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NATO DETERRENCE AND DEFENSE
AFTER THE INF TREATY

by

STEPHEN A. GARRETT

21 JUNE 1989

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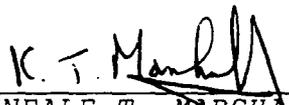
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land-based short-range nuclear forces (SNF), such as the Lance missile, is also seen by many as critical to the maintenance of Alliance security in the aftermath of INF. Here too, however, a number of problems remain to be resolved. It seems likely that the debate over NATO's security options in the coming years will be as complex and contentious as any that faced the Alliance since 1949. At the same time, there is no reason to suggest that the will of the NATO members to maintain their freedom and independence has lessened or that the prospects for successful WTO aggression are measurably greater after the INF treaty than before its ratification.

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NATO DETERRENCE AND DEFENSE

AFTER THE INF TREATY

by

Stephen A. Garrett

ABSTRACT

NATO Deterrence and Defense After the INF Treaty

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The treaty between the Soviet Union and the United States eliminating a whole class of intermediate-range nuclear forces (INF) in Europe raises a number of questions about NATO's future ability to deter Warsaw Pact aggression. Future choices on Alliance strategy and doctrine will be influenced by a variety of factors, including the image of "new thinking" in Soviet security policy enunciated by General Secretary Gorbachev, changing West European opinion toward the use of nuclear weapons for NATO deterrence, the complications inherent in further nuclear and conventional arms control negotiations, assessments of the current conventional arms balance in Europe, and ongoing questions about NATO cohesion as well as the continued "coupling" of American security with that of her European allies. In the post-INF environment it may well be that U.S. Navy nuclear assets will assume an increasingly important role, particularly the Tomahawk Land Attack Missile/Nuclear (TLAM/N). The TLAM/N has many attractive attributes that can be supportive of NATO deterrence of the WTO, but there are also a number of unresolved questions to be addressed concerning this particular weapons system. Modernization of NATO's land-based short-range nuclear forces (SNF), such as the Lance missile, is also seen by many as critical to the maintenance of Alliance security in the aftermath of INF. Here too, however, a number of problems remain to be resolved. It seems likely that the debate over NATO's security options in the coming years will be as complex and contentious as any that faced the Alliance since 1949. At the same time, there is no reason to suggest that the will of the NATO members to maintain their freedom and independence has lessened or that the prospects for successful WTO aggression are measurably greater after the INF treaty than before its ratification.

INTRODUCTION

On December 8, 1987, President Ronald Reagan and General Secretary Mikhail Gorbachev signed the Intermediate Nuclear Forces (INF) Treaty eliminating all U.S. and Soviet intermediate- and shorter-range ground-launched ballistic and cruise-missile systems. Some six months later the President and the General Secretary at the Moscow summit exchanged instruments of ratification of the INF Treaty, whereupon the agreement formally entered into force.¹ Clearly a major milestone in Soviet-American, and more broadly East-West, relations had been achieved. The subject to be addressed in the following analysis is the likely impact of the INF accord on the future military and political functioning of the NATO alliance. In particular, how may the treaty impact on NATO's continued ability to deter possible Warsaw Treaty Organization (WTO) aggression against Western Europe?

A summary of the treaty's provisions is in order at this point. At the heart of the agreement was the elimination within three years of all U.S. and Soviet ground-launched ballistic and cruise missiles with ranges between 500 and 5500 kilometers. Moreover, missile support facilities are to be eliminated and INF missile production and flight testing banned. Under the INF treaty the Soviet Union will be required to dismantle some 857 deployed missiles of

¹United States Department of State, THE MOSCOW SUMMIT. Selected Documents No. 28 (Washington: GPO, August, 1988). For the full text of the INF treaty, see MESSAGE FROM THE PRESIDENT OF THE UNITED STATES, Treaty Document 100-11, One hundredth Congress, Second Session, January 25, 1988.

various types (notably 405 SS-20's) with 1667 warheads. The United States will have to eliminate 429 missiles with the same number of warheads. Thus the agreement calls for an asymmetrical reduction of Soviet INF assets compared to American on the order of about four to one.¹

The fact of asymmetry in force reductions in the INF treaty may prove to be one of the most important precedents established by the agreement. The position of Western arms control negotiators is likely to be strengthened by this Soviet acceptance of the principle of asymmetrical reductions, especially in the current talks on START as well as the Conventional Forces in Europe (CFE) negotiations. In both cases, Western concerns about large Soviet leads in missile throw-weight and in conventional assets such as tanks and artillery make an acceptance of asymmetrical reductions virtually a necessity if agreements in either or both of these areas are to be achieved.

Another important precedent established by the INF treaty is the establishment of an unprecedented regime of quite intrusive on-site inspection, detailed data exchanges and other verification measures. Certainly exchanges of baseline data on various weapons systems will be crucial to the successful resolution of either START or conventional force reductions talks. On-site inspection to monitor the destruction of systems to be eliminated, as well as

¹Lewis Dunn, "Considerations after the INF Treaty," SURVIVAL (May-June 1988), 196.

human and technical inspection of future production of items limited by treaty will also be critical as verification measures.¹

Having summarized the essentials of the INF treaty, the principal question to be considered is how the treaty impacts on NATO's defense capabilities for good or ill. Ratification of the treaty, as noted, will require the U.S. and the USSR to achieve a substantial reduction in numbers of LRINF and SRINF missiles. It is likely that other U.S. and allied and nuclear and conventional forces will be called upon to assume a greater role in deterring Warsaw Pact aggression. Our research here will address the potential contributions of the Tomahawk Land Attack Missile/Nuclear (TLAM/N) and other Navy nuclear forces as well as the nuclear and conventional forces of other NATO members. Potential strategy, doctrine and policy impacts that could attend a shift in NATO strategy will also be addressed.²

In considering these matters we are confronted with something of a paradox. In the sometimes contentious process of achieving ratification of the treaty in the United States Senate, leading military and civilian spokesman for the Reagan Administration stressed that the INF accord would have no deleterious effects (at least in the short run on Alliance capabilities for deterrence of the WTO. Thus SACEUR General John Galvin, in urging ratification of the treaty, denied that the "double-

¹Ibid., 198.

²This statement of research goals in this paper is based on the official tasking assigned to this author by the Defense Nuclear Agency for the project entitled "Nuclear Assessments," of which the present essay represents one part.

zero" provisions of the accord (eliminating all Soviet and American weapons of a certain class in Europe) made him "uncomfortable." As Galving put it, "I can still carry out my mission, which is to deter war and, if that fails to defend the land mass of Europe. In the same vein, Secretary of State George Shultz asserted that the INF agreement represented "an outcome which NATO has long sought. . . ." It reduces the threat to NATO and enhances the security of the alliance.

At the same time as these optimistic assessments of the Treaty's effects were being offered, however, virtually all the supporters of ratification also coupled their upbeat assessment with a cautionary note that what were generally called "compensatory measures" had to be pursued in order to blunt any possible future negative consequences of Washington's signing of the accord. General Gavin thus stated that there was "an element of risk from which the alliance must not suffer", i.e., this risk could be set aside if appropriate compensatory measures were taken. Mr. Schultz was asked about this seeming paradox: if the treaty was so good for NATO, why the necessity of such measures? In response, the Secretary indicated his dislike for the term "compensatory measures", saying that actually the measures referred to were already in the process of being implemented and represented a long-standing NATO decision to modernize various aspects of its nuclear and conventional arsenal (the Montebello Conference in 1983

providing for the former and the CDI (conventional defense improvements) plan of 1985 for the latter).¹

There certainly was a logic to Mr. Schultz's response, but at the same time his answer disguised a fundamental dilemma: suppose that all the measures of modernization agreed to at, for example, Montebello were not implemented (e.g., the upgrading of NATO short-range nuclear forces such as the Lance). Given a number of political factors to be addressed below, such an outcome seems well within the realm of possibility. In such a circumstance would the impact of the INF treaty on NATO's security posture have to be re-evaluated, and possibly assessed in a far more negative fashion? This is one of the issues that will receive considerable attention in what follows of this analysis.

The focus of our discussion will basically be on the nuclear component of NATO modernization efforts, on alternative measures to supply nuclear assets to NATO defense planners, in effect (if not in theory) as at least a partial reaction to the changed security situation in Europe occasioned by the INF treaty. Some attention will be given to conventional force structures here to the degree that they influence judgments on nuclear force planning but limitations of space prevent a systematic consideration of this very important matter. Finally, the emphasis here--again for reasons of limited space--will be largely on the American contribution to NATO's nuclear assets and strategy.

¹Ibid., 452-453.

A number of new American nuclear deployments in Europe or offshore have been suggested as one way in which to adjust for the forthcoming elimination of Pershing-II and GLCM assets under the INF treaty. These include: 1) The positioning, and possibly formal assignment of, additional nuclear sea-launched cruise missiles (SLCM's) on both U.S. Navy submarine and surface ships to NATO defense; 2) Creating a NATO force of surface ships with nuclear cruise missiles; 3) Increasing the number of dual-capable aircraft in Europe; 4) Deploying additional nuclear-capable F-111 aircraft to the United Kingdom; 5) Deploying aircraft with nuclear air-launched cruise missiles (ALCM's) within Europe; and 6) Deploying B-52G bombers with ALCM's in Europe.¹

As will be discussed, some of these remain only in the speculative stage, whereas others are actually in the process of being implemented. Whether these measures remain only a possibility or are now a reality, however, they both are impacted by a host of inter-locking political-military challenges and controversies that are part of the broader strategic environment of NATO after the INF treaty. In the discussion which follows we will attempt to sort out the relevant factors in this environment and how they may condition choices on specific weapons systems and, more broadly, NATO doctrine, strategy and policy direction.

¹Dunn, "Considerations after the INF Treaty," 207; John D. Morrocco, "Allies Weigh New Deployments to Offset Proposed INF Cuts," AVIATION WEEK AND SPACE TECHNOLOGY (May 18, 1987).

I.

THE DUAL-TRACK DECISION REVISITED

Any assessment of NATO's security options following ratification of the INF accords has to begin with an evaluation of the original December, 1979 "dual-track" decision by NATO members to upgrade their INF capabilities by the introduction of the Pershing II and Ground Launched Cruise Missile (GLCM) into the NATO arsenal (the other "track" being a continued effort to achieve an arms control agreement with the Soviet Union that would limit INF systems in Europe). The overall rationale for this decision was tied to the threat posed by the steady development of the Soviet's own INF capabilities, in particular the MIRV'd SS-20. Although Moscow claimed that that the SS-20 basically represented only an upgrade of the older SS-4 and SS-5 systems, the prevailing NATO view was that the SS-20 in fact represented a qualitative change in the theater nuclear balance in Europe.¹ Hence the necessity for some sort of NATO response if the nuclear component of European deterrence was to remain credible.

It is important to recall that the main initial impetus leading to the December, 1979 decision came not from the United States but

¹For a review of basic elements in Soviet INF strategy predating the December, 1979 NATO decision, see Stephen M. Meyer, SOVIET THEATRE NUCLEAR FORCES: PART I: DEVELOPMENT OF DOCTRINE AND OBJECTIVES. Adelphi Paper No. 187 (London: International Institute for Strategic Studies, 1983/1984).

from her European partners in NATO, and in particular Chancellor Helmut Schmidt of West Germany. In a major address to the International Institute for Strategic Studies in London in October, 1977, Schmidt argued that "changed strategic conditions confront us with new problems." He referred in particular to the rough parity in central strategic nuclear systems that he saw as existing between the United States and the Soviet Union, which called into question the traditional American commitment to use such systems if necessary in the defense of Europe. Given strategic nuclear parity between the superpowers, as well as the Soviet upgrade of its INF assets, it was important to consider a rectification of "the disparities of military power in Europe."¹ Important American officials such as American National Security Adviser Zbigniew Brzezinski, on the other hand, believed at the time that there was really no pressing military need for a NATO INF upgrade although Washington would consider proceeding with such if it would meet European concerns.²

The Pershing-II and GLCM As Weapons Systems

When examined in detail, the introduction of the Pershing II's and the GLCM's was on the other hand a decision clouded in

¹Helmut Schmidt, "The 1977 Alastair Buchan Memorial Lecture," SURVIVAL 20 (1978).

