposition to nuclear-armed sea launched cruise missiles in both bodies that claim the U.S. Navy has failed adequately to formulate strategy for nuclear war at sea and plan for such a conflict, and that through the deployment of TLAM-N, it is moving into a confrontational position that could, in fact, lead to that situation. There are even some factions within the Defense Department that share this opinion. The Navy, on the other hand, argues that it is addressing the scenario of nuclear war at sea and that deployment of Tomahawk is an element in improving its nuclear environment operating capability.

Still, there is strong sentiment in the Congress in

with both a single conventional warhead and multiple submunitions with a range of 400 to 700 nautical miles to provide new options for naval warfare.

This version of the Tomahawk will be used to provide an aircraft replacement in situations where attrition would be unacceptably high. It will permit high leverage strikes against land targets from the majority of submarines and surface combatants. The range of options available to TLAM-C, along with carrier based aircraft, provides conventional attack applications which raise the nuclear threshold.

If the TLAM-N guidance package can place the missile within the area of a football field at a specific target site, the TLAM-C's more accurate guidance system can place the conventionally-armed weapon between the area of the goal posts at full range. Indeed, it is the inherent accuracy of these unmanned expendable, armed, air-breathing, aerodynamically stable vehicles that make them such a formidable weapon system.

Because the cruise missile flies at relatively low velocities, it cannot be inertially guided as can ballistic missiles. The drift of even the best inertial guidance systems at a few tenths of a mile per hour is too much. This requires a method of updating in position and velocity for the inertial system using TERCOM -- a radar altimeter and a computer. Stored in the computer are digital altitude profiles of selected terrain features along the missile's

platforms to a fleet of over 140 platforms able to hold at risk large land areas not currently covered by naval forces or other theater forces. The national security apparatus is convinced that this force will substantially enhance deterrence by denying the USSR any calculus that could lead them to a conclusion that they could attain a favorable outcome from initiation of hostilities with the United States or its allies.

But the Tomahawk is a complex system with multiple variants for launch from multiple platforms with multiple mission capabilities. In most weapons systems this flexibility would be considered an asset. It can be with Tomahawk, too, but it also can become a major drawback in terms of an arms control agreement and the issue of verification, for there is no discernable difference with respect to the conventional land attack Tomahawk, the antiship Tomahawk, the nuclear-armed Tomahawk, and the GLCM.

The Tomahawk antiship missile (TASM) with its single conventional warhead can inflict heavy damage against surface vessels at significant standoff ranges when launched from either surface ships or submerged submarines at a range of more than 250 nautical miles. The wide area search capability of the weapon enables engagement of enemy ships matching the range of the newest Soviet antiship cruise missiles, such as the SS-N-12 and SS-N-19.

The conventional land attack Tomahawk -- TLAM-C -- will be installed in submarines and on surface ships armed

"TLAM-N enhances deterrence by providing a new threat spectrum to the Soviets through a worldwide strike capability, achieved with minimum risk and cost," according to Fiscal 1985 testimony in the House by Navy senior officers. "In addition," one officer added, "TLAM-N supports our strategic deterrence objectives by contributing to the nuclear reserve force."

In the nuclear-armed land attack role, Tomahawk in combination with the aircraft carrier improves the carrier battle group's flexibility and effectiveness. The increased strike range of the large number of surface ships, operating under the aegis of carrier air cover, as well as forward-deployed independent and covert submarines, presents the Soviet Union with a formidable threat from 360 degrees, against which it does not have a reliable defense.

Thus, the TLAM-N version of Tomahawk, indistinguishable from other Tomahawks, is ideally suited for the nuclear reserve force role. Dispersed on a large number of naval platforms, it provides a significant survivable and sustainable non-strategic nuclear force for theater commanders, while supporting deterrence and nuclear reserve force objectives. The nuclear-armed Tomahawk also will provide, when fully deployed, an increase in the range of escalation control options available to the National Command Authority without resorting to strategic systems.

With the deployment of TLAM-N, the Navy is moving from a fleet centered around 14 aircraft carrier strike

Navy officials stress that they cannot overemphasize the importance of the Tomahawk weapons family. The sea service claims that it has a three-ocean commitment with a one and a half ocean fleet. The Tomahawk weapon system, including the TLAM-N, makes an important, cost-effective contribution to this effort by multiplying the offensive force capability. With the Tomahawk system on a wide variety of ships and submarines, offensive force is distributed beyond aircraft carrier battle groups. This will complicate Soviet planning, requiring Soviet commanders to consider every battle group ship at sea a potential threat. This Tomahawk capability, Navy officials believe, will contribute to deterrence, enhancing the Navy's ability to respond effectively at any level of conflict.

The nuclear-armed Tomahawk is designed to carry the W-80 warhead to a range greater than 1,200 nautical miles with extreme accuracy. At full range, the terrain contour matching guidance system used to update the inertial system can place the 150-kiloton warhead inside the area of a football field at the target site.

Defense Department officials told the Congress that the TLAM-N weapon provides the Theater Commander with an increased worldwide capability to deter nuclear warfare and to hold at risk targets ashore should deterrence fail. The military utility of TLAM-N arises primarily from the distribution of significant offensive firepower through the deployment of the cruise missile on a large number of platforms at sea.

The TLAM-N weapons are being deployed in SSN-688 Los Angeles class attack submarines, and are to be launched from torpedo tubes. Since this requires trading off torpedoes for cruise missiles, the Navy will begin equipping Los Angeles boats with Tomahawks carried in vertical launchers mounted external to the vessel's pressure hull in Fiscal 1986. Twelve of the vertical launchers will be mounted on 668-class boats to carry encapsulated Tomahawks for underwater launches. Some of the missiles will be armed with nuclear warheads, and some will be for antiship engagements with conventional warheads.

All Sturgeon class SSN-637 submarines will be armed with the Tomahawk, using only torpedo tubes for launch. There will be 39 Sturgeon boats armed with Tomahawk, and the total of SSN-688 submarines armed with Tomahawk, including internal torpedo tube and vertical launch, will be 62. Moreover, deployment of nuclear-armed Tomahawk is already in progress on the Iowa and New Jersey battleships, and one destroyer is equipped with nuclear-armed missiles.

When deployment is complete, there will be a total of 101 submarines and 82 surface ships armed with Tomahawk. Smaller surface vessels will be equipped with vertical launchers for the cruise missiles, and battleships will use armored box launchers. The Navy is relying heavily on the Tomahawk cruise missiles to maximize the capability of current vessels, and enable the execution of a broad range of options in those ships being built.

nuclear-armed Tomahawk at sea. The issue centered around arms control verification and whether it would be possible to determine from observation if a sea launched cruise missile was armed with a conventional or nuclear warhead.

Restrictions in the House bill were eased in Conference Committee actions despite some Senate opposition. However, conference language required the President, the Joint Chiefs of Staff and the Director of Central Intelligence to report to the Congress by March 15, 1985, what methods have been developed to verify the limitation of weapons with nuclear warheads on naval vessels, and to state that another nation will be capable of developing similar methods to determine whether nuclear-armed cruise missiles are deployed on naval vessels.

One reason why the conference softened House restrictions was that the Soviet Union has deployed nuclear-armed cruise missiles at sea since 1962, and that in the absence of reliable means to determine warhead and range capabilities, a moratorium on nuclear-armed Tomahawk deployment seemed inappropriate.

With the U.S.-USSR agreement in Geneva to resume an arms control dialogue, and the resumption of talks in March 1985, the controversy over deployment of nuclear-armed Tomahawk is likely to receive new interest in the Congress during the fiscal 1986 budget hearings despite the fact that nuclear-armed Tomahawks already are operational in the fleet.

ground launched cruise missile with a nuclear warhead to modernize theater nuclear forces, however, the Navy rearranged its priorities making the GLCM its top priority. At the same time, the Navy set out to maintain a schedule that moved the antiship conventionally-armed Tomahawk into the second slot among priorities. This moved the nuclear-armed land attack Tomahawk into third position, followed by a conventionally-armed land attack version of the weapon.

It is useful to remember that the sea launched cruise missile was initially justified as an adjunct to U.S. central strategic forces. There also has been some concern that deployment of the TLAM-N weapon provides an excuse for some reluctant NATO allies to back away from the commitment to GLCM deployment, increasing the controversy over long-range theater nuclear forces.

While some Defense Department and Navy officials view TLAM-N for land attack strategic missions, others believe that it could be used to greatly reduce the vulnerability of the fleet to a Soviet nuclear attack. The National Command Authority might be prone to respond more rapidly with the approval to authorize retaliation, if the use of nuclear weapons appeared to be limited to use at sea. Thus, SLCMs could deter the escalation of conventional naval engagements.

The House of Representatives this year passed a non-binding floor resolution as an amendment to Fiscal 1985 Defense Authorization Act to ban deployment of the

"NO-EARLY-FIRST-USE" AND NATO STRATEGY:
SOME OBSERVATIONS ABOUT THE TOMAHAWK CONTROVERSY

by

Clarence A. Robinson, Jr.

The U.S. Navy's Tomahawk Sea Launched Cruise Missile (SLCM) program has been the most controversial and changeable of the nation's cruise missile programs since its inception in 1972. In part, this is related to the diversity of the weapons' applications with at least four distinct variants of the Tomahawk missile.

Three of these variants are designed for sea launch applications on submarines as well as on a variety of surface combatants. A technical outgrowth of the basic Tomahawk design is the nuclear-armed Ground Launched Cruise Missile (GLCM) now being deployed in Europe by the U.S. Air Force in allied nations.

Priorities have varied throughout the Tomahawk development and production programs, further complicating an already diverse effort. The nuclear-armed Tomahawk, the TLAM-N -- for Tomahawk land attack missile-nuclear -- was the highest priority when the sea launched cruise missile effort began. Initially, Navy officers considered the separate development of an antiship variant of the Tomahawk weapon too costly to justify development on its own merit. Once the U.S. and its allies in Europe decided to deploy a

accuracy of the planned Trident II (D-5) SLBM. Unlike the Trident II, however, the nuclear Tomahawk travels at a slow subsonic speed of about 550 miles per hour, making it poorly suited for use against targets such as ICBM silos or command and control bunkers which have to be destroyed quickly in a counterforce strike. For this reason, it is more likely that the nuclear Tomahawk would be used either in a more limited nuclear war against Soviet land targets such as military bases, or in a follow-up strike against targets which survived an initial U.S. nuclear attack. In arguments for and against the SLCM in the debate over deployment of the nuclear Tomahawk, supporters of the weapon have argued that acquisition of a nuclear-armed SLCM is a low-cost and highly effective way of enhancing deterrence, by upgrading our Navy's ability to attack Soviet targets onshore and by providing us with an additional strategic reserve. Deployment of these weapons on ships, they contend, would vastly upgrade the Navy's ability to deter Soviet attack by threatening retaliation. They also argue that the nuclear Tomahawk is not inherently destabilizing because its slow speed prevents it from being perceived as a first-strike weapon. Major arguments for the nuclear SLCM can be summarized as follows:

- Increased flexibility and effectiveness.

Supporters of the nuclear Tomahawk encourage its deployment primarily to improve the flexibility and effectiveness of the Navy in projecting power ashore. With the deployment of

the nuclear Tomahawk, they note, the Navy will move from a fleet centered on 14 nuclear-capable aircraft carriers to a fleet with potentially over 140 nuclear strike platforms. This force will be able to threaten areas of the Soviet Union not now targetable by Navy forces -- and will stretch Soviet defenses beyond their capabilities. The new SLCM force will also provide flexibility, supporters contend, in Third World areas facing a Soviet threat: in the Persian Gulf, for instance, SLCM might provide us with the flexibility to respond to a Soviet incursion with forces more effective than our present conventional weapons and troops, but less provocative or destructive than a strategic nuclear strike.

- Improved survivability. Supporters of the nuclear Tomahawk further argue that its deployment would greatly increase the survivability of the U.S. naval deterrent, by dispersing our fleet's nuclear capabilities beyond aircraft carriers to cruisers, destroyers and battleships, which previously had no nuclear strike capability. By deploying these missiles, they argue, we disperse our nuclear retaliatory threat so widely that any Soviet attempt to attack our sea-based deterrent would virtually be doomed.

- Strategic reserve. Proponents also argue that nuclear-armed SLCMs, especially when deployed on submarines, will serve as an additional secure strategic reserve, providing a credible and survivable arsenal that could be

used in a limited nuclear conflict against targets of naval interest (such as ports or naval airbases) or in a strike against military or industrial targets, in Eastern Europe, the Soviet Union, or elsewhere.

- Low cost. Supporters of the nuclear SLCMs point out that these are the least expensive nuclear deterrent we have ever developed. They assert the the \$3 million per missile pricetag for the Tomahawk program is virtually nothing to pay for a weapon that secures our second strike capability and augments our strategic reserve, especially when compared to other strategic programs such as the MX, which will cost over \$70 million per missile.

- Soviet SLCM threat. Supporters of the nuclear Tomahawk argue that the impending Soviet deployment of new nuclear SLCMs (the SS-NX-21 and yet undesignated follow-on missile) makes it essential for the United States to move ahead with our own nuclear SLCM program.

While the Soviets have admittedly long had nuclear SLCMs, their new cruise missiles pose a much greater threat to the United States than any previously deployed. The greater range, speed and accuracy of the new SLCMs makes these weapons particularly threatening to the United States, since they allow the Soviet Navy to target vital tactical and strategic assets at a safe stand-off distance from our coasts. To deter the Soviets from ever using these weapons, proponents assert, the U.S. must be able to pose a similar threat to the Soviet Union: if the Soviets know that any

use of their nuclear SLCMs will provoke a U.S. response in kind, they will have few incentives to initiate such an exchange.

While proponents concede that it might have been preferable if both sides had chosen not to deploy these new weapons, they note that the Soviet Union -- and not the United States -- started the SLCM race, and assert that it is now too late to put the nuclear SLCM genie back in the bottle. They hold that the pace of Soviet SLCM development indicates a clear commitment to exploiting the potential of cruise missile technologies, and claim that it would be naive to expect that a unilateral U.S. halt of the nuclear Tomahawk program would lead the Russians to abandon their own program.

The case against the nuclear SLCM includes opposition to nuclear SLCMs largely due to questions over the arms control implications of their deployment, and to doubts over the weapons' actual military utility. Underlying these arguments, but to date little emphasized, is a more fundamental concern -- that deployment of this weapon represents a major step away from mutual deterrence, and a major step toward the adoption of highly destabilizing war fighting and first-strike strategies. The arguments against SLCMs include the following facets.