²Zbigniew Brzezinski, POWER AND PRINCIPLE (New York: Farrar, Straus, and Giroux, 1983), 294, 307-308. Secretary of State Cyrus Vance held roughly similar views. See Congressional Research Service, THE MODERNIZATION OF NATO'S LONG-RANGE THEATER NUCLEAR FORCES (Washington: GPO, 1981), 19.

considerable ambiguity. An initial summary of the technical characteristics of these systems is necessary in sorting out the elements of this ambiguity. The GLCM component of the package, the Tomahawk, had a range of about 3000 kilometers, and could maneuver on its way to the target (although this reduced somewhat its operational range).¹ A key characteristic of the Tomahawk was that it flew at sub-sonic speeds, on the order of about 550 miles per hour. This placed targets in the Soviet Union about one to three hours away from basing sites in Western Europe, which meant that the Tomahawk was hardly suitable for strikes against time-urgent targets such as missile silos and C³ facilities. On the other hand, its relatively small radar cross-section and its ability to fly low to the earth under Soviet radar made it relatively impervious to Soviet air defenses.² The original decision to employ the Tomahawk in Western Europe envisaged a total of some 464 of these missiles, based in five different NATO countries: Italy, Great Britain, Belgium, the Netherlands and West Germany.

The Pershing II, unlike the Tomahawk, was a ballistic missile, an improved version of the Pershing 1-A already deployed in West Germany. It was characterised especially by its greatly increased range compared to the Pershing I-A (almost twice that enjoyed by

¹U.S., Department of Defense, The FY 1981 DEPARTMENT OF DEFENSE PROGRAM FOR RESEARCH, DEVELOPMENT AND ACQUISITION (Washington: GPO, 1980, John Toomay, "Technical Characteristics," in Richard C. Betts, ed., CRUISE MISSILES: TECHNOLOGY, STRATEGY, POLITICS (Washington: The Brookings Institution, 1981), 36-41.

²David Hobbs, CRUISE MISSILES: FACTS AND ISSUES (ABERDEEN: CENTRE FOR Defence Studies, 1982), 20.

the earlier system) and its pinpoint accuracy. Its range was estimated to be about 1800 kilometers, which meant that from bases in West Germany it could reach just short of Moscow. Its flight time for such a mission was from ten to fourteen minutes, which meant that it was suitable, unlike the Tomahawk, for attacking time-urgent targets.¹ The 108 Pershing II's decided on in the December, 1979 decision were to be based at three sites in West Germany.

b

Rationales for the INF Upgrade

The ambiguity referred to earlier concerning the deployment of the new NATO INF systems consisted in part of questions about their specific military utility but even more about their overall contribution to the deterrence of Warsaw Pact aggression. On the first point, it was evident that the targets that the new missiles could potentially attack were already largely covered by existing NATO assets, including aircraft of various NATO powers, American SLBM warheads assigned to NATO, and U.S.-based central strategic systems. The Deputy Under Secretary for Defense under the Carter Administration frankly admitted in this context that "requirements for theater nuclear force modernization is not principally an issue of hitting new targets."² One response to this observation was that

¹Kevin N. Lewis, "Intermediate-Range Nuclear Weapons," SCIENTIFIC AMERICAN 243 (December, 1980), 64; U.S., Congress house of Representatives, Committee on Appropriations, DEPARTMENT OF DEFENSE.

²Cited in William Arkin, "Pershing II and U.S. Nuclear Strategy," BULLETIN OF THE ATOMIC SCIENTISTS 39 (June-July, 1983), 12.

the new systems were more effective than those already extant for hitting certain classes of WTO targets, including C³ (the Pershing II) and different types of troop and tank concentrations as well as enemy airfields (the Tomahawk). Moreover, using GLCM's in a European conflict might free other NATO dual-capable aircraft for conventional roles and missions. Moreover, the fact that both the Pershing II and the Tomahawk were designed as mobile systems presumably would complicate WTO hopes of eliminating this particular threat, especially if NATO commanders had sufficient warning to disperse the TEL's away from their basing sites.¹

On balance, however, the mere introduction of 572 new warheads on the Pershing II and the Tomahawk into the European theater could hardly be regarded as constituting a decisive change in the operational INF balance between NATO and the Warsaw Pact. In actuality, the prime rationale for the December, 1979 decision had to do far more with the supposed requirements of deterrence than of defense. A variety of separate, though not necessarily mutually contradictory, missions for the new missiles were offered in this regard.²

It was suggested in the first place that the GLCM's and Pershing-II's were needed to fill a "gap in NATO's continuum of deterrence". In an earlier era the superiority of American central strategic systems was supposedly sufficient in itself to deter WTO

¹Leon V. Sigal, *NUCLEAR FORCES IN EUROPE* (Washington: The Brookings Institution, 1984), 33-34.

²A good survey of all the ingredients in the December, 1979 decision is David N. Schwartz, *NATO'S NUCLEAR DILEMMAS* (Washington: The Brookings Institution, 1983), Chapter 7.

use of theater nuclear weapons in Europe (the assumption being that the United States could deliver a strategic nuclear strike against the Soviet Union itself in retaliation for such use and do so with relative impunity). Once the Soviets acquired at least a rough parity with the United States in strategic striking power, however, the threat of American retaliation was blunted and this might encourage WTO planners to contemplate use of theater nuclear weapons without fear of a strategic response from the United States. Under NATO's doctrine of flexible response, the Alliance required some intermediate level of reaction to a WTO initiation of theater nuclear warfare--especially given the new strategic balance--and hence the need for the INF upgrade.¹

Related to the above rationale was the supposed utility of the new NATO systems for "selective employment plans" (SEP's). SEP's contemplate the "limited" use of nuclear weapons to signal a step up the escalation ladder. In theory the WTO advantage in INF weapons gave them a decided edge in "escalation dominance", that is, they could raise the stakes in a European conflict by initial use of nuclear weapons and present the NATO decision-makers with the unpalatable options of either acquiescence or an inappropriate and possibly disastrous leap to use of central strategic systems. The availability of the new Tomahawks and Pershing-II's would enable NATO to match the WTO's SEP's with their own, and thus signal

¹J. Michael Legge, THEATER NUCLEAR WEAPONS AND THE NATO STRATEGY OF FLEXIBLE RESPONSE, R-2964-FF (Santa Monica: The Rand Corporation, 1983), 32-38.

continued resolve while avoiding a catastrophic leap into either surrender or general nuclear war.¹

The above two rationales for the NATO INF upgrade were couched in fairly esoteric terms involving military doctrine and strategy, and presumably were meant more for specialists in the defense community than for a general audience. In explaining the December, 1979 decision to their own publics in Western Europe and the United States, the various governments involved tended to reduce the necessity of the new deployments to a matter simply of countering the spectre of ever-increasing numbers of Soviet SS-20's assigned to the European theater. The SS-20's, with their increased accuracy, mobility and improved readiness--not to mention their three MIRV'd warheads--supposedly threatened the whole INF balance in Europe. Deployment of the new NATO systems would help to redress this imbalance, even if it did not totally correct it. In this sense, the 1979 decision could simply be regarded as symbolic of NATO's will to resist unilateral and unprovoked attempts by the WTO to alter the military equation in Europe, either as preparation for armed aggression or, more likely, as a means for applying political pressure on the European members of NATO.

There was also the matter of "coupling". Integral to the whole NATO defense concept since 1949 was that American security had to be coupled with that of Western Europe in order to make the American defense commitment to Europe credible. In a shorthand

¹Sigal, NUCLEAR FORCES IN EUROPE, 38-40.

sense, this simply meant that the United States would regard any attack on a European ally as an attack on her own soil. Whether successive American statesmen, at least privately, felt that such a coupling really or at least in every case would apply was a controversial matter besetting the Alliance in subsequent years (a controversy that played a major role, for example, in De Gaulle's development of an independent nuclear deterrent of his own as well as his withdrawal from the unified NATO military command).¹

In any case, the deployment of new American INF systems in Western Europe would supposedly do much to reinforce the coupling of American and European security. Given the existence of such systems, and their threatened use in response to a conventional military aggression by the WTO, the latter would have strong motivation to undertake a nuclear preemptive strike against the GLCM's and Pershing-II's (using nuclear rather than conventional assets in order to assure their destruction). Given this decision, there would be further pressure on WTO planners to undertake at least a limited strike against American central strategic systems, lest these be used to retaliate for the WTO initiation of INF warfare in Europe. Under these circumstances, any American President would feel compelled to commit all of American military resources to the struggle against the WTO. The point here is that the threat of

¹An early statement of the basic French position here was Pierre Gallois, "U.S. Strategy and the Defense of Europe," ORBIS 7 (Summer, 1963).

such an outcome would act as a powerful deterrent to the WTO contemplating any aggression in the first place.¹

An Evaluation

The above rationales for the NATO INF upgrade had at least some logical appeal, and indeed there were some items of merit in each of them. On balance, however, when subjected to rigorous scrutiny, they seemed to be a fairly ambiguous basis on which to make so momentous a decision as that arrived at in December, 1979. With respect to the so-called "gap" in the continuum of deterrence, for example, the fact remained that the Pershing-II's and the GLCM's were unmistakably American systems, even if they were physically located in Western Europe. Their potential use (e.g., to stem a conventional WTO attack against the West) therefore invited a possible Soviet strategic strike against the United States in retaliation. The point here is that it was unclear at best whether WTO military doctrine was willing to recognize so abstract a concept as discrete rungs on the escalation ladder--or at least would be bound by such a concept.

As to the notion of a SEP mission for the new systems, both the Pershing-II and the Tomahawk would be vulnerable to a general

¹Lynn E. Davis, "Lessons of the INF Treaty," FOREIGN AFFAIRS (Spring, 1988), 721. Ambassador Max Kampelman was firm in his belief that the deployment of Soviet SS-20's was "a political as well as a military weapon, meant to intimidate Europe and inspire a sense of 'decoupling' from the United States." U.S., Senate, Committee on Foreign Relations, THE INF TREATY, Part I, One Hundredth Congress, Second Session, 443.

disarming strike by the Soviets once any of them were fired. This in turn would create considerable pressures to use all or most of them before they could be destroyed by a Soviet counter-strike. This scenario, however, contradicted the very idea of a "SEP". Moreover, European opinion was, to put it mildly, uncomfortable with the notion of using the central European battleground as an arena for nuclear demonstration shots while at the same time the United States itself remained untouched. Implicit to the notion of a SEP was also the idea that such a doctrine would allow Washington to avoid the far more fateful decision of committing its central strategic systems to the defense of Europe.¹

Nor does it seem plausible to argue that the INF upgrade was simply a response to the unprovoked Soviet development of the SS-20. It was true that the latter system demonstrated a range of improved capabilities and no doubt complicated NATO defense planning. Nevertheless, it is important to note that initial NATO discussions on the possibility of placing new INF systems in Western Europe began as early as 1974 in meetings of the Nuclear Planning Group.² Research and development on the relevant systems had begun even earlier. The first operational SS-20 sites did not

¹Christopher J. Makins, "TNF Modernization and Countervailing Strategy," in Robert Nurick, *NUCLEAR WEAPONS AND EUROPEAN SECURITY* (New York: St. Martins Press, 1984), 131-132.

²An important study emphasizing the need for NATO INF modernization was issued in 1975. See U.S., Department of Defense, *THE THEATER NUCLEAR FORCE POSTURE IN EUROPE*. A report to the United States Congress in compliance with Public Law 93-365. (Washington: GPO, 1975).

emerge until late in 1977.¹ Moreover, the Pershing-II's and GLCM's were hardly the best response to the SS-20 threat, given their vulnerability to a Soviet preemptive strike. Soviet military doctrine suggests that just such a preemption would be a heavy consideration in the event of a planned attack against NATO, particularly in view of the Pershing-II's threat to time-urgent Soviet targets such as missile sites and Soviet C³. What was really needed for NATO were nuclear systems that could survive a Soviet first-strike and then retaliate against either Soviet or East European targets or both.

The Primacy of Political Symbolism

A balanced assessment of the December, 1979 decision to upgrade NATO INF capabilities suggests, then, that the real rationale for the decision was basically political rather than one dictated by discrete military requirements.² In this sense the argument about the need for re-emphasizing the coupling of American security with that of her European allies perhaps comes closest to what was the actual consideration uppermost in the minds of the NATO governments in 1979. More specifically, the upgrade was designed in a largely symbolic way to demonstrate the continued commitment of the United States to European defense, especially in an era in

¹Raymond Garthoff, "The Soviet SS-20 Decision," SURVIVAL (May-June, 1983).

²Peter H. Langer, TRANSATLANTIC DISCORD AND NATO'S CRISIS OF COHESION (Cambridge: Institute for Foreign Policy Analysis, 1986), 21.

which the Soviet military buildup seemed to be proceeding in a fashion without identifiable, stated or even rational limits.¹

This assessment that the INF upgrade was driven more by political than military requirements can be supported in various ways. For example, the American military services were actually rather lukewarm in their enthusiasm for the upgrade, at least if it meant that their shares of the defense budget were to suffer as a result. Moreover, the choice of the Pershing-II and the Tomahawk as the systems to be introduced had little to do with an analysis of their technical virtuosity in contributing to the NATO defense posture. Rather they were chosen for reasons largely extraneous to considerations of targetting, survivability, doctrine or mission. An important consideration was that given the basic decision to upgrade NATO INF capabilities, these two systems were virtually the only ones far enough along in the research and development cycle to be available within the desired four-year time-frame after 1979 (assuming no arms control agreement was achieved with the Soviets by 1983 making their deployment unnecessary). Both systems were also land-based and could strike the Soviet Union, which in each case was critical to their role as political symbols.²

¹Christopher J. Makins, "Bringing in the Allies," FOREIGN POLICY 35 (Summer, 1979). On the matter of political symbols, see also Lawrence Freedman, "U.S. Nuclear Weapons in Europe: Symbols, Strategy and Force Structure," in Andrew J. Pierre, ed., NUCLEAR WEAPONS IN EUROPE (New York: New York University Press, 1984), 55-61.

²Sigal, NUCLEAR FORCES IN EUROPE, 50-52.

The final number of weapons to be included in the upgrade was also essentially political. Thus the 108 Pershing-II's specified in the decision exactly matched the number of older Pershing-I-A's already based in West Germany. Describing this part of the 1979 decision as simply a "modernization" of existing systems in that country was politically useful in explaining the development to certain segments of West German public opinion. As to the 464 GLCM's to be introduced to the West European theater, this number was in part a function of simple arithmetic (arrived at by multiplying the four Tomahawks in a TEL and four TEL's to a flight) and in part by the requirement that the GLCM's be based in several West European countries as a "risk-sharing" measure.¹

In assessing NATO's security options after the INF treaty, in sum, it is critical to recognize the essential rationale and spirit of the original NATO INF upgrade decision. The above discussion suggests that a particularly important avenue of investigation for our subsequent analysis of NATO's defense posture must be a consideration of how and to what degree the political environment that surrounded the December, 1979 decision has been subject to change. There are a host of other factors and variables as well that must be taken into account in evaluating NATO's choices on doctrine and strategy. An overview of these matters is offered in the next section of this paper.

¹Raymond L. Garthoff, "The NATO Decision on Theater Nuclear Forces," POLITICAL SCIENCE QUARTERLY 98 (Summer, 1983), 206.

II.

AN ASSESSMENT OF THE CURRENT NATO SECURITY ENVIRONMENT

There are a number of issues and considerations that deserve attention in any attempt to evaluate American and NATO defense options in Europe in the aftermath of the INF treaty. Some of these relate to the current climate of public opinion in Europe, and especially in West Germany, concerning future force deployments and strategy. Connected to this factor is the whole issue of Alliance cohesion, and how decisions on NATO's defense posture have the capacity either to contribute to such cohesion or seriously to threaten it. Then there is the matter of "burden-sharing", particularly in terms of conventional force levels, and whether the United States or the European members of NATO can be expected to assume greater responsibilities for an upgrade of conventional capabilities. In this context, there is also the question of intra-European cooperation in defense matters (e.g., the Franco-German brigade) and whether such efforts may be expected to play an important role in maintaining NATO deterrence of the WTO.

Also important is the current debate over the conventional balance in Europe: differing perceptions here can heavily influence judgments as to the necessity of nuclear force upgrades. Related to this is the prospect of a formal treaty reducing both NATO and WTO conventional forces in Europe, the negotiation of which is now on-going in Vienna. Arms control issues in general are of course critical, especially the START talks. Decisions on new nuclear

force deployments may heavily influence prospects of achieving a START treaty, particularly in terms of the possibilities of adequate verification.

Finally, there is the overarching matter of ostensible "new thinking" in Soviet foreign policy, including an emphasis now on mere "sufficiency" in WTO force levels to deter aggression as well as a stress on a purely defensive strategy. Whatever the reality of these supposed changes in Soviet doctrine, to the extent that they impact on West European (and even American) public opinion they are an important matter to be taken into consideration. What follows is a brief consideration of each of the above factors as they influence current defense planning within NATO.

The Changing Climate of Public Opinion

In addressing various questions that have emerged out of the ratification of the INF treaty, NATO Secretary-General Manfred Worner touched on a key element in the current political-security environment in Western Europe.

NATO has always lived with a paradox. As we make progress in our search for a more certain peace, our people question the need for continued levels of defence effort. This is even more so today, I suspect. How do we explain to our publics the basis on which our defences must be maintained? We have heard a lot recently about how the picture has changed in the aftermath of the INF agreement. . . . We are also hearing voices now which explain that the threat itself has changed. Here, I think, we must pause to reflect for a moment.¹

¹Manfred Worner, "NATO in the post-INF era: More opportunities than risks," NATO REVIEW (August, 1988), 5.

A moment of reflection on the changing character of European public opinion on defense questions does indeed seem to be in order. The picture seems clear enough. Among large segments of the general public, there is a perception that the worst days of the Cold War are now irrevocably gone, and thus there is little reason to tolerate the levels of defence expenditures that may have seemed necessary in the past. Denmark's Politiken spoke for many when it labeled the INF treaty an "epoch-making agreement" that could symbolize "the beginnings of a new period of detente." Even more conservative European organs of opinion have joined in this chorus of optimism. Thus the Belgian Catholic newspaper Gazet van Antwerpen opined that the Washington summit which witnessed the signing of the INF treaty was not mainly about the treaty itself but about "a new period of detente." The Italian Il Messaggero announced that "a new wind of international detente is blowing from Washington toward the rest of the world." According to opinion surveys, opposition to the INF treaty in the four major NATO countries in Europe did not exceed 12 percent¹

These upbeat assessments are particularly evident in the one country that is of particular criticality to NATO's whole strategic posture: the Federal Republic of Germany. Recent polls indicate, for example, that fewer than one-third of the West Germans believe that their security is still tied to the presence of American nuclear weapons on their soil. Even more striking is the wide-spread view

¹Hugh De Santis, "After INF: the Political-Military Landscape of Europe," THE WASHINGTON QUARTERLY (Summer, 1988), 30-31.

in the FRG that their "security" is actually not even a matter of justified concern. An opinion poll for the West German defence ministry conducted by the Emnid Institute found that defence of the FRG from external threats ranked dead last of seventeen "social concerns". The poll showed defence expenditures to be less popular than at any time since the Institute began polling in 1962. A full 75% of those questioned responded that the Soviet threat was not to be taken seriously.¹ In a worried response to these findings, former Bonn Defense Minister Rupert Scholz promised that the government would take the offensive in educating an "insecure public" on the necessity of continued vigilance and appropriate defence planning. Somewhat plaintively, Mr. Scholz said that he regretted "that West Germans are losing sight of the need for further defense efforts."²

The above picture of the state of European opinion after INF has to be balanced against the fact that among political and military elites in Western Europe, there is, as might be expected, a somewhat more measured attitude toward the current WTO threat and the necessity of continued upgrading of NATO defense capabilities. In fact, French Defense Minister Andre Giraud stated at one point that an INF treaty based on "double-zero" would be in effect a "nuclear Munich" creating a serious gap in the Western security posture. The government of Margaret Thatcher in Great Britain also expressed

¹"West Germans 'going soft' on defence issues," LONDON SUNDAY TIMES (December 18, 1988), 19.

²John England, "Wave of anti-defense feeling worries Bonn," WASHINGTON TIMES (December 15, 1988), 9.

some reservations about the implications of double-zero, although not in such flamboyant language as Monsieur Giraud employed. Even in West Germany, about a third of the combined CDU/CSU parliamentary deputies announced opposition to including shorter-range nuclear missiles (500 to 1000 kilometer range) in the proposed accord, as was eventually done.¹

In time, of course, even the more skeptical European elites came to support ratification of the INF treaty in its final form, at least by tactful silence if not open enthusiasm. The point remains, however, that there is a potentially serious schism between various informed voices in Western Europe on future NATO security options and those of the mass publics. Given the fact that all the NATO countries are functioning democracies, it remains to be seen how or to what degree the relevant governments will be able to resist the general sentiments extant concerning the decline or even end of the military confrontation in Europe. At the very least, Washington will have to weigh carefully how productive to the long-term cohesion of the Alliance it will be to insist on allied governments following through on force modernization at the potential expense of their domestic political standing (a point to be considered in greater detail below).

The Changing Soviet Image

Intimately related to the changes in European opinion detailed above is, of course, what can only be called the masterly public

¹Jonathan Dean, "The INF Agreement: Pluses and Minuses for Western Security," ARMS CONTROL TODAY (July/August, 1987), 3.

relations offensive which General Secretary Gorbachev and other Soviet leaders have conducted to persuade the West European publics that there is indeed a new attitude and philosophy in Soviet foreign and defense policy (for example, Gorbachev's continual reference to a "common European house" in which the interests and security of both East and West are intertwined). Western specialists may question the breadth and sincerity of these protestations, but it would be idle to deny that they have had a substantial impact on targetted opinion in Western Europe--and in the United States as well, where a recent Gallup poll revealed that 62% of those questioned had a "favorable" view of the Soviet Union, compared to only 21% in 1976.¹

It is beyond the scope of this analysis to submit Soviet "new thinking" on defense policy to a detailed and rigorous exegesis, but it is appropriate to focus briefly on the main tenets of that thinking as they have been explained to foreign audiences. The key concepts being advanced are "reasonable sufficiency" and "defensive defense".² Soviet references to reasonable sufficiency have involved both the strategic nuclear balance between the super-powers and the conventional theater balance between NATO and the WTO. With respect to central strategic systems, Moscow has said that the doctrine of reasonable sufficiency should allow deep cuts in

¹SAN FRANCISCO CHRONICLE (April 6, 1989), A22.