- First strike capability. Opponents of nuclear SLCMs argue that perhaps the most dangerous implication of the new weapon is a little discussed one -- namely, that, by

removing existing SLBMs from their present second-strike retaliatory missions, SLCMs make SLBMs available to become a first strike force against hard Soviet military targets.

Opponents go on to note that as SLBMs (such as the Trident D-5) become more accurate, the Soviets will view SLCM developments as part of a larger U.S. attempt to attain a counterforce capability, and will thus be encouraged to accelerate efforts for similar capabilities -- resulting, in the long run, in decreased security for both sides.

- Limited nuclear war fighting weapons. Critics of the nuclear Tomahawk question the necessity of deploying the missile to fight a tactical nuclear war at sea. They argue that the United States does not need additional warheads to threaten targets of naval interest such as ports or naval airbases, and assert that it is far from certain that a tactical nuclear war could be kept limited for long -- since it involves attacks on Soviet territory that would be difficult to distinguish from strategic strikes and would inevitably result in substantial damage to Soviet society. Deploying nuclear SLCMs in support of a war fighting strategy, critics hold, will only further contribute to the mistaken belief that a nuclear war can be controlled or won, when in actuality, any use of nuclear weapons is much more likely to result in a massive and mutually devastating exchange.

- Arms control verification problems. Critics also emphasize that the nuclear SLCM seriously threatens future

prospects for verifiable arms control agreements. Noting that the nuclear Tomahawk is externally indistinguishable from the conventional version of the missile, these critics assert that their presence cannot be easily detected through the usual national technical means of verification.

If national technical means are insufficient, critics believe, any limits on nuclear SLCMs would end up having to rely on intrusive on-site warhead inspections -- which would probably be unacceptable to either side, and may not be fully effective -- or on counting rules which treat each SLCM carrier as a nuclear platform. (Such rules, by assuming that each carrier holds the maximum number of SLCMs, would greatly inflate the number permitted in any agreement.)

While SLCM opponents concede that any SLCM negotiations will be complex, they assert that a total ban on SLCM deployment will in the end be far easier to verify than some future numerical ceiling. Even if such a ban would probably have to provide for at least some cooperative measures for verification, such as limited on-site inspection or the emplacement of black boxes to detect nuclear radiation, arms control advocates believe that a deployment ban, under which the deployment of even one nuclear SLCM would be treaty violation, will be verifiable.

- Doubtful military utility. Critics, such as Senator Durenberger, who suspect the missile will never be able to perform its warfighting mission, argue against the

desirability of transforming the entire U.S. fleet into a strategic target. These critics point out that while the proliferation of nuclear weapons at sea may indeed complicate Soviet planning, it will also greatly increase Soviet incentives to target the entire Navy for immediate destruction in any future conflict -- accelerating Soviet antisubmarine and antiship warfare efforts, thereby reducing the survivability of our warships.

- Response to Soviet capabilities. Opponents of the nuclear Tomahawk question whether Soviet SLCM is ahead of U.S. development.

They point out, first, that the Soviet threat is far from new: the Russians have had nuclear armed antiship SLCMs since the 1950s, and nuclear land-attack SLCMs since the 1960s -- none of which concerned our strategic planners, in large part because the United States had, and has, carrier-based nuclear-capable aircraft available of deterring the use of Soviet SLCMs.

While opponents concede that the new Soviet SLCMs have greatly improved, with increased range, accuracy and speed, they assert that their deployment -- far from providing a rationale for the nuclear Tomahawk -- shows the need for arms control covering this type of weapon.

Finally, they argue that the United States -- even with technologically superior SLCMs -- would ultimately be the loser of a SLCM arms race, in large part because the United States, unlike the Soviet Union, has its major

targets (its capital, important industrial centers and key military installations) near its coastline and within range of a SLCM. In this sense, they hold, the United States -- and not the USSR -- is most vulnerable to SLCMs, and should, therefore, lead the fight for a ban on deployment.

- Heightened nuclear tensions. Some opponents of nuclear SLCMs, who believe nonetheless in a strong and visible Navy, fear that the potential deployment of nuclear SLCMs on any ship of the U.S. Navy will ultimately undercut the use of the U.S. Navy to show the flag abroad and could transform all naval shows of force into an exercise in nuclear saber-rattling.

These critics point out that there are many instances in which the United States wants to use the Navy to support diplomatic objectives, but in which a signal of nuclear capacity might be provocative. For example, had the Battleship New Jersey -- when deployed off Lebanon -- been armed with nuclear SLCMs, its presence there might have been viewed as further escalating our involvement.

It also might have offered an attractive target to the factional rivals in the region, who would have gained immediate recognition if they had attacked a strategic nuclear platform. By blurring the distinction between nuclear and conventional naval power, critics fear, a SLCM-armed U.S. Navy could become handicapped in new ways.

- Complicates relations with allies. Critics note that nuclear SLCMs could complicate U.S.-allied relations in some

delicate negotiations relating to both naval visits and homeporting arrangements. Some of our allies, it is noted, have legal prohibitions on the stationing of nuclear weapons on their territory. Even more of our allies have public constituencies which respond to the visit of nuclear-capable Navy vessels with large protests and anti-American demonstrations (already, a coalition of citizens organizations in Japan has rallied against Tomahawk deployment.) If every U.S. warship becomes a potential nuclear weapon platform, opponents fear, future visits to friendly ports will become much more complex and contentious issues.

The Navy for its part argues that the USSR has long deployed nuclear armed sea launched cruise missiles on variety platforms, submarines and surface ships. Furthermore, even though the SALT II agreement sought to limit, through its protocol, such weapons to a range of 600 kilometers, it appears that the USSR already had operational a number of nuclear-armed cruise missiles that exceeded that range limitation, although they denied it. The Navy goes on to cite the size of Soviet cruise missiles, the propulsion systems and the aerodynamic capability of weapons such as the SS-N-3 series. Clearly a case can be made from the design and size that some of these weapons could have exceeded the 600 kilometer limit. In addition, the Defense Department and the Navy cite the development and pending deployment of Soviet cruise missiles, including the

SS-NX-21, as an example of the Soviet Union's capability in this area of technology. The nuclear-armed SS-NX-21 is entering the deployment phase now, and is running slightly behind schedule. The cruise missile is designed to be deployed on a variety of platforms, including Yankee and Victor 3 class submarines.

Other simultaneous cruise missile developments by the USSR that are posing a new and severe threat to the United States include the AS-X-15 air launched cruise missile with its 1,500 nautical mile range when deployed from Backfire or Blackjack bombers. A follow-on BL-10 supersonic cruise missile also is being developed for aerial launch from new Soviet bomber aircraft. Radical in design, it can carry a nuclear warhead to a range of approximately 2,000 nautical miles. The SSC-X-4 is a Soviet ground launched cruise missile that shows a remarkable similarity to the Tomahawk ground launched cruise missile. So, too, while the Soviet Union has deployed the most extensive air defense system in the world, including weapons specifically designed to intercept cruise missiles, such as the SA-10, and aircraft equipped with look-down, shoot-down radar, the United States has no cruise missile air defense weapons capability.

Nevertheless, by the end of this year, there will be twelve submarines in the U.S. fleet armed with Tomahawk. The Navy plans to procure a total of 4,000 Tomahawk weapons for its inventory, with approximately 3,200 conventionally armed.

The Navy has weighed the complications that are presented by deployment of the TLAM-N weapon. They claim that verification can continue as in the past: The Soviets have deployed cruise missiles at sea for many years, and if a specific type of cruise missile has ever been armed with a nuclear warhead or tested in development in a nuclear delivery mode, all vessels equipped with that type of weapon are considered to be armed with nuclear weapons. The Navy's attitude is that U.S. deployment of sea launched cruise missiles will not present problems for Soviet monitoring any different than USSR cruise missiles present for U.S. monitors. Existing agreements place no limitation on cruise missiles.

The Congress clearly understands the strategy of deploying the nuclear-armed Tomahawk positioned aboard submarines as a secure strategic reserve force. In some legislative quarters, it is believed that such deployment merits strong support. But there is still concern that the Navy has not clearly formulated and articulated its strategic planning and concept of operations for the TLAM-N aboard surface ships. The Congress wants a clearer definition of the Navy's doctrinal and programmatic approach. This centers around the additional issue of nuclear proliferation and the possible destabilizing effect of nuclear-armed sea launched cruise missiles.

The Navy's position is that TLAM-N:

- Supports national strategy and Navy warfighting capabilities.

- Provides greater offensive firepower and strike range.
- Broadens capabilities to strike from positions of lower risk.
- Increases penetration and destructive power through coordinated manned aircraft and missile strikes.
- Increases battle group survivability and sustainability as an offensive strike force.
- Provides vastly greater flexibility in the conduct of multiple missions and in moving to control conflicts worldwide.
- Allows a worldwide presence independent of foreign political and basing constraints.
- Confers a wide range of options for escalation control, decoupled from continental U.S. based strategic systems.
- Serves as an important contribution to the nuclear reserve force.

The sea service contends, moreover, that sea launched cruise missiles do not represent a qualitative change in the arms control environment, since such weapons merely give the United States a capability similar to that long deployed by the Soviet Union. The argument is that the Tomahawk and Harpoon are the U.S. counter to existing Soviet capabilities.

The point is made repeatedly that SLCM's are not strategic weapons but rather represent much needed force multipliers for the fleet to redress current Soviet tactical and other theater advantages in long-range cruise missiles in order to augment the fleet's ability to project power ashore in the face of expanding USSR defenses.

There is a question related to the significant deterrent value of submarine and surface ship launched

cruise missiles, and how they compare with the ground launched cruise missile and the Pershing II theater nuclear weapons.

The United States has decided to deploy SLCM's to meet its own unique worldwide requirements. In view of the relatively high degree of submarine platform survivability, SLCMs also are ideal to supplement the strategic reserve force. Sea-based platform mobility, according to Navy leaders, enhances flexibility for targeting these weapons while deployed in Atlantic, European, Asian and Pacific theaters.

NATO's decision to modernize its long range theater nuclear forces resulted from the work of the High Level Working Group of the NATO Nuclear Planning Group, chaired by the U.S. Assistant Secretary of Defense. A number of weapons systems, including sea launched cruise missiles (TLAM-N), were examined as candidates for the modernization. The choice of the GLCM and Pershing 2 combination reflected the consensus that only those systems had the necessary qualities to fill the emerging gap in NATO's nuclear deterrent force -- a gap exacerbated by Soviet deployment of the SS-20. Sea launched cruise missiles were rejected because the weapon failed to meet the political and cost effective criteria for the NATO role.

Another of the questions being raised within the arms control community is whether the Navy has performed analyses to assess the impact of the decision to deploy Single

Integrated Operational Plan (SIOP)-dedicated TLAM-N weapons on U.S. attack submarines, and the impact of this on the execution of tactical missions for which the boats were acquired.

The Navy makes the case in response that nuclear attack submarines have a multi-mission role, and that the submarines are not dedicated to the SIOP or to a purely strategic mission. As a part of the strategic reserve forces, nuclear-armed land attack Tomahawks on SSNs would be available for use in the post-SIOP period. Nuclear armed cruise missiles at sea are considered similar to nuclear bombs on aircraft carriers or submarine launched ballistic missiles on fleet ballistic missiles tenders that could be reloaded for subsequent use.

In the strategic reserve role, nuclear-armed sea launched cruise missiles could be pivotal in the post-war balance and struggle for recovery. SLCMs also supplement theater nuclear forces in deterring the use of nuclear weapons against U.S. naval forces worldwide. For these reasons, the Navy does not consider SLCMs as detracting from traditional antisubmarine and antisurface warfare roles. The Navy, in fact, states emphatically that deployment of TLAM-N weapons on SSNs will be accomplished in such a way as not to affect adversely the tactical warfare capability of the subs, including antisubmarine warfare.

The deployment of TLAM-N starting in the summer of 1984 was announced by President Reagan in October, 1981, as

deployment. For the submarine mode of operations, Tomahawk was encapsulated, designed for launch at relatively deep submergence, and provided with a booster to drive the weapon free of the ocean's surface and into its trajectory where the turbojet cruise engine would then take over. Later, a land attack version of Tomahawk with a high explosive unitary conventional warhead was included in the Tomahawk development program. And still later, in about 1981, a configuration of Tomahawk with a conventional warhead carrying submunitions was initiated. With the development of the conventional-warhead Tomahawk, the planned number of naval platforms for use of this land-strike weapon were greatly multiplied -- now to include attack submarines, battleships, cruisers, and destroyers.

The Tomahawk Program

There are four Tomahawk sea-launched missile variants being built under the Tomahawk program, with General Dynamics developing and producing all four:

- Tomahawk land attack missile -- conventional (TLAM-C) with a unitary warhead
- Tomahawk land attack-conventional with submunitions in the warhead
- Tomahawk land attack missile-nuclear (TLAM-N)
- Tomahawk antiship missile (TASM)

These variants are being produced for installation aboard five classes of surface ships: BB-61s, DD-963s, CGNs, CG-47s and DDG-51s (the new Arleigh Burke class of

the Indo-Pakistani War of 1971, were early evidence of the effectiveness of cruise missiles in war. The Exocet's successes in the Falklands War of 1982 was further evidence that cruise missile effectiveness was not necessarily dependent upon U.S. technology or the extensive Soviet cruise missile developments. With the development of the SS-N-12 as a replacement for the SS-N-3 on Echo boats, and on several classes of Soviet warships, one can surmise that this sea-launched, mach 2.5 cruise missile, weighing about 12 tons and carrying either a 1000 kg HE warhead, or a nuclear warhead in the megaton range, is probably adaptable to the land attack mission. Although only credited with about a 300 mile range when flown at 2.5 mach speed, if flown trans-sonically and at high altitude, it has a fuel range of about 1850 miles! Using a guidance system depending upon either star fixing or FLONASS (much like the NAVSTAR satellite navigation system), such a weapon should have terminal accuracies similar to those achieved by Tomahawk's TERCOM system. Today, the Soviets appear to be about to deploy the SS-N-22, credited to be similar to Tomahawk in its land attack accuracy and its range of operation.