²The notion of "reasonable sufficiency" was first introduced by Gorbachev in 1985 and he expanded on it at the 27th Party Congress in February, 1986. See M.S. Gorbachev, "Political Report of the CPSU Central Committee to the 27th Congress of the CPSU," PRAVDA (February, 1986).

both side's strategic arsenals, and that the underlying premise of the doctrine is to maintain what the Soviets see as the current roughly equal numerical parity in strategic arms as well as each party's capability to inflict "unacceptable damage" on its adversary in response to a first-strike. Ironically, Moscow now seems to have appropriated the American doctrine of "mutual assured destruction" (MAD) first enunciated by Secretary of Defense Robert McNamara in the 1960's.¹

As far as the conventional theater balance in Europe is concerned, the Soviets claim that they want to reconfigure both NATO and WTO forces so as to preclude a successful surprise attack by either side. Marshal Sergey Akhromeyev, past Chief of Staff of the Soviet Armed Forces, defined this new "defensive doctrine" as meaning that the Soviet Union would defend against an attack for about twenty days, during which time Moscow would attempt to negotiate a resolution to the conflict. Should that effort fail, the WTO would then launch a counteroffensive to win the war.² Farther down the road, the ostensible Soviet goal is to eliminate the possibility of mounting offensive operations at all, at which point both alliances would be committed to the concept of a strictly "defensive defence". In a presumed effort to demonstrate his bona fides in this respect, Secretary-General Gorbachev announced to the U.N. General Assembly on December 7, 1988 that the Soviet Union

¹Edward Warner III, "New thinking and old realities in Soviet defence policy," SURVIVAL (January-February, 1989), 18-22.

²General William E. Odom, "The Kremlin's Strategy to De-Nuclearize NATO," AIR FORCE MAGAZINE (March, 1989), 42.

planned unilateral reductions of its forces in Eastern Europe on the order of six tank divisions, 5000 tanks, and 50,000 personnel, with an overall cut in the Soviet armed forces of 500,000 men. At the same time he pledged a reduction of 10,000 tanks, 8500 artillery systems and 800 combat aircraft from Soviet forces west of the Urals.¹

A leading Western analyst of Soviet thinking on military doctrine suggests that these ideas are in fact "revolutionary" ones for the Soviets because they reflect a changed Marxist-Leninist interpretation concerning the likely nature of a future war. He argues that the two concepts actually predate the Gorbachev era, going back to the early 1980's, when Marshal Nikolai Ogarkov first pointed out that changes in weapons technology had fundamentally altered scenarios for a land war in Europe. On this basis, "new thinkers" in the Soviet defense establishment developed a rationale for unilateral arms reductions on the part of the Soviet Union. While in the beginning the institutional implications of reorganizing Soviet forces around a doctrine of "defense-only" defense was not fully appreciated by the professional military, they may now have no choice but to go along with the new policy.²

Perhaps a somewhat more balanced, or at least skeptical, analysis of new Soviet thinking on military policy argues that such thinking has basically constituted a tool "for gaining hold of the

¹NEW YORK TIMES (December 8, 1987), A16.

²Michael MccGwire, "Rethinking War: The Soviets and European Security," THE BROOKINGS REVIEW (Spring, 1988). See also MccGwire's piece, "Update: Soviet Military Objectives," WORLD POLICY JOURNAL (Fall, 1987).

Soviet defense agenda," that is, providing the civilian party elite with a much greater hold over the development of security policy, which in the past has been largely the preserve of the uniformed military. The further argument is that any possibility of translating such ideas into viable and enduring defense policy is dependent on how well Gorbachev manages to institutionalize the reform ethos of perestroika.¹

Aside from the utility of "new thinking" on security matters in supporting Gorbachev's efforts to consolidate his power and pursue his domestic concerns, the question remains as to whether operationally the deployment and structuring of the Soviet armed forces in the European theater has to date reflected the ostensible switch in Soviet military doctrine. To be sure the announced unilateral withdrawal of tanks and personnel, along with supporting systems such as bridging equipment, does have some significance, particularly in terms of their lessening of WTO blitzkrieg capabilities. At the same time, devotion to the concept of massive offensive operations at the outbreak of hostilities is a time-honored one in the Soviet military, and recently recast organizational arrangements for theater warfare and the modernization of various weapons systems related to such conflict legitimately give one pause. Particularly troublesome is the continued Soviet insistence

¹Stephen Meyer, "The Sources and Prospects of Gorbachev's New Political Thinking on Security," INTERNATIONAL SECURITY 13 (Fall, 1988). See also Dale R. Herspring, "The Soviet Military in the Aftermath of the 27th Party Congress," ORBIS (Summer, 1986) and Raymond Garthoff, "New Thinking in Soviet Military Doctrine," THE WASHINGTON QUARTERLY (Summer, 1988).

that a WTO capability for extensive offensive operations is fully consistent with "defensive defence" (again a deeply-entrenched idea in Soviet military thinking).¹ Pushed to its logical conclusion, and especially from the NATO perspective, the putative new emphasis on reasonable sufficiency and defensive defence may seem to be a distinction without a difference in terms of the real WTO threat.

Nevertheless, there is no question but that the debate over evolving Soviet military doctrine is not simply the preserve of the defense professionals in the West but has entered significantly into the broader public domain. In this sense, arguments about the actual reality of the new Soviet stance, while far from unimportant, are only one aspect of the analysis that NATO must undertake. Equally salient are the perspectives of Western publics and how this may translate into political pressure on the relevant leadership to accept that the WTO challenge has changed in a measurable way, with all the implications this has for the defense posture of the West.

¹For some critical and skeptical analyses about the real significance of Soviet "new thinking" on defense matters, see Gerhard Wettig, "'New Thinking' on Security and East-West Relations," PROBLEMS OF COMMUNISM (March-April, 1988), and Leon Goure, "A 'New' Soviet Military Doctrine: Reality or Mirage?" STRATEGIC REVIEW (Summer, 1988).

Coupling and Cohesion

We have noted that an overwhelming majority of West European public opinion is on record as supporting the "double-zero" provisions of the INF treaty. At the same time, as also discussed, an important minority of West Europeans, particularly those with some professional interest or involvement in NATO defense planning, have at least tacit or implicit concerns about what the treaty means for the long-term American commitment to European security. Put bluntly, the fear is that ratification of the INF accord may well be the first step in the eventual "de-coupling" of the United States from Europe, or at least a diminution of American willingness to put its own homeland at risk in order to defend Europe. As one experienced American arms control negotiator has put it, "the main problem raised by [the] INF agreement is neither a military nor an East-West one. It is a West-West one of dealing with the damage done to the confidence of an important minority of Western Europeans in the reliability of U.S. help in a crisis with the Soviet Union."¹

As we have discussed above, the primary reason for the decision to deploy Pershing-II's and GLCM's in Western Europe essentially had to do with political symbolism: these land-based and thus quite visible systems represented a reaffirmation of the connection between American and European security. They were designed to constitute a link between American (and NATO) INF

¹Dean, "The INF Agreement," 10.

assets and American central strategic systems, the latter being the traditional ultimate guarantor of European safety from WTO aggression. In the aftermath of the removal of the Pershing-II's and GLCM's, would Washington in a crisis be tempted to avoid its ultimate commitment to Europe in the absence of the "triggering mechanism" that these systems were designed to provide? Thus the fears about de-coupling. It might be noted in this context that too much can perhaps be made of the coupling function of American nuclear weapons in Europe. The presence of some 300,000 American troops on the continent together with dependents, not to mention long-standing cultural, political and economic ties between the United States and Western Europe, would seem in themselves to provide the ultimate guarantor of an American commitment to a free Europe

Fears about de-coupling, however misplaced, do impact however on the long-term prospects for Alliance cohesion. If important European elites conclude that the United States, if only indirectly, is moving toward modification of its traditional NATO security guarantees, this would logically lead to a reappraisal by such elites as to the requirements for their countries's future security. Such a reappraisal (in Secretary of State Dulles' famous phrase, perhaps an "agonizing reppraisal") might well lead to alternative models of European deterrence of the WTO, involving either an attempt at further accomodation with the East (perjoratively styled "Finlandization") or else a new emphasis on a strictly Euro-strategic perspective, which would significantly

downplay the American role in European defense. In either case, NATO as an institution would be transformed in significant ways.

There is another aspect to this problem, however. Assuming that the United States desires to take steps to re-emphasize the coupling of its security with that of Western Europe, e.g., by modernization of short-range nuclear forces (SNF), how can this be effected without alienating that large body of West European opinion which is already dubious about the benefits of the American nuclear presence in Europe? European defense planners may well encourage and even demand such measures, but as earlier noted they also have to deal with pressures from their domestic constituencies. An overly heavy-handed American insistence on new nuclear assets for NATO deterrence may have the ironic effect of pleasing some in the European defense ministries but fundamentally alienating mass European opinion, with its own serious implications for alliance cohesion. This is a conundrum that will challenge the subtlety and imagination of American policy-makers.

Hardware and Politics

In dealing with the dilemma referred to above, Washington broadly speaking has to steer a course between what might be called "hardware solutions" to European security after INF and a more general political strategy. A properly conceived policy theoretically can combine elements of both, but it is important to recognize that there is the continuing possibility of conflict between the two elements.

We have already referred to the "hardware" measures that have been suggested or are now in the stage of implementation for compensating for the removal of NATO nuclear assets under the INF Treaty, including the stationing of F11G's in Britain with new ALCM capabilities, deployment of B-52's to Europe also with ALCM's, upgrading of the aging Lance short-range missile system, and the formal assignment of American nuclear SLCM's to European defense. All these have been presented as necessary to the maintenance of NATO's strategy of flexible response and more broadly to "extended deterrence" by the United States. One point that deserves mention briefly here is whether the U.S. Navy would be entirely happy to have substantial SLCM assets committed to European defense. In fact, there is some resistance within Navy circles to such a posture since it would appear to reduce the flexibility and availability of U.S. naval forces for other missions out-of-area.¹

A more fundamental observation about the above set of potential nuclear force add-ons to the NATO theater is that it will be politically very important how such increments are justified. It would in fact seem to be a serious mistake to speak in terms of such increments as specific "compensation" for the INF treaty drawdowns. Such an approach is bound to raise fears within European public opinion about the fundamental commitment of the United States to further arms control measures, i.e., certain weapons systems are withdrawn only to be replaced by other weapons systems. Assuaging such concerns is particularly

¹Lewis A. Dunn, "Considerations after the INF Treaty," SURVIVAL (May-June, 1988), 195.

important in view of the heightened expectations in Europe concerning future progress in arms control created by the successful conclusion of the INF accord. Instead, both nuclear as well as conventional force modernization should be presented in terms of maintaining the European balance and basic Alliance security interests.¹

The Conventional Balance

A major consideration in any plan for future NATO force allocations, particularly in terms of nuclear assets, clearly is the current state of the conventional balance in Europe and how that balance might be effected by the negotiations in Vienna over conventional force reductions by NATO and the WTO. Dating back for a number of years, NATO's nuclear capabilities have been seen as critical in offsetting a large advantage for the WTO in various areas of conventional arms and manpower. To the extent that this advantage can be mitigated, perhaps partly through unilateral actions on the part of Gorbachev (such as his announcement that Moscow would shortly withdraw four Soviet armored divisions from East Germany and one from Czechoslovakia) but more realistically through a negotiated agreement at Vienna on reductions of NATO/WTO conventional assets, the debate over necessary conventional and nuclear NATO capabilities is bound to be impacted.

There seems no question but that in sheer numerical terms the WTO has impressive superiority in various categories of

¹De Santis, "After INF," 43.

conventional weapons. Thus the Pact enjoys about a two-to-one advantage in main battle tanks, three-to-one in self-propelled artillery, two-to-one in attack helicopters, and five-to-one in fighter-interceptor aircraft.¹ Given these numbers, SACEUR General John Galvin has stated publically that NATO would be able to defend itself against an all-out WTO attack for only about two weeks, at which point it would be necessary to resort to nuclear weapons.²

Other analyses are rather less alarmist than that of General Galvin's, and in fact there is considerable disagreement over how one factors in both quantitative and qualitative factors in gauging the true relationship of forces in the European theater. Thus it is generally accepted that NATO's tactical fighters far exceed those of the WTO in general capability and that the quality of the Leopard II and M-1 tanks certainly is better than equivalent armor in the WTO, particularly in the non-Soviet Warsaw Pact armored divisions. On the qualitative side, it is often asserted that NATO has a distinct

¹International Institute for Strategic Studies, *THE MILITARY BALANCE 1988-1989* (London: IISS, 1988). See also U.S., Department of State, *CONVENTIONAL FORCES IN EUROPE: THE FACTS* (Washington: GPO, November 25, 1988). An interesting development with respect to the debate over the conventional balance has been the recent WTO decision to issue its own assessment in considerable detail of the balance of forces (which had been resisted for a number of years). Not surprisingly, the WTO analysis is that there is a "rough parity" between NATO and WTO forces which "denies either side any hope of achieving a decisive military superiority." *STATEMENT BY THE COMMITTEE OF THE MINISTERS OF DEFENCE OF THE WARSAW TREATY MEMBER STATES* (Dresden: German Democratic Republic, 1989).

²*ARMED FORCES JOURNAL INTERNATIONAL* (March, 1988), 50.

advantage in terms of levels of training of its troops, their morale, and, by contrast, the perhaps doubtful reliability of various East European units in any general WTO offensive against the West.¹

Perhaps the fairest overall assessment is offered by the respected International Institute for Strategic Studies in its latest assessment of the military balance in Europe. The IISS continues to suggest that a "general military aggression in Europe would be a high-risk option with unpredictable consequences." They do go on to note, however, that the spectre of "high risk" has not deterred resort to war in the past, nor would it necessarily do so in the Europe of the future. Moreover, force developments in the recent past have done little to assuage NATO concerns about a conventional imbalance, and in hardware terms the situation indeed may have grown even less favorable. Perhaps most ominously, the IISS argues that there is little evidence to date of any "discernible force structuring, equipment or training developments in the Atlantic-to-Urals area to support Soviet claims of 'new thinking' involving 'reasonable sufficiency' and defensive defence concepts." Indeed, WTO forces continue, at least from the NATO perspective, to be configured and deployed in a manner that favors high-speed, short-warning offensive (or counter-offensive) operations.²

¹For a useful summary of the various points of view and differing types of data to be considered in arriving at a judgement on the European conventional balance, see "Policy Focus: The European Conventional Balance," INTERNATIONAL SECURITY 12 (Spring, 1988) as well as "Conventional Wisdom and the Conventional Balance," INTERNATIONAL SECURITY 13 (Summer, 1988).

²IISS, THE STRATEGIC BALANCE 1988-1989, 235. There have been several other recent attempts to assess the overall conventional

Whatever position one adopts toward the conventional military balance in Europe, it is clear that judgments on this matter will play a heavy role in considerations concerning NATO's security posture after the INF treaty. The current Conventional Forces in Europe talks (CFE) in Vienna, which are charged with achieving a NATO/WTO agreement on the restructuring and lowering of force levels by both sides in Europe, are also of obvious relevance in this regard. Considering the fact that the predecessor to the CFE, the Mutual and Balance Force Reduction Talks (MBFR), proceeded for a number of years with little discernible success, one might be justified in expressing some skepticism that the CFE will provide any immediate relief for Western concerns about WTO superiority in various categories of conventional forces.¹

Nevertheless, the Vienna negotiations do seem to be starting out in an atmosphere distinctly more conducive to a potential agreement than was the case with the late and unlamented MBFR negotiations. Thus initial proposals from both sides were based on certain common and critical premises, including the principle of equal limits on key weapons, the general size of the arms

military balance in Europe that are of interest here. See, for example, James Thomson, *AN UNFAVORABLE SITUATION: NATO AND THE CONVENTIONAL BALANCE*. N-2842-FF/RC (Santa Monica, CA: The Rand Corporation, November, 1988); United States, General Accounting Office, *NATO-WARSAW PACT: AN ASSESSMENT OF THE CONVENTIONAL FORCE BALANCE* (Washington: GPO, December, 1988); United States, Congress, Congressional Budget Office, *U.S. GROUND FORCES AND THE CONVENTIONAL BALANCE IN EUROPE* (Washington: GPO, June 1988)

¹For a review of the MBFR negotiations, see Jonathan Dean, "Military Security in Europe," *FOREIGN AFFAIRS* (Fall, 1987).

reductions, and the need for intrusive verification measures.¹ The broader political environment between East and West also seems to be more conducive to an agreement than the earlier periods. Nevertheless, serious obstacles remain before a CFE treaty can be achieved, notably the Soviet proposal for partially demilitarized zones along the East-West border, limits on aircraft, and the relationship of naval forces to the talks (an area in which most observers feel NATO has a distinct advantage).²

Perhaps the most judicious conclusion to be made at this point is that a treaty on reducing and restructuring conventional forces in Europe is definitely more within the realm of possibility today than in the past, but that even in the best of circumstances it is unlikely to come soon enough to allow NATO to postpone important decisions on the size, composition and quality of its nuclear and conventional forces in the aftermath of INF.³ As Ambassador Paul Nitze has stated, NATO must avoid "the temptation to anticipate arms limits and to adjust our force structuring and modernization plans

¹See the statement by Major-General G. Batenin in PRAVDA in December, 1988, reproduced in WORLD PRESS REVIEW (December, 1988), 24. Also, Peter Almquist, "Moscow's Conventional Wisdom: Soviet Views of the European Balance." ARMS CONTROL TODAY (December, 1987).

²Michael Gordon, "Good Sign in Vienna," THE NEW YORK TIMES (March 7, 1989), A6. See also Secretary of State James Baker's address in Vienna on March 6, 1989 in which he took a relatively optimistic attitude toward the coming CFE negotiations. U.S., Department of State, Secretary of State James Baker, "New Horizons in Europe" (Washington: GPO, March, 1989).

³A good survey of the challenges facing the CFE negotiators is Jack Snyder's "Limiting Offensive Conventional Forces," INTERNATIONAL SECURITY (Spring, 1988).

prematurely. Experience and logic teach us that such actions, by reducing the other side's incentives to pay a price for our reductions, reduces the likelihood that the anticipated limits will ever be established."¹

Burden-Sharing and European Defense Cooperation

To the extent that a substantial modernization and upgrading of various NATO defense capabilities may be seen as necessary in the aftermath of the elimination of INF assets, this raises two additional relevant matters that should be referred to at least briefly here. The first concerns the degree to which Washington and/or its European partners in NATO can be expected to assume the increased burden of expenditure for such measures. One estimate is that within the United States's defense budget approximately \$160 billion is directly tied to the defense of Europe (at the same time as Washington faces a \$25 billion trade deficit in its economic relations with the European Community). Representative Andy Ireland (R-FLA) spoke for many in Congress when he said recently that "American tax dollars are spent to defend our allies who use the money they save to cloober us in the trade wars. . . We can't go on as though it's still 1949."² In spite of this rather florid rhetoric, it still remains that the European members of NATO provide about 90%

¹Ambassador Paul Nitze, "Security and Arms Control--A number of good beginnings," NATO REVIEW (December, 1988), 3. See also Karl Kaiser, "Objectives, Concepts and Policies for Conventional Arms Reductions," ATLANTIC COMMUNITY QUARTERLY 26 (Spring, 1988).

²SAN FRANCISCO CHRONICLE (April 5, 1989), Z7-4.

of the Alliance's artillery, 80% of its combat aircraft, 80% of its tanks, 65% of its warships and 90% of its manpower.¹

In an effort to deal with the burden-sharing issue, NATO defense ministers for the first time in the history of the Alliance issued a report in December, 1988 analyzing what each country contributed to the common defense and recommending what else each should do. Entitled "Enhancing Alliance Collective Security", the document stressed both the quantitative and qualitative contributions of NATO members. Among the major actions proposed by the report and approved by the Ministers was an agreement on financing for the transfer of the U.S. 401st Tactical Fighter Wing from Spain to Italy, creation of a new joint force for the defence of Norway, acceptance of the Spanish roles in overall NATO defence strategy, and other moves to improve defence levels and industries in NATO's southern region countries.² SACEUR General John Galvin commented that "Congress will not be ecstatic about this report, but it will realize that Europe is indeed doing its best."³

NATO Secretary-General Manfred Woerner rightly argues that "the broad political concept of sharing benefits and responsibilities is of the greatest importance here. The benefits . . . are inseparable from the willingness to assume the responsibilities which produce those benefits."⁴

¹U.S., Department of State, WESTERN DEFENSE: THE EUROPEAN ROLE IN NATO. An analysis by the Eurogroup. (Brussels: May, 1988), 10.

²JANES DEFENCE WEEKLY (December 10, 1988), 1446.

³ARMED FORCES JOURNAL INTERNATIONAL (January, 1989), 44.

⁴Woerner, "NATO in the post-INF era," 3.

Despite the wisdom of this position, however, the evidence strongly suggests that in an era of heavy Federal deficits in the United States, and constraints on European defense spending caused in substantial measure by large social welfare costs, the prospect of increasing defense budgets to support military force upgrades is dim at best for any of the parties. One may criticize this fact as representing a rather irresponsible unwillingness to face the requirements for conventional NATO forces in the aftermath of INF, but as a political reality it has to be squarely confronted. The logical conclusion is that decisions on force posture for NATO for the foreseeable future will have to derive out of a consideration of how to share out and perhaps reallocate the current level of resources available (or even a lessening of such resources).¹ American Congressional demands that the Europeans assume a greater portion of the burden of deterring WTO aggression are likely not only to be unavailing but will exacerbate the already-existing tension between Washington and her NATO partners on strategy for the coming years.²

¹For various perspectives on the burden-sharing issue, see Giovanni Jannuzzi, "The Political and Economic Aspects of European Security," *THE INTERNATIONAL SPECTATOR* (January-March, 1988) and Daniel Nelson and Joseph Leopold, "Alliances and Burden-Sharing: A NATO-Warsaw Pact Comparison," *DEFENSE ANALYSIS* 2 (1986).

²A good example of the dangers here was the proposed amendment to the defence appropriations bill for FY 1989 which would have required the Europeans to assume added expenditures for American ground forces in Europe following a freeze by the United States on the payment of such costs. British leader Margaret Thatcher was particularly vehement in her denunciation of this proposed legislation. "Senato vote threatens NATO defences," *LONDON SUNDAY TIMES* (July 31, 1988), 1.

In theory whatever "gaps" may have been created in NATO's deterrent posture by the INF treaty might be at least mitigated by increasing intra-European cooperation on weapons procurement, R&D, and coordination of force deployments and doctrine. As one European analyst has put it, "The concept of a 'European Defense Pillar' equal in importance and responsibility to the U.S. has become fashionable in NATO circles."¹ A report by the North Atlantic Assembly puts the basic case:

A fundamental change has occurred in the US-European relationship, reflecting the gradual, relative increase in the economic strength and political potential of the West European members of the Alliance. Because of this change, the West European Allies should in the future share more effectively the political, economic and military responsibilities of Western defence and Alliance leadership.²

Specific measures that have been proposed in this context do not represent a panacea for Western security, but could nevertheless prove useful. There are some steps that have been taken in this direction already, notably a statement by French Prime Minister Jacques Chirac that France's military assistance to West Germany would be "immediate and without reservation" if war erupted in Europe. "There cannot be a battle for Germany and a battle for France."³

¹Hella Pick, "Can Europe BE Separate but Equal?" THE GUARDIAN (reprinted in WORLD PRESS REVIEW (December, 1988), 22.

²North Atlantic Assembly, NATO IN THE 1990'S (Brussels: May, 1988), 11.

³James Markham, "Germans' Defense Pledged by Paris," THE NEW YORK TIMES (December 21, 1987), A11.