On the other hand, initial funding for the sea-launched cruise missile -- Tomahawk -- was approved in 1972, primarily for development of a strategic weapon. It was sized to fit into a torpedo tube, since its use by submarines was contemplated as being the best mode for

warhead with almost 2,000 lbs of high explosives. Its range was at best about 150 miles. At least 8,000 of these land attack "buzz bombs" were used against Great Britain in the latter part of 1944. Their accuracy was so poor that all of London was necessarily the potential target for a single V-1. After WW II, much of the German expertise developed as a result of the V-1 program was used by the Soviets and the U.S. Navy to spearhead their respective cruise missile programs. The Regulus missile was designed as a 400-mile range, land attack nuclear-warhead missile to be carried in water-tight hangars aboard submarines. A few cruisers also were armed with this weapon. But by 1964, all were removed from their sea-based launch platforms, as the Polaris boats took over the strategic nuclear missile-strike mission. During this same period, the Soviets developed the Shaddock, a probable land attack cruise missile to be launched initially from Whiskey- and Juliett-class guided missile conventional submarines. By 1964, they were being launched from the deck of an Echo-class nuclear submarine. Eight elevatable launch tubes were built into the Echo's superstructure to allow for an 8-missile salvo, if applicable. These Shaddock SSN-3 missiles were later apparently refined for anti-attack carrier missions. In fact, the Soviet cruise development has for the past 20 years been devoted almost solely to sea-launched antiship missiles. The SS-N-2, which sank the Israeli destroyer Elath in 1967, and the Styxs used to sink Pakistani ships in

The Land Attack Cruise
Missiles of the Past

An appreciation of the history of cruise missiles appears necessary in order to understand Tomahawk's political implications for other NATO countries, and how it might affect arms control negotiations. Tomahawk has been popularly termed "the cruise missile," as though it was a unique, new type of weapon. It was billed as such by the press and treated as such in arms control discussions with the Soviets. Because it was represented as a major technological breakthrough in nuclear weaponry, it was considered to be a valuable new asset for political bargaining.

This illusion seems to be retained by many who write about Tomahawk, and evaluate its capability in strike missions as a cost-effective support for manned sea-based aircraft. But a review of past cruise missile developments worldwide, as well as the present status of Tomahawk, alongside the other sea launched cruise missiles of the world, tends to provide a more sound perspective as to what Tomahawk can actually offer in a major war with the Soviets, and what its political bargaining value might be as a deterrent, or in an arms reduction talks environment.

Looking to the past, in World War II the Germans developed the V-1 cruise missile with a jet engine that gave it a cruise speed of about 350 knots while carrying a

the Navy's planned buys of this weapon, if not in greater numbers than programmed.

Emphasis has been placed on getting the nuclear land attack Tomahawk deployed as quickly as possible, while the conventional land attack Tomahawk has been treated with far less enthusiasm by the Navy. An undercurrent of resistance to accepting this latter version of Tomahawk seems to exist in the submarine community, as well as in the sea-based tactical air community. Both groups seem to indicate through their low budgetary support of this weapon, a hesitancy to take on a system that still has unresolved tactical problems. They appear to share as well a feeling that what is on hand -- bombs, rockets, torpedoes -- can do the jobs they think need doing. Adding the conventional land attack Tomahawk to their arsenals also is seen as potentially complicating and reducing the efficiency of the complication of primary missions. The submariners see a major problem developing with respect to their weapon load mixes. The aviators flying carrier-based aircraft see a timing and coordination problem when Tomahawks are integrated with strike aircraft attacks against land targets.

What may be indicated from the analysis which follows is that the nuclear Tomahawk capability is widely recognized as a valuable addition to U.S. deterrence posture, whereas the conventional land attack Tomahawk has not been sufficiently developed to arouse the enthusiasm it really deserves.

missiles, some of which were useable in the land attack role, was apparently not at issue or even a part of the active discussions at Vladivostok. Nor were the Soviet cruise missiles apparently considered when an agreement was reached to limit the range of "the cruise missile" -- i.e., the Tomahawk -- to 3000 kilometers (kms) in its strategic-nuclear configuration and to 600kms in its conventional warhead configuration. However, these limitations, contained in a protocol to the SALT II Treaty agreements, expired in 1981 in accordance with a clause of the protocol.

The subsequent intense Soviet political campaign against deployment of the nuclear Tomahawk in support of NATO, particularly in the ground-launched version, provides perhaps the best gauge of the importance which the Soviets ascribe to this new weapon in the U.S. arsenal. Today, the U.S. Navy continues to view the sea-launched land attack cruise missile program as a budgetary threat to sea-based manned aircraft programs. The five-year defense program reflects only a modest build-up of this potential for proliferating a land attack capability to a large number of naval platforms -- despite the many apparent advantages seemingly offered. The first significant large buys of Tomahawks were pushed out to 1988 and beyond, near the end of the five year plan. However, strong Congressional support for the land attack cruise missile program seems evident, ensuring at least

in Central Europe is evaluated, along with the implications of the land attack Tomahawk for relationships within NATO, for arms control negotiations and for the deterrence of a potential Soviet attack against Central Europe.

Since this particular cruise missile variant -- the Tomahawk configured for the land attack role -- is likely to figure in the present arms control talks being pursued with the Soviets at Geneva, an appreciation of the weapon's characteristics, its unique operational capabilities, its effect on Soviet defenses in handling enemy strategic weaponry, and its deployment options, seems to be in order.

In the SALT II talks, this long-range, "strategic weapon," in its nuclear warhead configuration, was treated as a highly significant addition to the U.S. strategic missile arsenal when produced in large numbers. The implications were that the weapon would be operational shortly after the conclusion of the talks, and that U.S. priorities were such that Congress would provide enough funds to quickly ensure so serious a threat to the Soviet Union, that Soviet arms control concessions would be forthcoming. Then, at the initiation of the talks, the Tomahawk was little more than a paper weapon, backed by U.S. resolve to develop it with what appeared to be an existing superior U.S. technology. That the Soviets had a large stockpile of sea launched nuclear-tipped cruise

THE LAND-ATTACK, SEA-BASED CRUISE
MISSILE AND ITS IMPLICATIONS
(FOR A CENTRAL EUROPE NATO SCENARIO)

by

William J. Ruhe

Preface

The land attack sea launched cruise missile -- Tomahawk -- now is being introduced into the U.S. fleet. Hence, its impact on a major war against the Soviets in the near term is likely to be minimal, because Tomahawks are being produced initially at only a relatively low rate. Within a few more years, however, there will be sufficient Tomahawks aboard ships of the U.S. Navy to have a significant impact on the progress of a war stemming from an invasion of Central Europe by the Soviets. How Tomahawks are likely to be used in the land attack role, whether with a conventional high explosive or nuclear warhead, should indicate why this weapon was thought of as a valuable "bargaining chip" in the SALT II talks, and why it might prove an important consideration in the present arms control talks.

The potential contributions of Tomahawk -- a new generation of cruise missiles -- in a wide variety of missions for countering the Soviet threat against the United States and its allies are examined in this paper. How this land attack, sea-launched cruise missile may affect the U.S./NATO-Warsaw Pact balance relative to a war

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Captain William J. Ruhe
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onshore vital to the USSR, Soviet planners are confronted with massive risk and uncertainty in war in general, and in nuclear attack on the fleet in particular.

In stating the case for deploying the TLAM-N in the face of continued Congressional opposition, the Defense Department argues that history has shown that the Soviet Union will not delay further development or future deployment of additional nuclear sea launched cruise missiles. The USSR is in the throws of completing developmental testing of the SS-NX-21 cruise missile, and the United States believes deployment is imminent. The SS-NX-21 is considered close in performance to the TLAM-N. The USSR will not trade fielded weapons for planned deployments by the United States. This will mandate continued deployment of U.S. nuclear-armed sea launched cruise missiles.

The Soviet navy has over 1,000 sea launched cruise missiles operational in its fleet, and at least six different types have been confirmed to be nuclear capable but non-verifiable between conventionally armed versions. Sea launched cruise missiles deployed by the United States do not represent a qualitative change in the arms control environment, since they merely give American forces a weapon similar to those in use by the USSR.

inferred from Soviet literature is that between theater war and intercontinental general nuclear war. The use of tactical nuclear weapons in theater operations by the USSR must be anticipated.

The Soviets could threaten such a step in some future crisis if they believe the West is unprepared or unwilling to respond. The United States must, therefore, convince USSR military planners that they cannot achieve their way by either coercion or hostile action. The deployment of TALM-N presents the Soviet Union with increased element of doubt as to the U.S. course of action or intensity of response. This element of uncertainty is the essence of deterrence.

The military utility of the TLAM-N lies in both expanding the Navy's offensive capability and in providing a survivable and potent reserve threat. Direct offense is not the prime objective of Western democracies; however, the capability is important because of its deterrent value. To be effective, the United States must have the force structure to deny potential aggressors their objectives at all levels of a conflict and hold at risk the political, military, and economic assets they value most highly.

Nuclear-armed Tomahawk at sea is capable of holding at risk the full range of enemy military targets and forcing the outcome of aggressive action to be uncertain. This new weapon also serves to deter attack on carrier battle groups and fleet assets by Soviet naval aviation aircraft, especially the Backfire bomber. By holding at risk targets

strategic targets, and it could produce damage expectancy similar to that achieved by some other U.S. strategic weapons.

The case is made by the Navy, however, that the nuclear-armed Tomahawk is not a replacement or substitute for Poseidon or Trident ballistic missiles. It has neither the range nor target coverage capability provided by submarine launched ballistic missiles. As opposed to MIRVed strategic missiles, which are most effective against a group of targets, TLAM-N has the capability to attack a single target. When at sea on submarines, nuclear-armed Tomahawks enjoy greater pre-launch survivability than land-based aircraft or missiles because they are immune to enemy surveillance.

Wide dispersal at sea of nuclear-armed launched cruise missiles will greatly complicate Soviet defense planning and is likely to lessen incentive for a disarming nuclear first strike. As a highly survivable weapon system, TLAM-N is part of the nuclear reserve force to help maintain the balance of power and prevent coercion in the aftermath of nuclear conflict.

Effective deterrence requires that the Soviet Union be convinced that it cannot credibly threaten the United States or its allies with a limited use of nuclear weapons against military targets. The USSR fully integrates theater nuclear weapons as a fundamental part of war fighting capability. The only escalation boundary that can be

of responding to the Soviet theater nuclear force buildup through widespread alliance participation.

The Reagan Administration's arms control position with the upcoming Geneva talks is that everything is on the table, and the United States is ready to discuss with the Soviets effective verification for limitations on sea launched cruise missiles. A position has been taken by the Reagan White House that there will be no impact of TLAM-N on arms control negotiations. The point is made by the Administration that there are no existing arms control agreements that limit sea launched cruise missile development or deployment.

In previous arms control talks, the United States has proposed a ban on the ground launched cruise missile, if the USSR will destroy all of its SS-20, as well as SS-4 and SS-5, intermediate-range ballistic missiles. Air-launched cruise missile equipped bombers -- if they are in the heavy bomber category -- are limited in the SALT 2 agreement, where multiple independently-targetable reentry vehicle (MIRV) missile launchers and ALCM carrying bombers cannot exceed 1,320.

The Soviet Navy is capable of firing eight types of medium and long range nuclear capable antiship cruise missiles. It is considered vital to U.S. maritime strategy to deploy long-range sea launched cruise missiles on a variety of vessels in the fleet. The accuracy of the TLAM-N weapon is such that it can be targeted against some

part of the overall U.S. strategic modernization program. The policy of the Administration is that SLCMs, but not necessarily all variants, will be deployed on nuclear-powered attack submarines, battleships, cruisers, Spruance class destroyers, and DDG-51 class destroyers.

Specific mixes of the Tomahawk antiship missile, land attack nuclear, and land attack conventional cruise missiles will vary aboard a given ship according to circumstances and mission requirements. The policy also provides that no specific ship or submarine will be stationed in an area solely based on its Tomahawk weapons capabilities. A prime advantage of naval power is the inherent mobility of ships which permits them to deploy rapidly and worldwide.

Since the Tomahawk procurement program began in Fiscal 1980, approximately 250 sea launched cruise missiles have been authorized. An additional 181 missiles are projected for procurement in Fiscal 1985 and 1986. If the full SLCM force structure is implemented by the mid-1990s as planned, about one-fourth of the total force will include TLAM-Ns.

U.S. State Department policy is clear -- that there is no relationship between nuclear-armed Tomahawks and the long range theater nuclear force missile deployment agreed to by NATO in the December 1979 dual-track decision. The sea launched cruise missile was reviewed thoroughly by NATO prior to that decision; the alliance concluded that SLCM could meet the requirement for a visible and effective means

destroyers). Armored Box Launchers (ABLs) are planned for 16 surface ships: four BBs, seven DD-963s and five CGNs. For 66 other surface ships, there is a program to install vertical launchers for the Tomahawk missile: 24 DD-963s, 22 CG-47s and 20 DDG-51s.

The submarine program calls for a Tomahawk torpedo-tube launch capability on 39 SSN-637s and 31 SSN-688s. Starting with SSN-719, a vertical launch capability (12 tubes) is being installed in new construction SSN-688s. These tubes are external to the pressure hull, thus having no effect on ship size while increasing the weapon payload and not tying up the SSN's torpedo tubes with SLCMs. A total of 36 new construction SSN 688s with vertical launch tubes are planned. But no conversion of prior SSN 688s is presently contemplated. Launch from these vertical tubes, as well as from torpedo tubes, can be conducted down to depths in excess of 100 feet.

Although a program for air-launched land attack Tomahawks was suggested some years ago for use with B-52s and eventually B-1 bombers, at present, because of the ALCM program, there has been no further consideration of this variant of Tomahawk.

The IOC for the nuclear sea-launched land attack Tomahawk was June 1984, but actual deployment of this missile variant is being held in abeyance pending Congressional action on the overall issue of TLAM-N

deployment. The conventional TLAM-C, however, has an expected IOC of 1985. Along with the restructuring of the Tomahawk program in 1983, the TLAM-C with a horizontal mode of attack was changed to one having a vertical terminal dive and terminal maneuvering capability -- delaying the testing program for this variant. Consequently, the Senate Appropriations Committee in their FY '85 comments included directions that no conventional land attack missiles be procured until Congress had been notified that the TLAM-C had successfully completed its Operational Evaluation, including the required CEP accuracies for the terminal dive maneuver and a satisfactory performance level for theater use.

In 1983, the Navy estimated that the total development costs for all versions of Tomahawk would be \$1.2 billion and that the total procurement costs should be about \$9.5 billion. However, a Systems Acquisition Review, of March 31, 1984, placed the total program costs at \$13.01 billion with \$2.63 billion having already been spent on the Tomahawk program.