This seemed to represent a repudiation of the long-standing French position that she would reserve to herself any decision on involvement in a European military confrontation and by implication would stand aloof from an initial conventional struggle between NATO and the WTO. Moreover, the prospective deployment of the French Hades missile in 1991, with a range of about 450 kilometers, as well as development of the longer-range S-4 missile, may be seen as partially filling the gap left by the withdrawal of the American Pershing-II and GLCM. There is also the much-remarked formation of a joint 4200-man French-German brigade equipped with tanks and artillery, plans for a 15000-man all European division, as well as preliminary discussions between London and Paris on the development of a new air-launched cruise missile (ALCM) to be deployed on the British Toronado and the French Mirage.¹ Moreover, the French have opened talks with NATO officials on formal participation by France in the Alliance's new air defense and command system scheduled to become operational in 1991.²

Of some potential significance here may be the recent revitalization of the long-dormant Western European Union (WEU), which has been interpreted as a response to fears about an American

¹"UK and France to Talk on N-missiles," FINANCIAL TIMES (December 14, 1987), 20. See also David Yost, "Franco-German Defense Cooperation," THE WASHINGTON QUARTERLY (Spring, 1988).

²Edward Cody, "France Moves to Join New NATO Defense Unit," WASHINGTON POST (February 9, 1989), 29. All these steps have persuaded some that France is now at the forefront of European countries in its concern and firmness concerning the WTO threat. John Fialka, "French Are Emerging as the Hawks of Western Europe," WALL STREET JOURNAL (July 7, 1988), 19.

conventional or nuclear disengagement from Western Europe, and an accompanying conviction that Europeans must at least in part see to their own collective security needs in a strictly European forum. As the WEU has recently stated, "We are resolved to strengthen the European pillar of the Alliance."¹ Moreover, the European Community's plan to restructure itself into a unified economic bloc by 1992--eliminating almost all internal barriers to trade and finance--may well foreshadow the creation of an impressive economic powerhouse that presumably would have important implications for Europe's contribution to its own security.

These are tentative and perhaps promising steps in the direction of greater European co-ordination on defense, but once again it is well not to exaggerate their capacity for filling whatever "gaps" may have been created by the INF treaty. At best, such measures should be seen as only one aspect of a broader approach to insuring NATO's capabilities to deter the WTO in the coming years.

The Arms Control Agenda

Finally, there is the overarching question of how NATO decisions on nuclear and conventional force postures will impact on, and in turn be effected by, the ongoing arms control negotiations currently being conducted by the United States and the Soviet Union as well as their partners in the two respective alliances. We have already referred to the CFE discussions in Vienna, and there are the START negotiations as well between Moscow and Washington. In our

¹Western European Union, "Platform on European Security Interests," (The Hague: WEU, October 27, 1987).

subsequent analysis we will be referring in some detail to the interaction between arms control concerns and the deployment of military assets in the European theater after INF. At this point, therefore, it is only necessary to reiterate that popular expectations in all of the Western societies concerning the possibilities of more arms agreements are perhaps at their highest pitch since the beginning of the Cold War in the late 1940's. As noted, such optimism has been fueled in part by the successful INF agreement and also in considerable measure by the skillful public relations diplomacy of General Secretary Gorbachev.¹

With respect to START, considerable progress has already been made at Geneva on the outlines of a treaty. An agreement in principle has been made to cut strategic nuclear arms by 50 percent. The draft treaty establishes a limit of 6000 warheads on 1600 strategic offensive delivery systems, including ICBM's, SLBM's, and ALCM's. Each heavy bomber with gravity bombs and short-range attack missiles (SRAM's) would equal one warhead and one delivery system. The document also establishes a sublimit of 4900 strategic ballistic missile warheads (ICBM and SLBM). Left unresolved are American proposals to limit overall throw-weight in the two sides' arsenals as well as a limit or outright ban on mobile missiles, and Soviet demands for ceilings on SLCM's. Moreover,

¹A good (and concerned) review of the atmosphere surrounding the current START talks is Richard Golik, "In Search of START," JOURNAL OF DEFENSE AND DIPLOMACY (September, 1988).

there are numerous details to be worked out on a possible verification regime for a START agreement.¹

Whether the question is the conclusion of START or of a CFE treaty, the relevant NATO leadership is going to be under considerable pressure in the coming period to be seen as "forthcoming" and conciliatory in its arms control stance vis-a-vis the WTO. The problem is that various weapons systems and force modernization schemes seen as necessary by many informed Western military analysts may constitute potentially serious obstacles to any arms control regime, particularly in terms of reliable verification of the terms of agreement. The question that will likely loom large for Western statesmen then is whether to push ahead with arms control measures even at the potential sacrifice of security measures that may in their own terms be highly desirable, or whether to ignore or at least deflect public pressures for arms agreements in the interests of going ahead with such measures. The challenge is especially acute here in that a START agreement inevitably would have far more significant impact on the East-West military balance and on the stability of that balance than the relatively limited terms of the INF treaty.² This is not an enviable situation for those concerned, and it is far too early to say what the overall direction of decision will be for the Alliance at this point.

¹Robert Einhorn, "The emerging START agreement," SURVIVAL (September/October, 1988). For American resistance to the Soviet proposal on SLCM's, see Ambassador Paul Nitze, "Security and Arms Control", NATO REVIEW (December, 1988).

²Barry Schneider and Michael Ennis, "When Is It Safe to Say DA?" JOURNAL OF DEFENSE AND DIPLOMACY (October, 1988).

It is safe to say, however, that the dilemma presented here will perhaps constitute one of the most serious and demanding policy challenges to face NATO since its inception in 1949.

In the following sections of this analysis, we will focus on two specific areas in which the above conflict between potentially important force deployments for NATO deterrence and the pressures for arms control success are particularly pronounced. The first concerns the Alliance's maritime nuclear assets and strategy, the second deals with the question of the modernization of NATO's land-based short-range nuclear forces. Both of these are obviously of central importance to the ongoing relationship between NATO's nuclear assets and its continued ability to discourage WTO aggression.

III.

NATO'S NUCLEAR ASSETS AT SEA

In the aftermath of the signing of the INF treaty, there were various suggestions advanced as to how NATO generally and the United States specifically might develop new assets, doctrine and strategy to reflect the changed security environment in Europe with the gradual elimination of the American Pershing-II's and GLCM's. One of the principal contributions to this debate came from those who foresaw a much more important role for the U.S. Navy in NATO strategy and especially for the Navy's nuclear sea-launched cruise-missile (SLCM) capabilities. As one spokesman for this point of view put it, "The Navy may well be called upon to solve both the military and political problems presented by an INF agreement. . . . TLAM/N [Tomahawk land-attack missile/nuclear] has been criticized as a weapon in search of a mission. The INF role could answer that criticism. TLAM/N is the only system that could truly fill the deterrent role provided by the P-II's and GLCM's."¹

In fact NATO defense ministers in April, 1988 formally considered the possibility of substituting TLAM/N for the weapons systems proscribed by the INF Treaty (a decision was set aside pending an agreement on modernization of NATO land-based short range nuclear forces). It is reported, however, that the American

¹James L. George, "I(N)NF," PROCEEDINGS (June, 1987), 37-38.

Joint Chiefs of Staff favor such an approach themselves.¹ An important argument in favor of TLAM/N as a substitute for the loss of NATO assets dictated by the INF treaty is that this weapons system would help to sustain the Alliance's flexible response strategy, which emphasizes the use of non-strategic nuclear weapons to link the conventional defense of Europe to the U.S. central strategic arsenal. The Tomahawk is ideal for this mission, it is asserted, because it is capable of striking targets in Eastern Europe and the Soviet Union itself, can be employed in a flexible manner, and has a high survivability potential.²

Differing analyses of the so-called "maritime strategy" and its future contribution to European security in the post-INF era provide the broader framework within which the debate over American nuclear SLCM's have proceeded, but our focus here will be specifically on the issue of the TLAM/N and its present and future relevance to NATO deterrence of WTO aggression.³

Background

¹Strobe Talbott, "Why START Stopped," FOREIGN AFFAIRS (Fall, 1988), 63.

²Linton Brooks, "Nuclear SLCM's Add to Deterrence and Security," INTERNATIONAL SECURITY (Winter, 1988-89), 171.

³For contrasting views on the maritime strategy generally, see John Mearsheimer, "A Strategic Misstep," and Linton Brooks, "Naval Power and National Security," both in INTERNATIONAL SECURITY 11 (Fall, 1986), 3-88. See also Francis J. West, Jr., "After the INF Treaty the Maritime Strategy Should Become More Important Than Ever," NAVY (January, 1988).

The development and evolution of the U.S. Navy's sea-launched cruise missile capability has hardly proceeded on a steady or even course over the past several decades. Indeed work on this particular weapons system has been characterized by various stops and starts, ambiguity and controversy over its strategic versus tactical missions, technical difficulties in the research-and-development process, and a steady drumbeat of criticism from various quarters, Congressional and otherwise, as to the whole rationale of the SLCM program, particularly those cruise missiles with nuclear warheads.¹ A review of these matters is necessary in any attempt to assess the role of the SLCM in the post-INF Treaty security situation in Europe.

The earliest attempt by the Navy to develop a cruise missile capability was the Regulus program launched in the 1950's. The Regulus I and II were nuclear land attack weapons designed to supplement the Navy's nuclear attack assets from carrier-based aircraft. For a variety of reasons, including the advent of the Polaris submarine in the early 1960's, the Regulus program faded out and for a period of time there was little attention given to the SLCM as a U.S. naval asset.² Attitudes began to change, however, following the 1967 Middle East war, when the Egyptians used a

¹Robert J. Art and Stephen E. Ockenden, "The Domestic Politics of Cruise Missile Development 1970-1980," in Richard K. Betts, ed., *CRUISE MISSILES: TECHNOLOGY, STRATEGY, POLITICS* (Washington: The Brookings Institution, 1981), 379-393. For another analysis of the development of cruise missile technology, see Kosta Tsipis, "Cruise Missiles," *SCIENTIFIC AMERICAN* (February, 1977).

²Commander Miles A. Libbey III, "Tomahawk", *PROCEEDINGS* (May, 1984), 152.

Soviet-made SS-N-2 Styx anti-ship missile to sink the Israeli destroyer Eilat.¹ Renewed Navy interest in the potential of SLCM's led to the formal adoption of the Tomahawk cruise missile program in 1972.² One account has it that National Security Adviser Henry Kissinger played a key role in giving impetus to the Tomahawk's development, not so much because he was necessarily impressed with its potential capabilities but rather because he wanted an additional bargaining chip to be traded away in the second stage of the SALT negotiations with the Soviet Union.

Whatever the truth of this allegation, the Tomahawk SLCM program moved fitfully forward from that period and after some thirteen years of development has evolved into a system that features four distinct variants: a nuclear-armed land attack missile (TLAM/N), a conventionally-armed land attack missile (TLAM/C), a conventionally-armed anti-ship missile (TASM) and the ground-launched cruise missile (GLCM) that was part of the INF upgrade already discussed.³

The sea-launched versions of the Tomahawk were all deliberately configured so that they could be launched from the torpedo tubes of the Navy's attack submarines. In addition the plan

¹Dan Smuckler, "Sea-Skimming Missiles," JOURNAL OF DEFENSE AND DIPLOMACY (December, 1988), 44.

²A.M. Bowen and R. O'Rourke, "The Tomahawk Cruise Missile," NAVAL FORCES No. IV (1985), 94.