The total buy of Tomahawks was estimated to be approximately 4000 weapons through 1992. Although in FY '84, 244 missiles were requested, only 144 were subsequently budgeted. This action was based on problems that faced the program, and Tomahawk buys for FY '85 through FY '87 were reduced from the total numbers planned -- with only 180 Navy Tomahawks requested in

FY '85 at an average flyaway cost of \$2.37 million per missile with conventional warhead, the so-called TLAM-C. About \$560 million is the budgeted cost for the 180 Tomahawks. Of the 180, 30 are for TLAM-C, 75 for the land attack nuclear warhead version (TLAM-N), and 75 for the antiship version, TASM. The research and development costs of the Tomahawk cruise missile programs have been \$108 million for FY '83, \$135.7 million for FY '84, and \$93.6 million is being requested for FY '85.

The Sea Launched Land
Attack Cruise Missile

The sea-launched land attack cruise missile -- with conventional or nuclear warhead -- is basically a version of the Tomahawk missile. This weapon is a small aircraft, 218.4" long, with a 103.2" wing span when the wings are in a fully rigged position. A solid fuel booster 27.6" long makes for a total length of the missile at launch of 246" -- or 20.5 feet. Its diameter is almost 21". This is just short enough and small enough for use from the standard 21" torpedo tube. It is encapsulated for launch from a torpedo tube. When used in a box launcher on the deck of a surface ship, the protective capsule is not employed. The weight of the land attack missile is 2,650 pounds, 3,200 pounds with a booster. With capsule, the total weight is 4,200 pounds. It is powered by a 30"-long turbofan jet engine which weighs 126 pounds, and which

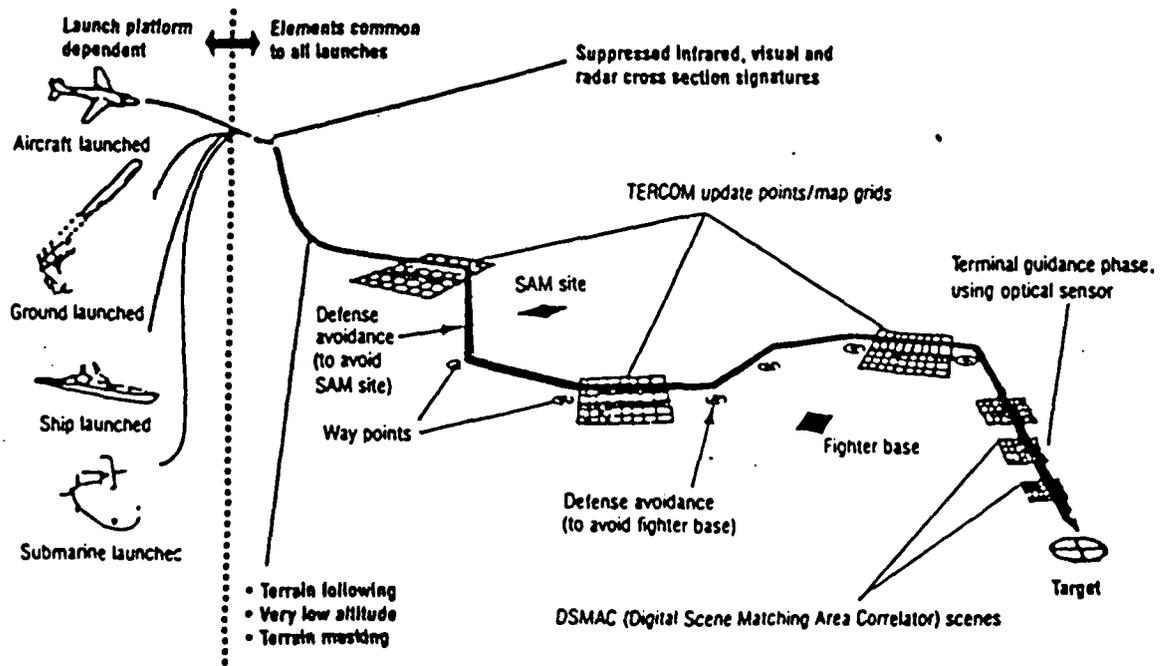
produces over 600 pounds of thrust at sea level. This gives Tomahawk a cruise speed of about 550 knots and a range of 2,500 kilometers (1,350 nautical miles), when configured with a nuclear warhead in the 200 kiloton-yield range. When configured with a 1,000-pound build-up high explosive warhead, the range is reduced to about 700 miles -- dependent upon the flight profile programmed into the missile. The frontal radar cross section of Tomahawk is so small that its radar return is described as being "no more than that from a wet seagull." The booster is ignited when the missile reaches the surface of the ocean, or when launched from the box launcher, and burns for 10 seconds -- when the turbofan cruise-engine takes over.

Flight tests have demonstrated a terminal accuracy of about 200 feet for the nuclear configured weapon and less than 30 feet for the conventional land attack version. In its mid-course flight, and when using a terrain contour matching guidance system (TERCOM), the missile cruises at about 200 feet altitude. Over the water, it is likely to cruise at no more than 100 feet. Its low, pre-programmed flight profile, plus its very small radar cross-section, make it very difficult to detect by enemy ground-based radars. Even enemy aircraft with look-down, shoot-down capability would have considerable difficulty in detecting and destroying Tomahawk, because its signature is difficult to dig out of ground clutter. Its mode of attack on land targets is

shown in the diagram. When launched, the missile has only a short climb before it flips over into its cruise trajectory. This maneuver tends to minimize detectability of the weapon at launch, hence protecting the firing platform from being located.

The accuracy and survivability of the land attack SLCM are important factors in the Tomahawk's performance. Hence, a brief explanation of how these are achieved should show the viability of this weapon in the missions for which it is expected to be used. Tomahawk's guidance in flight is achieved primarily by an inertial navigation system. With this guidance system, Tomahawk can achieve a relatively accurate trajectory toward a target. However, even reliable inertial navigation systems will drift as much as one mile per hour, and unpredicted winds can push it off its programmed flight path. Thus, since Tomahawk will take several hours to travel out to its maximum range, the terminal accuracy for the land attack mission is too poor -- if sole reliance is placed on this guidance system. Obviously, for long flights, Tomahawk's inertial navigation positioning must be updated several times in its trajectory in order to produce good terminal accuracy. New navigational fixes for updating the inertial guidance system could possibly be supplied by star or navigation-satellite fixes, but since Tomahawk's stealth and survivability depend to a great extent on its low flight path, star fixes become unacceptable for

Tomahawk Land Attack (Non-Nuclear) Operational Concept



Source: Joint Cruise Missiles Project Office.

Tomahawk use in daylight and under conditions of fog, rain, or snow. Thus, an additional navigational system, which samples the terrain being flown over and which compares the terrain contours with data stored in a computer on board Tomahawk, serves to provide the updating fixes necessary for useful terminal accuracies. The terrain contour matching system (TERCOM) uses a radar altimeter, barometer, computer, and small radar in generating fixes when flying over land. As described by Commander Miles Libbey III,

The radar altimeter transmits a signal and by processing the return and integrating the results with the barometer, determines the profile of the ground below. This average height above sea level is broken into discrete digital bits ready for comparison. Meanwhile, an on-board computer will have called up the digital representation of the expected terrain from its memory, and the comparison begins. When a real-time match is found between expected and actual positions, the distance and direction off the desired course are measured, and a corrective maneuver is calculated and applied to regain the desired flight path. At the same time, the drift of the inertial guidance system is calculated and, by biasing the correction, subsequent errors are reduced.

As shown in the diagram, the sea launched Tomahawk will be guided across the water by its inertial navigation system. At the coastline, Tomahawk makes a landfall and performs its first navigation update. The first map recalled from the computer's memory must be wide enough so that the comparison will capture the guidance system. Subsequent update maps can be smaller because of less time

between revisions. With each new fix, the missile maneuvers to get back on the pre-programmed route. Between fixes this programmed route may provide a trajectory which will avoid concentrations of air defenses or create delays so as to arrive on target with other missiles. (To provide these computerized contour maps stored in the missile for comparison with terrain being flown over, stereographic photographs of areas of the earth are taken at high altitudes. These photographs then provide the data base for the terrain profiles stored in the missile's computer.)

When the land attack, nuclear-armed Tomahawk approaches the target area, the last map should be fairly close to the intended impact point. With this final updating accuracies of about 200 feet are expected. The Tomahawk with a conventional warhead, however, requires more precise terminal accuracy. To this end, an additional terminal guidance feature, a digital scene matching area correlator (DISMAC) is used. An optical sensor in the nose of Tomahawk provides a view of the target area, which is compared with a digitally stored "picture" in the computer -- the computer performing a correlation and generating final maneuvers for the missile to achieve a hit within several yards of the desired impact point. This impressive accuracy must be considered with caution, however, since unfavorable environmental conditions -- such as heavy smog or thick fog -- can

seriously degrade this terminal homing system. In addition, radar altimeters used in mid-course guidance are confused somewhat by snow on the terrain, and may possibly be jammed. But even if jammed, the missile will rely on its inertial navigation system until it can obtain an updating fix.

Since, in a NATO war, land attack missiles might have to be rapidly reprogrammed to engage targets of opportunity, and since the on-board file of terrain contour maps might not adequately cover a new situation, and since environmental factors affecting the missile's guidance and trajectory may not be available to the firing platform, land-based reprogramming support is necessary for efficient response. Even for attack on predesignated targets, a mission planning center is required. Such a planning center, through computers, would select the targets, plan alternative Tomahawk routes, and evaluate options to optimize guidance performance and survivability of the missile in flight. Geography, terrain and enemy defenses are used interactively to derive a set course to the target. The approved route would then be translated into digital instructions and delivered to the Tomahawk firing platform.

An on-board ability to target Tomahawk, particularly for the nuclear land attack mission, is also important. Moreover, the platforms configured for Tomahawk use do have the necessary computer capability.

Whereas preplanned missions tend to satisfy planned objectives, follow-on strikes would invariably require alternations which would be difficult to foresee due to the vagaries and exigencies of war.

Near-term modifications to Tomahawk which will make it more difficult to be detected and intercepted include measures to reduce the radar cross-section and infra-red signatures of the present missile, additional built-in electronic countermeasures, a capability to maneuver in response to enemy actions, and a means to increase the speed of the missile in its terminal phase of flight. Probably within this decade, the fuel efficiency of the turbo jet engines can be increased by using the more dense fuels being developed. This should increase the range of this weapon to at least 2500 miles. Additionally, terminal guidance systems are being studied for attacking mobile targets such as tanks with conventional munitions, projected from land attack Tomahawks.

The Utility of the Nuclear Land Attack
Sea Launched Cruise Missile (TLAM-N)

Commodore Roger Bacan, USN, in a recent Submarine Review article, made the following statement:

Deployment of the Tomahawk land attack cruise missile began this summer (1984). Its value lies both in greatly expanding the Navy's offensive capability and in providing a survivable and potent reserve threat. It will have superior military utility, achieving a hard target kill with limited collateral damage. The range and flexibility of this

system make it attractive for holding at risk Soviet targets not currently ranged by any non-strategic nuclear system. It is uniquely suited for theater and reserve force roles. Thus, while we think of it primarily as a theater weapon, it will make a major contribution to strategic deterrence as well.

Therein lies the major problem connected with TLAM-N. Is it a theater weapon deployed in support of military operations in a theater of war; or would it be considered a "strategic" naval weapon which is on board a naval unit for the purpose of attacking an enemy's homeland industries, government centers, and population, if a conflict is escalated to the strategic war level? Because of this dual possibility, even as a theater weapon, it will tend to deter escalation to strategic war, just as strategic weapons deter strategic war. And just as there is no way for an enemy to distinguish between a Tomahawk intended for theater war versus one deployed as part of a strategic reserve, there is similarly no way to distinguish the nuclear configured Tomahawk from one with a conventional warhead. The airframes are the same. Hence, any unit carrying Tomahawk must be viewed as a strategic nuclear threat. And, automatically, all submarines at sea would have to be regarded as potential strategic weapon deliverers, since there is no discernible means for determining a submarine's weapon load -- if the load-out process in port is done covertly. Thus, there has been opposition to producing this weapon because of the confusion it creates for arms control negotiations.

The question of whether the nuclear land attack Tomahawk should not be produced, because it presents an unresolved problem in verification, was answered, however, in September, 1984, by the House-Senate Conference Committee agreement on the 1985 Defense Authorization Act. In effect, the conferees decided not to place a moratorium on the deployment of TLAM-N. This decision was based on a belief that, although there was no reliable means for distinguishing a nuclear Tomahawk from a conventional one, a recognition of its value in tactical or strategic warfare, and a recognition that cruise missiles have been deployed by the Soviet Union since 1962, were overriding reasons for adding the TLAM-N to the U.S. arsenal of weapons.

As a strategic weapon, it is good in the counter-military role. In the words of Defense Secretary Weinberger, "these missiles will serve to strengthen our deterrent by enhancing our Strategic Reserve Force." It is not a first strike weapon because it is too slow in getting to its military target -- but it appears to be an assured second strike weapon. When employed particularly by submarines, it is survivable even when an enemy preempts with a nuclear attack -- and it is survivable for an extended period of time. A submarine should be little affected by the effects of nuclear bursts -- such as electro-magnetic propagation, blast, and heat -- and because of its covertness is not likely to be targeted in

a first strike. One drawback is that a submarine using TLAM-N would have to launch its missiles from a position relatively close to either the Soviet homeland or areas of conflict where enemy ASW forces would be concentrated. Targeting of SSNs for nuclear weapon destruction would thus be simplified, because of the shorter ranges of delivery involved.

But even with strategic missiles deployed on surface ships, the nuclear Tomahawk is not highly vulnerable to enemy nuclear attack because of the maneuverability of ships and their potential of wide dispersion. By deploying Tomahawk on many ships and submarines of the U.S. Navy, a nuclear retaliatory threat can be dispersed so widely that any Soviet attempt to knock out the Navy's nuclear capability is virtually doomed to failure. Significantly, a sea-based Tomahawk capability is less likely to be affected by enemy electronic warfare efforts than shore based weapons systems because of the added difficulty in focussing EW efforts against covert or moving platforms. Destruction of the command and control for employing sea-based missiles would similarly be more difficult. Tomahawk also has a mode of attack -- a low flight profile -- for which Soviet defenses against strategic weapons have not been adequately structured. Importantly, Tomahawks are not expensive as strategic weapons go.

The success of a Soviet attack on Central Europe is

likely to be dependent on Soviet success at sea in denying the use of the oceans to the Allies for resupply and reinforcement of troops on the mainland of Europe. The Soviets, with their sea-launched nuclear antiship missiles, now pose a severe threat to the U.S. fleet -- which protects the sea lanes. Hence, to deter Soviet use of such weapons, the United States must pose a counter nuclear threat against Soviet naval targets -- including ships, naval bases, naval airfields, command and control centers, communication stations, and naval storage areas. Moreover, since the Soviets' major fleet units, by Soviet definition, are their nuclear submarines -- all of which carry nuclear-armed torpedoes, often in tandem with nuclear-armed missiles -- a successful antisubmarine campaign may require attack on submarine pens, submarine refit and replenishment activities, and basing facilities.