³Lt. Kenneth Keller, "Tomahawk: The Warrior's Weapon," SURFACE WARFARE (November/December, 1986), 3. For the development of the land-attack version of the Tomahawk, see Rose E. Gottmoeller, LAND-ATTACK CRUISE MISSILES, Adelphi Paper No. 226 (London: International Institute for Strategic Studies, Winter 1987/1988).

was for Los Angeles class boats to be fitted with vertical launching systems (VLS) on their front end to allow a second mode of firing. The Tomahawk was also designed to be fired from surface platforms. A VLS capability was to be backfitted on 24 Spruance class destroyers and installed as original equipment on Ticonderoga class cruisers and Arleigh Burke class destroyers.

Both the Iowa and New Jersey battleships were to receive the system as well. An additional mode of firing the Tomahawk from surface ships is the armoured box launcher (ABM), which in effect is bolted onto the ship's deck and elevated for launch purposes. The Navy's plan was for about two-thirds of the TLAM's, both nuclear and conventional, to be deployed on surface ships, with the remainder on attack submarines.

The Tomahawk flies at sub-sonic speeds (open sources indicate a maximum cruising speed of about 540 miles per hour) and has a range of approximately 1350 nautical miles for the TLAM/N and between 675 and 475 nautical miles for the TLAM/C, depending on whether it is fired from surface ships or submarines. The technical virtuosity of its guidance systems give the TLAM/N (the primary focus of this analysis) a reported capacity to come within one hundred feet of the designated target. The warhead on the TLAM/N is reported to be in the range of about 200 kilotons.

As of the date of initial deployment of the Tomahawk in 1984, the U.S. Navy projected a total procurement of 3994 of these systems, of which 758 would be the TLAM/N (deployment to be completed by the mid-1990's). Plans were to have a total of 198 attack submarines and surface platforms equipped for firing this

particular missile (as of mid-1988, 32 submarines and 24 surface ships had been so equipped).¹ This brief discussion of the technical characteristics of the Tomahawk program, however, hardly conveys any sense of the complexity of the debate over this particular weapons system. As noted earlier, the Tomahawks, and in particular the TLAM/N, have in fact been the occasion for an extremely heated debate over the actual mission that these weapons can perform, their impact on arms control negotiations, their role in (or threat to) crisis stability, and in general the mix of opportunities and risks that they present. It is necessary to take a close look at these matters, given the fact that the TLAM/N ostensibly could be regarded as being well-placed to assume some of the missions and roles of those weapons that are to be withdrawn from Europe under terms of the INF treaty.

MISSIONS

Given its technical characteristics, in particular the fact that it flies at sub-sonic speeds, the TLAM/N is not a particularly suitable weapon system for attacking time-urgent enemy targets, such as missile sites or C³. Instead, its utility may be summarized in terms of its capacity "for attacking fixed, heavily defended, high-value targets where time is not of the essence and the use of ballistic missiles or manned aircraft is deemed politically imprudent or technically risky."² This assessment conveniently

¹Alva Bowen, NAVY NUCLEAR ARMED TOMAHAWK CRUISE MISSILE (Washington: Congressional Research Service, September, 1985), 2

²Bowen and O'Rourke, "The Tomahawk Cruise Missile," 96.

touches on several of the advantages which supporters of the TLAM/N say the weapon offers, in particular its capacity for sparing naval airmen from excessively high-risk missions against critical targets as well as its being theoretically less "provocative" since it is not part of American central strategic systems and thus would be less conducive to Soviet escalation to a strategic exchange following its use.

The overall case for the nuclear Tomahawk can be summarized by reference to a series of inter-related propositions. It is argued, for example, that acquisition of the system greatly increases the flexibility and effectiveness of the Navy's nuclear striking power ashore. Instead of theater nuclear assets being concentrated on fourteen aircraft carriers (as well as the SLBM warheads dedicated to Saceur), the Navy will potentially have almost 200 nuclear strike platforms at their disposal. This will allow targeting of Soviet assets currently not within the Navy's strike capabilities as well as stretching Soviet defenses against such strikes beyond their effective capacity. By dispersing our naval nuclear deterrent amongst so many platforms, moreover, it will become virtually impossible for the Soviets to eliminate the American nuclear maritime retaliatory capability.¹ Also of considerable importance to the case for TLAM/N deployment is this system's contribution to the American strategic nuclear reserve, those assets that can be

¹Norman Friedman, "World Naval Developments," PROCEEDINGS (February, 1988), 119; U.S., Senate, Committee on Armed Services, DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1982. Ninety-seventh Congress, First session, 1981, 1651.

counted on to survive an initial nuclear exchange and remain available for follow-on missions after such an exchange.¹ Finally, stress is placed on the relatively low cost of the nuclear Tomahawk--around \$3 million per missile, compared to \$70 million for, say, the MX missile. Seen from this perspective, the TLAM/N adds a great deal to the deterrent capabilities of the United States generally and the Navy specifically, and at a remarkably modest outlay.²

Examined more closely in terms of its contribution to NATO security, the TLAM/N in fact could be assigned to any one of four distinct missions: a strategic nuclear attack on the Soviet Union or her allies, an attack on WTO naval support facilities and maritime air bases, support for the general land battle in Europe, and support for amphibious landings.³ Given the time it would take the TLAM/N to reach targets in the Soviet Union, the strategic attack mission may be questioned, although the weapon's extreme accuracy does make it suitable for destroying hardened strategic targets. Whether the TLAM/N is really needed for the second mission (destruction of WTO maritime assets) is also perhaps problematical, since these

¹On the "strategic reserve" role for the TLAM/N, see the statement by Rear Admiral Frank B. Kelso, Director of the Strategic Submarine Division of the Navy to the Senate's Armed Services Committee, Subcommittee on Strategic and Theater Nuclear Forces, STRATEGIC FORCE MODERNIZATION PROGRAMS, Ninety-seventh Congress, First Session, 1981, 203.

²Clarence A. Robinson, Jr., "The Tomahawk Missile and Nato Strategy," in NATO'S MARITIME STRATEGY: ISSUES AND DEVELOPMENTS (Washington: Pergamon-Brassey's, 1987), 53-54.

³United States, Joint Chiefs of Staff, STATEMENT ON US MILITARY POSTURE FOR FISCAL YEAR 1982 (Washington: GPO, 1981), 78.

targets have presumably been covered in Single Integrated Operational Plans (SIOP's) drawn up before the advent of the Tomahawk. The utility of the TLAM/N for the final two missions also is a matter of some controversy, especially with respect to the residual radioactivity and associated destruction which such use would entail.

Actually a theme threading itself throughout the debate over the TLAM/N is the uncertainty over whether this particular weapons system should properly be regarded as a strategic nuclear asset (and in particular part of the United States's strategic nuclear reserve) or is instead essentially a tactical/theater nuclear weapon.. As we have noted, theoretically it could be used in both capacities, yet the operational demands of each of these roles are substantially in conflict. If the weapon is to be seen in terms of the nuclear reserve, its platforms logically should be kept away from the general naval and land battle for their own safety. In this event, however, its utility for affecting the outcome of the battle is obviously much reduced. In the event that the TLAM/N platforms are committed to the battle, their future contribution as a strategic nuclear reserve is at peril. One argument that is often advanced in this connection is that actually the Navy's SLBM assets could perform virtually all the theater roles that are envisaged for the Tomahawk, which would suggest that the TLAM/N adds relatively little new in the qualitative sense to the American force mix.

Types of platforms are also involved here: clearly TLAM/N's on submarines would be relatively more impervious to enemy destruction and thus better suited to the reserve role; somewhat

more assured communications with surface platforms make them perhaps best suited to a theater operational role. It also has to be considered that to the extent submarines are given primary TLAM/N missions, this dilutes their ASW capabilities, since launching points for the Tomahawk may not be ideal for ASW operations, and every TLAM/N placed on board a submarine displaces another weapon.¹ In particular, an emphasis on TLAM/N loading would affect the capacity of Navy submarines and surface platforms to carry the TLAM-C as well as the TASM, and, as one analyst put it, to assign these platforms with TLAM/N's to NATO's theater nuclear-strike plans would "place operating constraints on Atlantic theater naval commanders."² It is of interest in this connection that so far the nuclear Tomahawks have specifically not been assigned a role in the Single Integrated Operational Plan (SIOP), the nation's strategic war plan, since this would necessarily conflict with the Tomahawk platforms' general purpose missions.

In considering potential missions for the TLAM/N, it is important to note that much of the original justification for the system had little to do with the weapon's potential utility in influencing the outcome of the land battle in Central Europe. Indeed Secretary of the Navy John Lehman was initially reluctant even to dwell on this particular role for fear that it would encourage the Europeans to back away from the politically controversial decision

¹Desmond Ball, "Nuclear War At Sea," INTERNATIONAL SECURITY 10 (Winter, 1985/86), 13.

²Floyd D. Kennedy, Jr., "U.S. Naval Aircraft and Weapon Developments in 1987," PROCEEDINGS (May, 1988), 195.

to place land-based Pershing II's and GLCM's in Europe in favor of a less contentious sea-based cruise-missile deployment for NATO. Instead he stressed the system's utility for a strategy of horizontal escalation: deterring a threat to one region by threatening a response in another. This approach gradually gave way to what might be considered more traditional rationales, including extending the American nuclear umbrella to Japan and other non-European areas and in general increasing the ability of the Navy to project its power in wide-spread theaters of actual or potential conflict.¹ It must also be noted that some uniformed officers were attracted to the TLAM/N because it would give the Navy a much-increased capability to attack Soviet naval aviation, in particular Backfire bombers assigned to maritime tasks, without being dependent on the Air Force for such missions.²

The Soviet Position

A major factor in the United States' decision to proceed with R&D on the nuclear Tomahawk, and eventually to its deployment, was concern about the Soviet Union's progress in developing just such a nuclear SLCM capability.³ Indeed, the Soviets have deployed

¹For an analysis that suggests there could be severe political and crisis stability problems in the deployment of Tomahawk platforms to Third World areas, see Eric Grove, "Nuclear Weapons in Surface Navies--More Trouble Than They Are Worth?" DEFENSE ANALYSIS, Vol. 1, No. 2 (1985), 136.

²Leon Sigal, NUCLEAR FORCES IN EUROPE (Washington: The Brookings Institution, 1984), 135-136.

³Jeffrey Duncan, "The Tomahawk Cruise Missile: Arguments For and Against," OCEANUS (Summer, 1985), 49.

nuclear-armed cruise missiles at sea since 1962. These earlier systems, however, were relatively primitive in terms of accuracy and firing mechanisms, and it is more recent Soviet SLCM developments that have received the bulk of attention in the debate over the U.S. Navy's own capabilities in this area. The essential argument is that the latest generation of Soviet SLCM's feature such an improvement in range, speed and accuracy that they constitute a significant threat to tactical and strategic targets both in this country and in the European theater. Development of American SLCM assets thus serves as a critical deterrent to Moscow's contemplated use of such systems.

The Soviets currently have one nuclear-armed, long-range SLCM in deployment, the SS-N-21 and one in the developmental stage, the SS-NX-24 (with an IOC at some point in the next few years). The SS-N-21 (wryly dubbed the "Tomahawksi" by Western intelligence) is powered by an air-breathing turbojet engine and is variously estimated to have a range anywhere from 1700 to 3000 kilometers. It can be launched from a standard submarine torpedo tube. The submarine platform chosen to test the SS-N-21 was the Victor-III class SSN. The system uses an inertial guidance system as well as TERCOM and once it reaches homing range is probably guided by a radar or anti-radiation terminal guidance system. It has a speed of about Mach 0.7, which puts it roughly the same category as the Tomahawk. The SS-N-21 is expected to be deployed on several different launch platforms, including the newer SSN's such

as the "Akula" and "Sierra" classes as well as existing types such as the "Victor III" class.¹

The SS-NX-24 is an advanced version of the SS-N-21 and has a much faster speed than the earlier system, perhaps on the order of Mach 2.0. It is also significantly larger than the SS-N-21 (41 feet compared to 21 feet), and carries a larger nuclear warhead. It has undergone launch trials from a former Yankee-class SSBN specifically converted for this purpose. Also in reported development is a ground-launched version of the SS-NX-24, which would be used in a coastal defense role.² A lingering question about both of these Soviet SLCM assets has to do with the relative sophistication of their technology compared to that of the Americans. There is some evidence that the Soviets continue to play "catch-up" here, particularly in terms of the miniaturization of the propulsion and guidance systems, and this factor may continue to obtain for the foreseeable future.³

Even if the Soviet Union continues to lag behind the United States in the overall capability and sophistication of its nuclear SLCM program, the question is often raised as to whether it is to the net advantage of this country to have a competition in this area at all. The argument sometimes advanced is that taking all factors

¹Clarence Robinson, "Soviets Test New Cruise Missiles," AVIATION WEEK AND SPACE TECHNOLOGY (January 2, 1984), 2.