The Soviets began the sea-launched cruise missile race and their present emphasis on these weapons for a "first salvo" strategy indicate that any halt or slowdown in the nuclear land attack Tomahawk program would have little effect on the planned steady buildup of this naval capability. The Soviets indicate an intent to use nuclear weapons in a war against the West, and to this end they have integrated nuclear warfare into all levels of Soviet planning, while deploying nuclear weapons throughout their forces and continually training for their use. They have undertaken an extensive modernization of their theater

the Soviets, this could be an important factor in assuring Soviet ground war success. To more effectively reduce the Soviet submarine threat to the sea lanes used by the allies, a NATO campaign against Soviet submarine support activities (including replenishment, refit, training, and command and control) comprises a major ASW effort. Thus, submarines carrying TLAM-Cs may make a greater contribution to ASW than the use of torpedoes against deployed Soviet submarines. Even with a large number of Soviet submarines surviving the first few months of a conventional war, the Soviets' submarine effort to interdict the militarily valuable sea lane traffic could grind down to a marginal effort due to lack of support.

Admiral Harry Train, the former SACLANT, in a recent symposium, commented on the primary importance to the Soviets of controlling the Norwegian Sea to ensure their objective of denying the sea lanes used by the West. He saw, therefore, the probability of Norway being occupied by the Soviets at the commencement of a major conflict. This "second front" would pose a requirement for NATO to rapidly take action to free Norway. The resulting amphibious warfare would then involve the traditional phase of pre-landing bombardment by surface warships. For this activity, the land attack Tomahawk is well suited for destruction of ammunition dumps, command and control sites, and runways -- all lucrative targets.

TLAM-Cs, Sorrel notes, would be harder to detect and track than aircraft carriers, and hence could launch missiles closer to Murmansk with less risk, while creating a dispersion of Soviet antisurface ship efforts. The small number of TLAM-Cs which a submarine would carry in execution of this strike mission against Soviet targets in the Murmansk area make this capability only a minor one compared to the payloads which carrier based aircraft deliver on a sustained basis. However, submarine delivery of TLAM-Cs prior to strike aircraft sorties against Soviet targets can prove of considerable value in reducing enemy defense efforts sufficiently to ensure the success of the manned aircraft strikes.

In line with this Murmansk scenario is the contribution that TLAM-C attacks might make in support of antisubmarine warfare. The ASW campaign against Soviet submarines should be a highly important NATO effort in support of Central Front warfighting, since the Central Front ground and air forces would be highly dependent upon overseas reinforcement and resupply to sustain a holding action or mount a counter-offensive. Hence, the importance of neutralizing the large Soviet force of about 300 attack submarines, many of which are so quiet (the conventional boats on battery and the newer Soviet nuclear submarines) that operations directed solely at deployed submarines are only likely to prove decisive after a greatly extended period of time. In a prolonged war with

northern portions for a few days -- sufficient time to mount a large scale attack against "the Bear" in his bastions. However, the Soviet air defenses in this area, today, are felt to be so strong that the attrition rate of carrier strike aircraft is likely to be unacceptably high, with a traditional type of attack against land objectives.

In a Murmansk scenario sketched out by Charles A. Sorrel in his study of "U.S. Cruise Missile Programs," it is noted that manned aircraft attack, from carriers, on the headquarters of the Northern Fleet -- the Murmansk area with presumably its strong defenses ashore and at sea -- would prove too hazardous to the carriers if they operated well above the G-I-UK Gap running between Greenland, Iceland and the United Kingdom. Thus, strike ranges of over 1,000 miles would be indicated for carrier based aircraft against Murmansk objectives. Such a range seriously curtails the ordnance payload of carrier strike aircraft, even with their necessary in-flight refueling for operations at such a range. To weaken the defenses of Murmansk, it would be necessary to keep the runways of airfields, those involved in the protection of Murmansk, inoperative. For that job, submarines or aircraft, armed with land attack cruise missiles, could more safely get to their missile launch points and attack Soviet airfields with a higher element of surprise and with a better chance of getting their weapons through the Soviet defenses and to their programmed targets. Small surface ships carrying

probability of effective use of sea launched land attack cruise missiles still remains high because of their all weather capability, their slight dependence on attack warning to ensure survivability, and their flight profiles, for which enemy defenses seem not well prepared in this time period.

Although focus for the role of TLAM-C is likely to be on its employment in the European theater, it would appear that its more likely major contribution to a Central Europe war would be in a remote area, such as the Norway-Norwegian sea area. There the Soviets might try to open a second front through the invasion of Norway or Iceland. Their need to control the Norwegian Sea, if they are to deny the sea lanes of the North Atlantic to the Allies, virtually dictates a Soviet move to occupy at least Northern Norway. Without control of the Norwegian Sea, the "bastion of the Bear" -- the havens for Soviet SSBNs, the sea areas for Soviet surface fleet operations supporting these SSBNs, and the basing areas for the Soviet Northern Fleet or of, most importantly, nuclear submarines -- may be subject to offensive U.S. fleet intrusions which could swing the war at sea heavily in favor of NATO.

In the present alignments of countries bordering the Norwegian Sea, and exerting some control over it, the U.S. fleet operates throughout its expanse in peacetime, and in war could probably even sustain operations in its

1,455 Pact tactical aircraft starting the campaign, about 800 would be operational on the fifth day, while NATO aircraft would be cut from 1,059 to about 500. However, if the 420 Tomahawks were used for interdiction, the Pact sortie rate would be cut to as low as about 800 sorties by the third day.

The effect on a Pact force of 50 Backfires flying out of western U.S.S.R. for attack against Southern flank targets showed analytically that the 50 Backfires would produce 1,560 sorties over Southern objectives in a five-day period, if no Tomahawks were employed. With the use of 420 Tomahawks from the 6 DD-963s, this sortie total would be cut to 1,290. The Backfire's impact on the ground war was shown to be cut from a 5-day payload delivery total of 9,300 tons of conventional ordinance, when no Tomahawks were used, to a five-day total of 6,800 tons when the 420 Tomahawks were targeted against Backfire and other aircraft bases and support facilities. At the same time, the productivity of NATO ordnance delivery rose from 8,600 tons against targets, to 10,300 tons. This was apparently due to a reduced effectiveness in Pact defensive efforts.

Whether these analytical results are overly optimistic or not may be dependent upon the circumstances under which the Soviets initiate an attack on the Central Front. With surprise attack uppermost in Soviet minds while capitalizing on adverse weather conditions, the

Importantly, TLAM-C is an all weather, 24-hour-a-day, stealth-like weapon, little affected by night or adverse weather, which uses a flight profile for which Warsaw Pact defenses are least prepared. A NATO campaign analysis done by the Convair Division of General Dynamics may serve to illustrate the role of the TLAM-C in a specific NATO scenario.

In a Central Europe NATO mid-1980s conventional war, the tactical air contribution to the war made from the Southern Front by a two-attack carrier force in the Mediterranean was evaluated -- with the assumption that 6 of its escorting DD-963s would contribute a total of 420 TLAM-Cs from their vertical launch systems (VLS). The carriers were assumed to offer a total of 48 F-14s, 48 F/A-18s and 24 EA/A-6s for tactical air missions. The total tactical aircraft order of battle on the Southern Front was assumed to be 1,455 Soviet aircraft and 1,059 NATO aircraft. And, the Warsaw Pact target complex involved with Southern Front aircraft activity was 36 bases, 500 shelters, 1,100 revetments and 400 SAM sites (200 of which were radar and 200 IR).

The Pact tactical air forces were evaluated to have about a 2,000 daily sortie rate on the first day of battle, against a NATO rate of about 1,500 sorties. The Pact rate fell to about a 1,200 daily sortie rate by the 5th day, if the tactical aircraft from the two attack carriers were employed but no Tomahawks were used. Of the

TLAM-C would likely then be one of interdicting the means for achieving this follow-up capability. It would include more than neutralizing airfields deep in Warsaw Pact territory. Bridges, tunnels, railroad junctions, telephone exchanges, maintenance facilities, assembly areas, anti-air missile defenses, ammunition dumps, and fuel storages -- all are possible targets for the highly accurate TLAM-C.

The value of the TLAM-C in deep-strike interdiction might be questioned in light of the short duration of effect it might have on, for example, runways or rail junctions. However, well planned TLAM-C strikes, quickly laid on and closely coordinated with NATO's tactical air strikes, could serve to disrupt the anti-air defenses beyond East Germany, the flow of men and equipment to the Central Front, and the means to coordinate this reinforcement capability in a changing environment of access, due to damaged bridges, cratered roads and severed rail lines. Perhaps the most cost-effective use of TLAM-C might be against surface-to-air missile systems. A device for terminal-homing on SAM site radar emanations exists in other missiles such as HARM -- an anti-radiation weapon -- and should be adaptable to TLAM-C in due time. This capability should help reduce the attrition rate of manned aircraft in their missions of deep interdiction.

in tests and its employment with a newly developed warhead of submunitions is being recognized as an important complementing capability to that of sea-based strike aircraft. With Soviet defenses against carrier-based or other NATO tactical air strikes considerably improved, it is increasingly evident that the TLAM-C has a valuable role to play in U.S. attacks against military targets -- particularly against Warsaw Pact airfields. There is growing evidence that the Soviets have expanded their air forces based in Eastern Europe and improved their offensive quality, while tactical air defenses -- such as the SA-6 and a disproportional number of interceptors -- are being more widely deployed. TLAM-C, an unmanned aircraft, is seen as a cost-effective means to initially neutralize enemy defenses, so as to greatly reduce the attrition of manned tactical aircraft in subsequent strikes against either the same objectives, or ones colocated with the TLAM-C targets. The precious assets of highly costly tactical aircraft and trained pilots do not tend to be readily risked in war because of major replacement problems. With the Soviets also increasing the capability of their deployed conventional ground forces, particularly in East Germany, a surprise blitzkrieg attack appears possible, allowing only a few days of strategic warning. With early reinforcements from the Western U.S.S.R. planned for follow-up consolidation of the rapid initial gains made, the major role of the

submarines and should be a consideration in arms control negotiations. And, just as the Soviets indicate that a first strike should initially take out the command and control capability of their enemy to ensure the efficient operation of their own command and control systems, the United States, with TLAM-N capability, has a preemptive means for the limited, selective nuclear strikes which could neutralize the Soviets' command and control systems sufficiently to blunt their subsequent effective employment of nuclear weapons and hence deter the use of this option. An additional bonus effect from the deployment of TLAM-Ns in nuclear attack submarines (SSNs) is the hedge they provide against an enemy ASW breakthrough which would put SSBNs at high risk, or a discovered failure in the technology of SSBN weapons systems -- including the SSBN itself -- reducing the efficiency of this major contribution to the TRIAD for strategic deterrence.

The Sea Launched Land Attack
Conventional Warhead Tomahawk (TLAM-C)

The IOC of the TLAM-C is scheduled for late 1985. Its planned buy remains small in the near term and its future appears uncertain. This seems more due to the in-house threat it appears to pose to Navy budgets for manned sea-based aircraft, than to a questioning of its utility in war. It has demonstrated "pinpoint" accuracy

cruise missiles (GLCMs), will serve to redress this balance, if there is no further buildup of Soviet theater missiles. Yet, that seems unlikely in view of the relentless continuing Soviet increase in armed strength in the Central Europe theater. With both the U.S. intermediate-range missile systems subject to heavy in-country political pressures, their ground basing remains tenuous. Additionally, their susceptibility to terrorist actions must be a consideration, particularly since much of the GLCMs' security may be dependent upon the measures taken by the country in which they are deployed.

A bonus effect from spreading TLAM-N through the U.S. nuclear attack submarine forces is an enhancement of the survivability of the U.S. and other NATO ballistic missile strategic submarines. The enemy antisubmarine efforts would be directed against NATO's strategic retaliatory capability at the commencement of war. A surviving strategic force of SSBNs and SSNs armed with nuclear Tomahawks would provide a "fleet-in-being" whose threat to the Soviet Union could coerce an early cessation of hostilities and provide a favorable outcome -- particularly if the nuclear balance was recognizably tilted in favor of the allies. The TLAM-N also provides a Navy hard-target kill capability in the near term before the Trident II (D-5) missile is deployed. This expands the strategic targeting capability of U.S. nuclear

not seriously affect the armed strength being applied against NATO, but the effect on reinforcements and logistic resupply through such a country could become a weak link that would split a Pact front and seriously reduce Soviet cohesiveness of action and early decisiveness. It might also offer the NATO allies the opportunity to more effectively concentrate forces in areas of lessened military pressures.

The introduction of TLAM-N to the U.S. Navy's surface fleet is a major step in providing it with a nuclear warfighting capability, one which lags that of the Soviet surface fleet. Since the Soviets have seemingly planned their forces to fight a theater war with a limited use of nuclear weapons, the U.S. Navy's theater nuclear capability should be such as to convince the Soviets to avoid a "nuclear" war.

Increasingly, there are suggestions in Soviet writings that fighting a war against the West might involve only conventional weapons -- evidence perhaps of NATO's growing theater nuclear capability. The theater nuclear balance for a European land war is difficult to assess. But it appears to have been tilted in favor of the Soviets with their deployment of a large force of intermediate-range ballistic missiles. The deployment of the SS-20s appears to be the most significant addition to Soviet theater nuclear capability. Deployment of Pershing IIs in European NATO countries, plus the ground-launched

idea that a first use of nuclear weapons in war will necessarily result in all-out strategic nuclear exchange is one held by many. But military analysts versed in the history of war recognize that men invariably exert a degree of control over the way they fight. Rationally or instinctively, they limit certain phases of war to increase the chances of a favorable outcome, which at best might be only survival of individuals or institutions.

In fact, TLAM-N might be viewed as a weapon for controlling escalation, rather than encouraging it. By being flexible in its use while posing a threat against selective targets, particularly those deep in Pact territory which are not adequately covered by other NATO theater nuclear weapon systems, its presence in a theater of conflict may make enemy planners more discriminating in their use of nuclear weapons so as not to invite NATO efforts against Pact targets of political importance. Conceivably, in a Central European war, the Soviet relationship with other Warsaw Pact countries can be so tenuous and their armies so resistant to fighting under Soviet direction, that carrying nuclear war to these Pact homelands could be a determining factor in the degradation of their military cooperation. Some countries might even pull out of the war as a result. Thus, in a Soviet invasion of Central Europe, this consideration must be high in an evaluation of the chances of success. A single Pact country failing to cooperate with Soviet plans might

World Wars. Thus, they see the possibility of a prolonged war growing out of an indecisive first strike, even using nuclear weapons at the start of a conflict. The Soviets seem to recognize that an enemy's theater nuclear-armed forces may be so secure as to withstand a surprise attack with few losses. Mobile or well concealed forces present major problems of targeting -- as with ground-based or sea-based cruise missiles -- and hence tend to make the planned results of a first strike by the Soviets unpredictable.

Because of these Soviet positions relative to nuclear weapons, the U.S. deployment of TLAM-N is not likely to be delayed, nor Soviet nuclear-armed cruise missile capabilities compromised, by arms control agreements. In the FY 1979 report of Defense Secretary Harold Brown, he talked about "limited nuclear options designed to destroy selectively a number of fixed military or industrial targets." This would indicate a U.S. belief similar to the Soviets that "nuclear" war can be limited and that the selective use of theater nuclear weapons would not necessarily escalate to a nuclear holocaust from which there can be no victors. In line with this selective use of weapons is the probability that nuclear weapons used against military objectives in Warsaw Pact countries other than the U.S.S.R. are likely to be tolerated by the Soviets, and not be considered a provocation calling for strategic nuclear response. The

nuclear forces, while adding to their theater nuclear capabilities, especially in so-called medium-range nuclear missile systems. The Soviets indicate an intent to use nuclear weapons in a war against the West, and to this end they have integrated nuclear warfare into all levels of Soviet planning, while deploying nuclear weapons throughout their forces and continually training for their use. They have undertaken an extensive modernization of their theater nuclear forces, while adding to their theater nuclear capabilities, especially in so-called medium-range nuclear missile systems. The Soviets also appear to regard an enemy's military assets as the first targets in a nuclear exchange. They also see the possibility of a prolonged nuclear war, indicating a belief that the use of nuclear weapons will not necessarily escalate to an all-out strategic nuclear exchange and that the war may be a prolonged one. Soviet military doctrine emphasizes the value of the offensive and the achievement of surprise -- both of which are enhanced by the use of nuclear weapons. The Soviets additionally stress the decisiveness which should result from a first strike -- the use of a massive and powerful "first salvo" at the initiation of a conflict. This is what their major military exercises appear to be designed for. But the Soviets are also good students of history and hence recognize that much can go wrong with the best laid plans. They remember the German offensives of both

A Soviet naval campaign, coincident with a land war, is also likely to see Soviet submarine operations from advance bases -- Cuba, Camranh Bay, Guinea, the Seychelles. To neutralize these bases, submarine launched TLAM-Cs offer the simplest and least-risk means, with TLAM-C armed small warships a second best and less satisfactory method, because the element of surprise would be considerably reduced. Deploying an attack carrier task force from sea areas where they are most critically needed to help defend the Central Front or important areas like the Norwegian Sea for such a sideshow would violate the economy of force principle of war and put such a surface fleet at relatively high risk because of the concentrations of covert enemy submarines they would face close to such bases.

Implications for Arms Control

George F. Will in the Washington Post of January 13, 1985, writes that arms agreements merely redirect competition toward uncontrolled areas of weaponry. With cruise missiles in mind, he said:

Today, certain weapons are apt to be unlimited because of verification difficulties. They are apt to be small because improved accuracy makes a large payload unnecessary for the destruction of many military targets. Being smaller and more mobile, they are hard to count and keep track of. But the qualities that make these weapons hard to control with verifiable arms agreements also make them hard to destroy with a disarming first strike.

Then he quotes Kenneth Adelman, Director of the Arms Control and Disarmament Agency, as saying that mobile ICBMs and cruise missiles may be less verifiable but more "stabilizing." They reduce the fear that in a crisis a nation must "use them or lose them."

It is significant that in going to Geneva in January 1985, the Soviets indicated that removal of U.S. cruise missiles from NATO European countries was no longer a requirement for arms control talks with the United States. Perhaps the Soviet leaders perceive this "stabilizing" effect, viewing in-country, ground-launched nuclear missiles as helping to insure a non-use of tactical nuclear weapons to oppose a conventional Soviet blitzkrieg attack in Central Europe. With less fear of losing their nuclear weapons if not preemptively used, NATO countries might be considered to be less likely to respond to reverses in the field by initiating nuclear response. In fact, so devastating to West European countries would be a theater nuclear war, and so convinced are many that use of the first nuclear weapon would necessarily escalate a war to an all-out nuclear one, that such medium range weapons like the GLCM are actually not a major concern for arms control.

What this suggests is that all medium range nuclear armed cruise missiles, including the sea based ones would best be put into the same account with ICBMs for arms control considerations. Since verification will play a

major role in arms control negotiations, those nuclear-armed cruise missiles that could not be monitored and deployed in ways that are subject to verification, might possibly be outlawed in a formal agreement. This might include the banning of nuclear Tomahawks from submarines, while allowing the employment of TLAM-Ns on surface ships. Or conversely, all Tomahawks carried by submarines could be considered nuclear ones. Surface ships carrying Tomahawks without nuclear warheads could be subject to periodic checks by the Soviets -- conducted by aircraft or ships with monitoring equipment.

It would appear that if GLCMs were banned from NATO countries, that alternative for a nuclear theater capability might then be to deploy them on surface ships as well as submarines. But with GLCMs in place, surface ships might better be free of the nuclear version of Tomahawk. Outlawing nuclear cruise missiles might seem like a possible option in arms control talks, but the great dependence which the Soviets place on their submarine-based cruise missiles, with or without nuclear warheads, would indicate that a banning of nuclear cruise missiles would lack Soviet support. It should be noted that limiting the range of the TLAM-C -- to 600 kilometers -- allays the fear that any Tomahawk approaching a homeland target would have to be treated as a nuclear one. Range limitations as presently observed allow the conventional Tomahawk an attack against coastal targets, at best.

Summary

U.S. land attack cruise missiles add a considerable deterrence and warfighting capability for a major war scenario involving the invasion of Central Europe by Warsaw Pact forces. Although ground-based missiles are now being deployed in West European countries in significant numbers, sea-based land attack cruise missiles will not have an impact on such a major war for several years from now.

The United States has decided that sea-based nuclear land attack Tomahawks are "good" for NATO commitment, and, hence, is not likely to deal them away in any arms control negotiations. Nor, are the Soviets likely to allow a severe limitation to their cruise missile capability at sea. European countries can evidently be brought around into accepting nuclear cruise missiles on their own territories -- even against considerable opposition. but the deployment of nuclear weapons is such a sensitive issue that accidents, such as the burn-up of the Pershing II's rocket motor a few weeks ago, renews a strident campaign by "the opposition" against host government approval of the INF deployment. ("It gives further reason to demand the immediate withdrawal of all atomic weapons from West Germany," said a Greens party spokesman.)

Despite such in-country attitudes slanted against nuclear missiles, many of the NATO countries could benefit

from the sea-basing of both conventional and nuclear land attack cruise missiles. The West Germans, in particular, with a submarine land attack Tomahawk capability deployed in the Baltic Sea, would provide an element of strike power which would greatly complicate Warsaw Pact invasion planning and significantly increase the risk taken by the Soviets in a blitzkrieg attack.

The land attack cruise missile is not a genie let out of a bottle, but rather a weapon to prevent nuclear war, or to control its escalation once war has started -- escalation either to the use of nuclear weapons, or to their continued "limited" use.

HORIZONTAL ESCALATION AND NATO STRATEGY:
A CONCEPTUAL OVERVIEW

by

Dr. William R. Van Cleave

HORIZONTAL ESCALATION AND NATO STRATEGY:
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This paper examines the concept of Horizontal Escalation (H.E. hereafter), with particular emphasis on its application to NATO strategy. This implies, of course, that there is a distinctive military strategy or option known as H.E., and that it has potential application to deterrence and defense for Western Europe. There are, however, two related but somewhat different aspects of H.E. as the term has often been used. One is selective response, and the other is the extension of armed conflict from one theater to another, or "war broadening." In either version, H.E. is meant to be an application of containment, both as a supplement to deterrence of Soviet aggression and as a possible response to it. The primary objective is to bolster deterrence and add to defensive capability for situations where deterrence through direct defense is inadequate or questionable. But H.E. is not an alternative to direct defense where vital interests are involved. This is a bit tricky. The discussion of H.E. arose in recent years principally in the context of a U.S. commitment to

defend the Persian Gulf as a vital U.S. interest when the United States lacked the capabilities for direct defense against a determined Soviet attack. Yet, for neither the Gulf, nor certainly for Western Europe, has H.E. been suggested as an alternative to direct defense, but rather as a supplement. Direct defense, then, should remain our first priority in strategy and in force planning. It may be, in certain circles, that the supplement is receiving more attention than the problems of direct defense, but, if so, that is more of a parochial distortion of the concept than it is a reflection of wise policy.

A strategy of H.E., whether the emphasis is on selective, or indirect, responses to enemy action, or on the extension of conflict from one theater to others, is an attempt to exploit one's own advantages (or to divert, or tie down, enemy forces; or to seek compensation for inevitable losses on the main front; or to exact additional costs for aggression; etc.). The concept is not new. It enjoys historical strategic respectability. Strategists from Sun Tzu to B. H. Liddell Hart have written of the disadvantages of direct or frontal responses that allow an enemy to choose time and place and to dictate the terms of warfare; and the advantages of outflanking an enemy by indirect, or selective, responses, including opening new arenas of combat. In concept, these are sound strategic principles.

Historically, the principles have been adapted both defensively and offensively, by a defender and by an aggressor, at the strategic level and at the operational or tactical level. H.E. offers a defensive power an opportunity to take the initiative in striking back at the enemy, opening new areas of combat and presenting the enemy with new challenges that may exploit its own particular weaknesses. At times, however, H.E. has also been the last resort of a weaker power, which is unable to defend its vital interests against direct attack. Whatever our interest in H.E. today, that situation must be avoided. We must never place ourselves in a situation where H.E. becomes an alternative to defense of vital or very important interests, for it cannot be such a substitute. Nor must we allow the pursuit of forces for H.E. take precedence over, or divert resources from, forces for direct defense of those interests. Professor Harold W. Rood has put H.E. in proper perspective:

It is the very essence of strategy to force one's enemy to defend that which he has no choice to defend in areas away from the principal theater of war, while one's own forces concentrate to achieve a decision in that theater of war where the outcome of battle will decide the war.¹

As an analogy for the latter, the principle of H.E., or selective response, is often applied to nonmilitary actions, or nonmilitary responses to military moves. U.S. response to the Soviet invasion of Afghanistan is an example. The United States had no deterrent to the

invasion, and certainly no defense against it; and the President judged that the United States also had no attractive military reply. Yet, the Administration did not wish to accept the act passively, or wish the Soviets to bear no penalty (however minor) for the aggression. An Olympic boycott, temporary grain "embargo," and diplomatic action to censure the Soviets were intended neither to change or improve the situation, nor to compensate for Soviet strategic gains, nor to be worthwhile deterrents to similar acts in the future. Military assistance to the Afghan freedom fighters, however modest, has been more effective and worth a lot more to the Afghans. But this does not mean that the selective responses were necessarily worthless -- although they were certainly acts of the weaker power in the situation.

The question for both the nonmilitary and the military application of H.E. is whether the United States is relying on H.E. as compensation for weakness, or is, in fact, exploiting its own strengths and advantages. The former is unsatisfactory; only the latter makes the strategic case for H.E.

The United States has in fact wrestled with H.E. in both of its versions for most of the period since World War II. The United States has sought effective strategies for containment that allowed it to exploit specific U.S. advantages -- nuclear weapons, air power, sea power -- especially to escape the burden of maintaining in peacetime

large levels of military manpower. Selectivity of means rather than a multiplication of means to match the strengths of an enemy seemed the key to a long-term policy of containment.

Background

The question of proper strategies and means to implement containment arose immediately in response to George Kennan's "X" article, "The Sources of Soviet Conduct," in the July 1947 issue of Foreign Affairs. It took on practical importance when the policy of containment was officially adopted at a time when the U.S. lacked the military means to support it effectively. The issue re-emerged in the 1950s after reaction to the Korean War led to a search for containment strategies that were less costly than the maintenance of large levels of globally stationed conventional forces. It appeared in a less clear form in the Nixon Doctrine for the same reasons. Finally, it has resurfaced with the Carter Doctrine's pronouncement of the Persian Gulf as another U.S. vital interest after a decade of declining American military strength.

It might be useful to review this background briefly because it may illuminate the concept and the issues involved.

Walter Lippmann first responded to the "X" article with a thoughtful series of articles, which were collected and published in a slim 1947 book, The Cold War: A Study in U.S. Foreign Policy.²

Lippmann began by endorsing Kennan's analysis of the Soviet threat and his argument for a policy of containment. ("I agree entirely that the Soviet power will expand unless it is prevented from expanding because it is confronted with power, primarily American power." p. 10). But he then took his departure from a strategic concept that ceded the Soviet Union the initiative and seemed to require the United States to meet Soviet challenges at times and places and with means chosen by the Soviets. He argued, as well, that the United States would not be able to maintain, over an indefinite period, the military establishment -- and the will -- necessary to such a strategy. (Parenthetically, he also dismissed as wishful thinking Kennan's notion that the Soviet regime, bearing "within itself the seed of its own decay," would in time collapse.) Lippmann wrote:

I believe, and shall argue, that the strategical conception and plan which Mr. X recommends is fundamentally unsound, and that it cannot be made to work, and that the attempt to make it work will cause us to squander our substance and our prestige. (p. 10)

Mr. Lippmann's rationale, set forth in the ensuing pages of the book, is a timeless and recognizable argument: The United States must employ the type of power it best has, at the place and in the manner most advantageous to the United States, and not allow the enemy to dictate the rules of engagement. Kennan's policy "commits the United States to confront the Russians with counterforce 'at every point' along the line, instead of those points which we have

selected because, there at those points, our kind of sea and air power can best be exerted." (p. 19). Moreover, such a strategy would require a far too costly military establishment. The United States should contain and should redress the military balance, but it must rely on the particular "genius of American military power . . . its mobility, its speed, its range, and its offensive strike force." (p. 20).

The same points are used today to support a policy of selective U.S. power. However, Mr. Lippmann neglected the realities and constraints imposed by areas of such vital interest to the United States that it has no choice but to attempt to defend them directly, and little alternative but to station U.S. forces in those areas to meet threats to them. Later alliances, especially NATO, have established those areas.

Mr. Lippmann's views, ironically, reappeared in the rationale for the Eisenhower "New Look" policy, and the so-called doctrine of "Massive Retaliation," which sought to hold down the costs of containment by emphasizing nuclear weapons over manpower and conventional forces. The policy was one that combined selective response with vertical or horizontal escalation.

Mr. Dulles' famous speech of January 12, 1954, before the Council on Foreign Relations actually set forth the doctrine of Selective Retaliation. Dulles argued, with Lippmannesque logic, that an aggressor should not be allowed

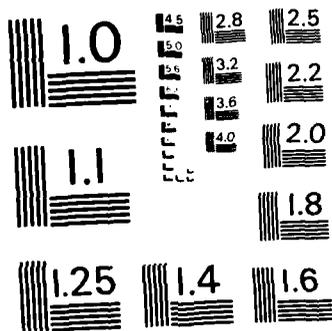
to prescribe the battle conditions that suit him: "The way to deter aggression is for the free community to be willing and able to respond vigorously at places and with means of its own choosing." If our policy was only to meet aggression by direct and local opposition, allowing the enemy to choose "time and place and method of warfare," we would always be at a costly disadvantage. We would have to maintain large forces across the entire conflict spectrum for every part of the world. It would be far wiser -- and less costly -- to plan our forces and responses selectively, according to our own strengths:

The basic decision was to depend primarily upon a great capacity to retaliate, instantly, by means and at places of our choosing . . . That permits . . . a selection of military means instead of a multiplication of means.

Such a strategy certainly made sense at the time because of U.S. nuclear superiority, and the overwhelming advantage it conferred, at least in extending deterrence to vital interests, or interests important enough to make nuclear threats credible at a time of such superiority.

H.E. in the Present Context

When the Reagan Administration took office in 1981, the U.S. military had experienced years of decline and atrophy. The Soviets had gained superiority in nuclear forces, strategic and theater, and the gap would continue to increase for years to come. This dampened both the threat



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

of vertical escalation for extended deterrence, and even the use of tactical nuclear weapons for direct defense. U.S. conventional land forces were no match for Soviet forces anywhere around the periphery of the Soviet Union. U.S. naval forces retained major advantages over Soviet naval forces, but Soviet power projection capabilities had significantly increased relative to American capabilities. Overall, U.S. general purpose forces were stretched very thinly, and had suffered a loss of overseas bases, logistics, and mobility.

At the same time, U.S. force requirements had grown. The Soviets and their proxies were posing threats and challenges to American interests at many new points, and increasing threats in the traditional areas of confrontation. Of particular relevance to the reemergence of the concept of H.E. was the Soviet invasion of Afghanistan, which was of crucial strategic importance to the Soviet encirclement of the Gulf, and which consequently increased manifestly the Soviet threat to the Gulf. This led to the Carter Doctrine, which made explicit the vital U.S. interest involved and U.S. determination to defend the Gulf. The means of direct defense did not exist, and even with the formation of the RDF -- and, later, CENTCOM -- it would be some years before a credible defensive capability could be developed -- hence, H.E. to bolster deterrence and expand U.S. response options.

The idea of H.E. was first officially suggested by the Carter Administration in the aftermath of the Carter Doctrine; specifically, in the FY 1982 Department of Defense Annual Report, issued by Secretary Brown the day before the inauguration of President Reagan. In the section dealing with non-NATO forces, discussing the RDF, the Report said:

Given such an ability on our part to meet them on the spot and our capability of shifting the geography of the conflict, the Soviets must consider the possibility that renewed aggression by them may lead to a much wider war, escalated both in intensity and geography.³

H.E. Under the Reagan Administration

Emphasis on H.E., however, occurred early in the Reagan Administration, first through fragmentary articles and newspaper accounts of a new conventional emphasis, and later in official public documents.⁴

During this period of time, there was much confusion surrounding the concept of H.E. or a "horizontal strategy." Early reports spoke of a new strategy that planned forces to fight simultaneous, intensive and even prolonged nonnuclear theater wars, against Soviet and other forces, on land and at sea. This seemed to many to be more of a way to generate very large conventional force -- especially naval -- requirements than an exercise in sound strategic thinking. Clearly, the United States had neither the forces, nor the available defense dollars, nor the bases, nor the allied support for such a strategy, even supposing the virtually

unthinkable: that the Soviets would engage in such warfare without going nuclear.

Other reports on the strategy emphasized selectivity of response to aggression over escalation, per se, and discussed ways and places the United States might attack vulnerable Soviet assets, presumably to raise the cost of Soviet aggression that could not be resisted directly. The goal of eventual direct defense was retained. The West should have forces capable of containing the Soviets, or their proxies, where aggression takes place, but at this time force capabilities did not promise much success. Hence, the United States would emphasize its option to strike back elsewhere, generally cited as non-Soviet targets such as Cuba, or Libya. In principle, this made some sense for the interim, even though such targets could hardly compensate for failure to defend vital interests such as the Persian Gulf. They seemed more relevant as responses to attacks on less than vital interests, and they were not mentioned in the context of NATO strategy.

One of the major risks of either version was that H.E. planning could divert attention away from the effort to develop capabilities to deter and defend directly -- H.E. because of a new emphasis on costly horizontally escalatory forces (probably at the expense of direct defense forces, and certainly at the expense of what should be the first priority: the nuclear force balance), and selective response because it might appear to be a cheap strategy and

become an excuse not to do more. H.E., then, at times implied "selective response," responding to challenges selectively to gain possible advantage, and at other times war-broadening, carrying military operations into other theaters.

For the former, it was difficult to imagine a selective response adequate or even relevant to the contingency of a Soviet assault on the Persian Gulf, much less on Western Europe. For the latter, it is difficult to imagine horizontal escalation without vertical escalation, and the turning of a regional conflict into general war. In neither case could H.E. substitute for direct defense; and in any case, once deterrence failed, there would be a major U.S. interest in controlling escalation, which might take precedence over horizontally escalating. That is particularly so given Soviet nuclear superiority, the vulnerability of critical U.S. forces to Soviet nuclear strikes, and the often reiterated Soviet willingness to use nuclear weapons when stakes are large enough.

Nonetheless, there was early emphasis on H.E. in the Reagan Administration, possibly because of the assumption of key positions by two of its advocates, Francis West and John Lehman. An earlier Navy study directed by West, Sea Plan 2000, advocated response to armed conflict in one theater by opening another front with naval forces elsewhere. John Lehman sounded a similar theme in a 1981 article in which he referred to a new strategy that contemplated conflict in "a

number of significant and widely separated regions -- probably simultaneously."⁵

These views were consistent with a Navy precept that major theater war with the USSR, particularly in Europe, would escalate horizontally into a global war with a heavy naval emphasis and contribution. As the CNO put it in 1979: "A basic premise of U.S. naval strategy is that a conflict between NATO and the Warsaw Pact, in all probability, will be worldwide in scope."⁶ By 1982, the Secretary of the Navy was taking this idea even further: "regionally limited naval war no longer existed." Any war at sea with the Soviets would be "instantaneously a global conflict."⁷ DOD-wide statements treated H.E. differently and more tentatively.

The first official Reagan Administration suggestion of deliberate H.E. as a policy emerged in February 1982 in the DOD Annual Report for FY 1983. It is important to emphasize for the purpose of this paper that H.E. was discussed only for non-NATO contingencies, and specifically in the context of the Persian Gulf:

For the region of the Persian Gulf, in particular, our strategy is based on the concept that the prospect of combat with the United States and other friendly forces, coupled with the prospect that we might carry the war to the other arenas, is the most effective deterrent to Soviet aggression. This strategy, thus, has two dimensions. First, we must have a capability rapidly to deploy enough force to hold key positions, . . . Second, this strategy recognizes that we have options for fighting on other fronts . . .⁸

Later, the Report declared that:

. . . even if the enemy attacked at only one place, we might choose not to restrict ourselves to meeting aggression on its own immediate front . . . A wartime strategy that confronts the enemy, were he to attack, with the risk of our counteroffensive against his vulnerable points strengthens deterrence and serves the defensive peacetime strategy."⁹

The Report then added something different: Such U.S. responses were not merely to increase the costs to the Soviets of aggression; they were to counter the attack and affect the outcome of the war:

Our counteroffensives should be directed at places where we can affect the outcome of the war. If it is to offset the enemy attack, it should be launched against territory or assets that are of an importance to him comparable to the ones he is attacking.¹⁰

In the context of Soviet attacks on the Persian Gulf, which is defined as a vital interest to the United States, this seems to imply strikes against vital Soviet strategic assets, including Soviet territory. For the hypothetical case of Western Europe (which is not addressed by that passage), it clearly would mean strikes against Soviet forces and territory since there are no other targets of comparable importance. This has long been NATO strategy -- Flexible Response includes escalation, even against the Soviet homeland, but with nuclear weapons. The above enunciation seems to imply, given the context, vertical escalation with conventional weapons for non-NATO contingencies. Except for the strict nonnuclear nature of

discussions of H.E., it might otherwise seem to refer to limited nuclear or regional nuclear options (LNOs, RNOs). In any case, H.E. becomes a war-widening strategy, the conversion of regional conflicts into global ones, including Soviet territory, rather than selective ripostes against isolated vulnerabilities in the far-flung Soviet Empire. This would certainly blur the distinction between horizontal and vertical escalation unless vertical escalation now refers only to the use of nuclear weapons, which would be a terrible mistake.¹¹

That these passages were not part of a consistent and integrated strategy seemed clear from the overall report, which elsewhere emphasized direct defense against "the particular threats" presented the U.S. interests in limiting the intensity and scope of conflicts should they occur.

If the confinement of H.E. to non-NATO contingencies and the FY 1984 and FY 1985 Annual Reports accurately reflect the Administration's current interest in H.E., this paper would seem to address a nontopic (except "conceptually"). The FY 1983 Report's passages on H.E. have been conspicuously dropped, and the objectives and policies described are contradictory to H.E. in most important respects.

The FY 1984 Report emphasizes strengthening forces for direct deterrence and defense, whether in Europe or Southwest Asia, and also emphasizes our interest in limiting -- not expanding -- conflict, even horizontally. "We must

defeat the attack," it declares, "while limiting -- to the extent possible and practicable -- the scope of the conflict."¹² This is repeated and reemphasized several times, e.g.:

In seeking to limit the scope of the conflict, our objective would be to deny enemy war aims in the theater in which the attack occurred.

Should deterrence fail, we must be able to halt the attack. In employing military force to restore the peace, the Reagan Administration seeks to limit the scope, duration, and intensity of conflict.¹³

The Report even recognizes what this concedes to the enemy: "He will have the choice of time, place, and method of attack."¹⁴

The United States must be prepared for H.E. and simultaneous theater conflicts, but not because of H.E. on our initiative, but rather in response to Soviet capabilities to conduct simultaneous campaigns mean "that war could spread to other regions."

Also, we must recognize that in a conventional war in a region like Southwest Asia, the geographical limits of combat cannot be taken for granted. For example, the requirements for maritime access to that region may well require us to respond to naval attacks not necessarily limited to the geographical boundaries of that theater.¹⁵

The FY 1985 Report, if anything, is even more emphatic in its implied rejection of H.E. as a U.S. strategy. Direct defense is emphasized for both Europe and Southwest Asia, and there is more emphasis on conflict limitation. We must accomplish defense against attacks

"while trying to limit the scope, duration, and intensity of a conflict."

In seeking to limit the scope of a conflict, we would seek to contain the conflict and deny the enemy his war aims . . . In seeking to limit the intensity of a conflict, we must be able to halt an attack and restore the peace by employing forces that do not require escalating the conflict to new dimensions of warfare.¹⁶

Again, however, we must be prepared for multitheater operations, because the Soviets might expand the war or begin it with multitheater aggression.

Where Does H.E. Stand Now?

Horizontal escalation of our conflict with the Soviet Union is taking place. Unfortunately, it is the Soviet Union that is escalating horizontally as it expands its military capabilities and influence and challenges the West globally. The Soviet Union has been practicing H.E. on land and at sea, in Southeast Asia and Southwest Asia, in encirclement of the Persian Gulf, in Africa, and in Central America. It is gaining strategic geographical position to outflank, interdict, and make more difficult U.S. defense of its global interests. As the FY 1984 Annual Report summarized:

. . . The gradual shift in the global military balance in favor of the Soviet Union has facilitated, and helped to consolidate, the geographic expansion of Soviet influence and presence in many regions of the world. This expansion of Soviet dominion, in turn, has further strengthened Soviet military power and

influence. Because these two fundamental trends are mutually reinforcing, our response is all the more difficult and more urgent. For example, the Soviets' increased ability to project power at a distance made easier their expansion into Afghanistan, South Yemen, and Ethiopia. This, in turn, has provided them with bases and ports strategically located near the world's major routes and mineral and energy resources.

Hence, the United States and its allies have no choice but to escalate horizontally also in order to meet the threat. Our basic policy and objective may be containment but we have not been notably successful. We have failed in too many important sectors to prevent the expansion of Soviet military capabilities, pressure, and influence. A major, renewed effort is necessary before the losses escalate and touch on vital centers.

U.S. strategic planning should always generate, explore, and retain options for indirect responses to enemy action, as well as for extending operations to other dimensions when there is an advantage to be gained. U.S. forces should have the capability to meet requirements of H.E. as imposed on them by wartime operations. And they should be capable of initiating conflict elsewhere to challenge the Soviets in other sectors, or to exploit Soviet weaknesses.

Conceptually, both the attractiveness and the drawbacks of H.E. have been touched upon in the discussion above, and they are addressed and developed in many articles over the past two to three years. Except to the extent that H.E. is a likely development of any major theater war

between the United States and the Soviet Union -- particularly a NATO-Warsaw Pact theater war, which the Soviets may see as a general war against U.S. forces world wide -- and to the extent that, in one form or another, H.E. always remains an option, it seems to have been dropped by the United States as a strategy. And it seems apparent that there are sound reasons for doing so. Without trying to be comprehensive, let me touch upon a few of them conceptually and relate the discussion to NATO.

First, however, where does the H.E. concept stand today, in practice, and in relation to NATO?

It may be that H.E. is a matter of semantics, and a fancy label for what may be normal operations connected to a major theater war. In a sense, both H.E. and vertical escalation have always been a part of NATO strategy. No one believes that a war in Europe would be confined to land and to the Central Front. It would most likely encompass the Flanks, the seas surrounding them, and the SLOC between the United States and the European theater. It would include offensive as well as defensive operations for naval, as well as ground and air forces. The longer the duration of the war, the wider the theater and the greater the role of seapower. The shorter the war, the smaller the role of the navy, for it takes a while for sea power to make a significant contribution. But all in all, there is an element of H.E. built into NATO strategy.

But is this all there is to the concept and the strategy? It is not, for the Navy envisages, or implies, something quite distinctive by H.E.

On one level, H.E. is now largely -- perhaps exclusively -- a U.S. Navy concept tightly linked to the development and rationalization of force requirements. Horizontal geographical escalation equals horizontal naval force escalation. In other words, the H.E. concept may be more relevant to interservice competition for funds and priorities.

According to the Navy view of H.E. and NATO strategy, or war-at-sea H.E., the Navy can make a strategic difference and affect the outcome of a NATO-Warsaw Pact war by major sea operations against the Soviet Navy, including Soviet SSBNs. The Navy would be, in effect, carrying the war to the Soviets, going after the Soviet Navy in its own waters, bastions, or even ports, as contrasted with merely defending NATO SLOCs and containing the Soviet Navy (e.g., above the GIUK line). If this strategy did not materially affect the outcome of the land-air war, it would certainly alter, so the Navy argues, the postwar balance of power in favor of the West, shifting the strategic nuclear balance and leaving the West in nearly uncontested control of the seas. Yet, the scenario necessary to such a strategy must be so stringently defined that, it would seem, the starting question was not so much: How can we strengthen deterrence, and failing that, successfully defend in Europe (or vital

interests elsewhere)? But rather it was: How can the USN make a strategic difference? How can the USN -- not the strategic nuclear component, but the "regular" navy -- be an important strategic factor in a European theater war other than in the more modest way of defending the North Atlantic SLOC and securing the Mediterranean?

What are the stringently defined conditions of an H.E. scenario? Two vital conditions to such a scenario are:

(1) Protracted land combat, essentially a stalemate, where NATO defenses have been highly successful so that the war is so drawn out that the described Naval operations can be an important factor. Clearly the war must last a fairly long time before sea power can have any impact on the land warfare.

(2) The war is essentially nonnuclear. The Soviets refrain from the use of nuclear weapons on land and at sea, foregoing their nuclear advantage and ignoring the severe nuclear vulnerability of NATO's main land, air, and sea forces.

The scenario, in other words, is part of a prevailing inclination within the Department of Defense strictly to separate two types of war for planning purposes:

(1) Nuclear and conventional warfare.

(2) Short and long wars.

According to the first separation, war between the United States and the USSR would remain nonnuclear. The Soviets -- even in the event of a horizontally escalating

theater war -- would seek to avoid nuclear use as long as the United States did. Or to put it another way, the Soviets would make the staggering decision to launch an all-out assault on Western Europe, and would refrain from using the very weapons that would literally assure victory from the start, leaving the choice of arms up to the United States. Twenty years ago Bernard Brodie had a pithy comment on such a notion:

. . . It is one thing to exhort our allies to see that their contribution of forces maintain reasonable standards of efficiency which certainly ought not to exclude a major capability for conventional operations. It is quite another to invoke fantasies of great modern armies locked in desperate combat in Europe with no nuclear warheads going off. The one attitude invites credit for political sense as well as for strategic thinking; the other merely discredits us in both respects.¹⁷

This assumption is necessary, presently, not only to support the protracted theater combat proposition, but to keep the war at sea nonnuclear. It is the Navy's view that the Soviets will not use nuclear weapons in a war at sea as long as nuclear weapons are not being used in land combat. Hence, for the Navy's H.E. strategy to work, the Soviets must not employ nuclear weapons against our main naval forces at sea, so they must also refrain from nuclear use on land. Neat!

The second separation, between short and long war, with a new emphasis on longer wars, is in part a healthy correction to previous over-emphasis on short wars and in part -- as noted -- a necessary precondition for a

significant naval contribution. Unfortunately, the forces and balances today do not adequately support a prolonged European war scenario; nor does Soviet doctrine. If prolonged war is to be a realistic scenario, the West must first do two things: Change the nuclear balance at the strategic and theater levels so that manifestly there is no advantage to the Soviets from nuclear attacks; and build a more effective direct defense. Paradoxically, success in achieving those two objectives may make prolonged war a more realistic scenario, but it would also make long war, or short war, far less likely, for deterrence of any Soviet attack would be profoundly strengthened.

In sum, expansion may be an unavoidable consequence of a war in Europe, whether to Western advantage or not. Both horizontal and vertical escalation are components of our NATO strategy today -- although not exactly the Navy's version of H.E. as described. Certain conceptual aspects of H.E. complement NATO strategy and others are troublesome in terms of that strategy. The former include offensive operations at sea and on the Flanks against major Soviet forces and the tight coupling of U.S. and Allied forces and strategic objectives. H.E. bears resemblance to vertical escalation in its proposal to attack Soviet strategic forces and Soviet territory. Also H.E. is not posed as an alternative to direct, forward defense in Europe, but as a complement to it.

As to the latter -- the troublesome aspects -- there are several. H.E. seeks to keep the conflict nonnuclear. The Navy version requires it. As a strategy, it seems very close to a de facto no-first-use pledge, which certainly contravenes NATO strategy. To the Europeans it may seem that H.E. is a substitute for vertical escalation by the United States. NATO strategy absolutely depends upon both the willingness of the United States to use nuclear weapons, if necessary, to defend Europe and the willingness, if necessary, to escalate vertically.

On the other hand, there are general conceptual problems as well. Principal among these is the reality of the scenario and conditions described. These seem to be highly unlikely. The actions proposed by H.E., in line with the view of the Secretary of the Navy that any war at sea with the Soviets will be general war geographically, make H.E. almost synonymous with general war. Perhaps war in Europe and general war will be inseparable, either by Soviet choice or willy-nilly (in which case H.E. is tautological), but it would surely be nuclear, and given the present nuclear balance surely it would not be in U.S. interests to initiate such a war.

H.E. depends upon finding areas in which it is to U.S. advantage to expand the war, which bear importantly on the outcome of the war, and which do not detract from overall U.S. strategic objectives. The last include deterrence of the war in the first place, and control and limitation of the war in the second place.

The problem here, of course, is that given the existing nuclear balance no escalating strategy, vertical or horizontal, is very satisfactory. The greater the H.E., the more threatening strategically to Soviet vital interests, the more it is indistinguishable from major vertical escalation, and therefore the more it invites Soviet vertical escalation, even preemptively -- and at a time when the Soviets enjoy escalation dominance through nuclear superiority. H.E. seems less likely to rescue a regional or theater war than to invite the Soviet Union to attack U.S. naval and strategic forces with nuclear weapons.

It is one thing to threaten selective horizontal or vertical escalation when the United States holds the nuclear balance (as in the 1950s). It is very different to propose the same strategy when, as the FY 1984 Report acknowledges, the "Soviet buildup has changed all this . . . The Soviets have acquired a margin of nuclear superiority in most important categories, while still maintaining superiority in their conventional forces."¹⁸

What this strongly suggests is that there are -- once again -- two overriding priorities for military planning: Fix the nuclear balance (including, as the first priority, erasing or significantly reducing the glaring and dangerous vulnerabilities in our nuclear deterrent forces, SNF and TNF alike), and simultaneously work very hard on direct defense and objective denial.

Conclusion

Perhaps the two principal points being made here are that there are strategic and force priorities that should take precedence over H.E., and H.E. itself fails because it does not come to grips with the nuclear factor -- indeed, it seems to attempt to ignore it.

Conceptually, it may be possible to exclude the nuclear factor, although it would be profoundly wrong to do so. In policy, it is impossible. The nuclear balance is bound to overshadow all conflicts between the United States and the Soviet Union, and even all uses of military force by the United States when there is confrontation with the Soviet Union. The adverse nuclear balance in effect reduces the effectiveness of our nonnuclear forces. As the recent report by the Committee on the Present Danger concludes:

[Our] continued emphasis on strategic nuclear forces is based on the recognition that a nuclear imbalance magnifies the deficiencies and imbalance in U.S. general purpose forces. Allowing the Soviet Union to maintain dominance at the nuclear level not only undermines the credibility of the U.S. nuclear deterrent, but also erodes the deterrent effect of U.S. conventional forces. Failure to redress the nuclear imbalance could make the Soviets feel free to challenge the West at nonnuclear levels of conflict -- as they are doing -- confident in their ability to threaten nuclear escalation.¹⁹

That does not imply that we should be dissuaded from using military force in such confrontations, or against Soviet forces. By no means: We cannot allow the nuclear factor to paralyze our will and our actions in defense of

our interests. There is no risk-free military strategy or action. But the existing nuclear balance will have a dampening effect on escalatory moves, especially against high-value Soviet military targets or targets on the territory of the Soviet Union. (Such targets may also have associated nuclear components).

Moreover, it is impossible to exclude the possibility of Soviet nuclear initiatives, which are undoubtedly more probable as the stakes become higher. The Soviets have worked very hard to acquire nuclear superiority, to put Western nuclear forces at risk, and to fashion a nuclear warfighting capability and the doctrine to go along with it. It is not unreasonable to conclude from all of the evidence that the Soviets are preparing for nuclear war. It may not take much H.E. to tempt the Soviets to exploit their advantages (and U.S. nuclear vulnerabilities) to solve the strategic problem once and for all.

Before concluding let me shift the discussion a bit and address the question: Is there any role for H.E. as a general strategic principle, as opposed to the particular U.S. Navy/NATO version?

The United States should be prepared for conflict in every theater -- ideally with forces for that theater so that forces critical to other theaters need not be drawn down, thereby creating new vulnerabilities. This will not always be the case; certainly it is not now. Consequently, the United States may find it necessary or expedient to

respond elsewhere. However, since vital interests must be defended directly, and since there is no compensation for their loss through striking elsewhere, perhaps H.E., or selective responses away from the area of initial conflict, might be more appropriate to attacks on somewhat less than vital interests. Since the cumulative effect of a number of such attacks, or losses, might become strategically vital, the United States should seek ways to strengthen deterrence against them. Direct defense may be difficult for many reasons, not the least of which is that we are not prepared for timely defense at all times and places and some losses may occur as faits accomplis. Moreover, we suffer disadvantages, and have been suffering uncompensated losses, from the Soviet ability to project power and change political situations by surrogate or proxy forces, by sustained low-intensity means, by terrorism, and by more or less covert actions. We should have a better way to increase the costs of such actions, and to gain compensation, when we cannot defeat them.

U.S. willingness to exact retribution elsewhere, to seize compensatory political-strategic gains, may strengthen deterrence against such acts, and may be strategically useful if carried out. In other words, perhaps H.E. has a role in what Herman Kahn long ago termed "Type III Deterrence," as distinguished from Type I (direct attacks on the United States) and Type II (direct attacks on other vital U.S. interests).²⁰

One of the problems with this formulation is that essentially every example that comes to mind appears to be something the United States should be doing anyway (actions of various forceful types against Cuba, Nicaragua, Libya, Syria, Angola). On the other hand, a Type III deterrent policy of H.E./Selective Response may give us the additional reason necessary to carry out such actions when the Soviets misbehave.

As others have argued,²¹ we are in the midst of the Third World War now, and so far have done little more than act defensively and absorb losses and Soviet gains as they occur. Containment, as Lippmann predicted, is being eroded. Perhaps a strategy of H.E. applied not to a Soviet military assault on Western Europe, but to the lesser but more ordinary aggressions of the Soviet Union and its proxies would revitalize containment, add U.S. initiative to it, and make sense.

That, of course, requires more will and nerve than we have exhibited in many years. It will be most difficult politically, given the recent mood in Congress and the trend since the War Powers Resolution toward more and more restraints of the Executive's ability to use military force in the service of national interest. As a matter of fact, in practice, Defense Secretary Weinberger's six conditions for the use of military force virtually preclude the suggested strategy -- as well as almost any use of American military force if taken literally. So the subject is raised mostly in the spirit of the assigned topic -- a conceptual overview.

FOOTNOTES

1. Harold W. Rood, Kingdoms of the Blind (Durham, N.C.: Carolina Academic Press, 1980), p. 107. Emphasis added..
2. Walter Lippmann, The Cold War: A Study in U.S. Foreign Policy (New York: Harper & Row, 1947)
3. Department of Defense, Annual Report, FY 1982, January 19, 1981, p. 83.
4. Press reports, purporting to be "leaks" of such a strategy initially, and then exegeses of partial official statements, included articles by George C. Wilson in the Washington Post (e.g., "U.S. May Hit Soviet Outposts in Event of Oil Cutoff," July 17, 1981; "U.S. Defense Paper Cites Gap Between Rhetoric, Intentions," May 27, 1982), and various New York Times reports.
5. John Lehman, "Rebirth of a U.S. Naval Strategy," Strategic Review, IX, 3 (Summer, 1981), p. 14.
6. Admiral Thomas Hayward, Hearings, DOD Appropriations for 1980, February 13, 1979, Part 2, Committee on Appropriations, House of Representatives, 96th Congress, 1st Session, p. 22.
7. Statement by the Honorable John F. Lehman, Jr., before the House Armed Services Committee on Department of the Navy Posture, February 8, 1982, p. 6. (The Hayward and Lehman Congressional statements were provided the author by Mr. Jan Breemer, currently a Ph.D. candidate at the University of Southern California).
8. Department of Defense Annual Report, FY 1983, February 8, 1982, I-14. Emphasis added.
9. Ibid. I-16.
10. Ibid. I-16. Emphasis added.
11. Because the defensive use of tactical nuclear weapons, e.g., against a Soviet assault on Western Europe, ought not to be regarded as "escalation" while attacks against major targets in the Soviet homeland, whatever the weapons, should be.

12. Department of Defense Annual Report to the Congress, FY 1984, p. 32.
13. Ibid. p. 35. Emphasis added.
14. Ibid. p. 33.
15. Ibid. p. 35. Emphasis added.
16. Department of Defense Annual Report to the Congress, FY 1985, February 1, 1984, p. 38.
17. Bernard Brodie, "What Price Conventional Capabilities in Europe?", The Reporter, May 23, 1963.
18. Department of Defense, Annual Report, FY 1984, p. 34.
19. "The Military Balance," Can America Catch Up?: The U.S.-Soviet Military Balance, Committee on the Present Danger, 1984, p. 14.
20. Herman Kahn, Thinking About the Unthinkable (New York: Horizon Press, 1962) Chapter 4.
21. E.g., Brian Crozier, Strategy of Survival, 1977; Richard Nixon, The Real War, 1980; Norman Podhoretz, The Present Danger, 1980; and the Committee on the Present Danger in various collective statements and reports.

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