²Norman Polmar, GUIDE TO THE SOVIET NAVY (Annapolis: Naval Institute Press, 1986), 432; JAMES DEFENCE WEEKLY (December 3, 1988), 1409; JAMES SOVIET INTELLIGENCE REVIEW (January, 1989), 18-21.

³Terry Terriff, "Controlling Nuclear SLCM," SURVIVAL (January/February, 1989), 62.

into consideration a situation in which both superpowers have substantial nuclear SLCM assets can only be deleterious to both American and NATO security interests more generally. One factor often mentioned is that of geography: the Soviet Union as a massive continental land power would be relatively more impervious to SLCM strategic strikes than the United States, where much of the industrial and communications infrastructure, not to mention concentrations of population, would be at risk from Soviet boats stationed off our shores.¹ As Admiral John L. Butts, Director of Navy Intelligence testified in 1985, "The SS-NX-21 probably is intended primarily for theatre applications but also very likely would be employed for strikes against US targets such as command, control and communication facilities and naval bases."² The SS-NX-24, when it becomes operational, would have even more of a capacity to strike major industrial centers and key military facilities as well as C³.³ Moreover, Soviet fleets would not have to travel far to be on station for strikes against targets in Western Europe, thus easing command-and-control problems, whereas the U.S. Navy would have to challenge various Soviet naval strongpoints in order to get at Soviet targets.⁴

¹On this threat, see U.S., House of Representatives, Committee on Armed Services, HEARINGS ON MILITARY POSTURES AND HR 10919, Ninety-fifth Congress, Second session, 1978, Part I, 336.

²Cited in Terriff, "Controlling Nuclear SLCM." 61.

³Theodore A. Postal, "Banning Nuclear SLCM's," INTERNATIONAL SECURITY (Winter, 1988/89), 194.

⁴Segal, NUCLEAR FORCES IN EUROPE, 137.

Related to the above point is the matter of crisis stability as well as the "lure" that U.S. Navy's surface Tomahawk platforms may provide to the Soviets for preemption. Navy spokesmen argue that TLAM/N's mounted on such platforms give nuclear carrier battlegroups added protection against a possible Soviet nuclear attack since even if the carrier is sunk other platforms will be able to deliver a nuclear retaliatory blow against the enemy in response. At the very least there is no question but that the dispersal of the Navy's nuclear assets greatly complicates Soviet targeting decisions. As CNO Admiral Carlisle A.H. Trost has argued, the Tomahawk "really puts the Soviets into a defensive frame of mind, no matter what direction their doctrine goes. That's deterrence working, and it's something we must be careful to protect."¹

The counter-argument, however, is that it is the very existence of such a panoply of nuclear strike platforms in American battlegroups that is likely to invite a Soviet preemptive nuclear strike, since that might well be the only assured way to eliminate a substantial maritime nuclear threat to the Soviet homeland. Moreover, the vast majority of current Soviet nuclear SLCM assets are assigned to anti-ship missions. Given American conventional superiority at sea, the assertion is made that a complete ban on all nuclear SLCM's is in the American interest since it would greatly vitiate the Soviet threat to these conventional forces.² There is also

¹Jon Stewart, "The Missile That Could Stop START," SAN FRANCISCO CHRONICLE (January 4, 1989), Briefing p. 3.

²On the disincentives for the American navy to encourage nuclear combat at sea, the testimony of former Navy Secretary John Lehman is instructive. See U.S., House of Representatives, Committee on

the matter of escalation control: if an American commander were authorized to respond to even a limited Soviet strike against his battlegroup by launching a nuclear Tomahawk, the Soviets might regard this as a strategic attack against their assets and respond in equivalent fashion with strikes against targets in the United States.

The essence of the debate here, in sum, revolves around the fundamental question of whether it is to the Navy's net advantage to have both superpowers developing an increasingly sophisticated nuclear SLCM capability. In particular, given the United States's general superiority in conventional maritime assets noted above, is it actually in the American interest to encourage the nuclearization of the combat environment at sea? A relevant point in this context, of course, is the perennial "action-reaction" issue: even were the United States to curtail its own nuclear SLCM program, would the Soviets necessarily follow suit? The evidence on this point is rather murky at present, especially because on balance the Soviets place greater importance on SLCM's to augment their fleets' capabilities than does the United States.

The Arms Control Challenge

We have already discussed how after the signing and ratification of the INF Treaty, attention in the arms control community and in the public generally became focused on the Strategic Arms Reduction Talks (START) and the possibility of a

follow-on START agreement that would deal with strategic systems. In this regard, the potential obstacle that nuclear SLCM's pose to a strategic arms control regime have become a major issue.

The Soviet Union has made the issue of restrictions on nuclear land-attack SLCM's a major part of its negotiating agenda for START (while at the same time showing much less interest in limiting anti-ship SLCM's). It is interesting to note here that in terms of how they see their own military needs, Moscow seems to regard nuclear land-attack cruise-missiles as having an uncertain military utility, although they may have a certain political relevance.¹ The Soviets' basic proposal is to limit systems such as the Tomahawk to a range no greater than 600 kilometers and with an overall limit on deployment of 400 warheads. These and other suggestions for arms control at sea have led CNO Admiral Trost to comment that "Mr. Gorbachev wants to restrict the mobility, flexibility, and capability of western military power where those prove to be particularly troublesome to him. That means imposing, or getting us to accept, limitations on U.S. maritime power."² In another statement, he commented that the Soviets wanted to "pull the fangs" of the U.S. Navy by banning or severely limiting its cruise-missile capabilities and restricting its operations on the high seas around the Soviet Union.³

¹James B. Rubin, "U.S. and Soviet SLCM Programs," ARMS CONTROL TODAY (April, 1986).

²Admiral C.A.H. Trost, "The Soviet Arms Control Offensive," VITAL SPEECHES OF THE DAY (May 1, 1988), 423.

³Charles W. Corddry, "'Soviet Union's arms proposals aim at U.S. naval strength, official says," BALTIMORE SUN (June 18, 1988), 4.

What seems clear enough is that Moscow does view the United States's nuclear SLCM capability with considerable alarm, particularly given the capacity of the United States to ring the Soviet landmass with Tomahawk platforms in Northern European waters, the Arctic and Indian Oceans, the Mediterranean and the Pacific (which would seem to negate any Soviet opportunity for destroying NATO's theater nuclear assets early on in a conventional campaign). A particular American concern is that any regime to limit nuclear SLCM's might impact as well on conventional SLCM assets, which are seen as especially important today in sustaining the theater concept of follow-on forces attack (FOFA). This envisions the use of conventional weapons to interdict rear echelon enemy forces before they can be brought to bear at the critical point of battle in Europe. Conventional SLCM's could make a substantial contribution to FOFA through long-range strikes from secure platforms at sea.¹

The TLAM/N itself presents two distinct problems for the arms controllers. In the first place, there is the matter of distinguishing a TLAM/N from a TLAM/C or a TASM. The three weapons have a common airframe and similar external appearance. Under the circumstances, verification procedures would almost inevitably seem to require some form of on-site inspection, not a prospect that necessarily appeals to naval personnel on either side. A second difficulty is in determining the exact number of Tomahawks loaded onto a given platform. The problem here is

¹Henry C. Mustin, "The Sea-Launched Cruise Missile," *INTERNATIONAL SECURITY* (Winter, 1988/89), 189.

especially pronounced in the case of VLS-equipped surface platforms. Surface-ship VLS's can theoretically contain any number of Tomahawks. In this case even with on-site inspection the ease with which the Tomahawk can be transported and loaded would seem to require an almost constant Soviet shipboard presence as part of a verification regime.¹ The best that US and Soviet START negotiators could agree on in December, 1988 was that there should be the establishment of "ceilings" on SLCM's (above and beyond the 6000 warhead limit for strategic weapons) and that ways had to be found to achieve "mutually acceptable and effective methods of verification".

There is considerable irony in the questions that are being raised about the obstacles nuclear SLCM's pose to a START agreement, since these systems were earlier regarded by many arms control advocates as actually constituting a positive contribution to U.S.-Soviet mutual deterrence and the stability of the nuclear balance. Given their slow flying speeds, as earlier noted, they were hardly a first-strike weapon. On the other hand, given their extreme accuracy and dispersal over a number of platforms, they were ideally designed as a second-strike weapon. Finally, the relative immunity of the Tomahawk to preemption, especially on submarine platforms, theoretically could lead to lesser reliance on ICBM and strategic bomber assets, which are vulnerable to preemption. In this regard, the development of the nuclear

¹Bowen and O'Rourke, "The Tomahawk Cruise Missile", 101.

Tomahawk could well be seen as providing an underpinning for substantial reductions in these other systems.¹

In the current environment, however, the challenge rather than the contribution of nuclear SLCM's to a verifiable arms control agreement, and more broadly to stability in the Soviet-American nuclear balance, seems to be receiving the bulk of attention, at least within the arms control community.² In particular there is concern that the so-called "nuclearization" of the maritime combat environment poses increasing dangers, especially in terms of escalation containment.³ There are a variety of possible approaches to solving the putative tension between the growing arsenal of nuclear SLCM's on both sides and the achievement of a START agreement.

On the matter of distinguishing SLCM's armed with nuclear as opposed to conventional warheads, Soviet First Secretary Mikhail Gorbachev is reported to have told President Reagan at the Washington summit in December, 1987 that the USSR had some sort of helicopter-borne instrument for gathering intelligence (NUCINT) on SLCM's. The device, he said, could not only detect the presence of nuclear weapons aboard ships from a distance of 900 to 1200 feet but also could discern the number of warheads and even their yield.

¹Thomas Schelling, "What Went Wrong With Arms Control?" FOREIGN AFFAIRS 64 (1985/86), 229.

²For the argument that a complete ban on all nuclear SLCM's would be in the American interest, see Ivo H. Daalder and Tim Zimmerman, "Banning Nuclear Weapons at Sea: A Neglected Strategy," ARMS CONTROL TODAY (November, 1988).

³Richard Fieldhouse, "Nuclear Weapons At Sea," BULLETIN OF THE ATOMIC SCIENTISTS (September, 1987).

The following month American negotiators in Geneva asked to see this device, and during a visit by Foreign Minister Shevardnadze to Washington in March, 1988 he proposed that the United States and the Soviet Union undertake a joint test of the equipment in the Mediterranean.¹

Washington declined this invitation on the grounds that the exercise would not tell the United States any more than she already knew about the relevant technology. A senior Administration official commented that the detection system seemed to be merely a "helicopter-borne Geiger counter", and expressed serious doubts as to its workability, especially if an opponent strove to disguise his weapons by using removable shielding (concrete or steel) to mask the amount of detectable radiation. If the Soviet NUCINT system could be shown to have some reliability, it would necessarily have to be complemented by random on-site inspections (OSI), which again would involve an unprecedented degree of intrusiveness on the ships of both superpowers. Interestingly, Secretary of the Navy John Lehman indicated in Congressional testimony in 1986 that the United States actually was prepared to accept such OSI: "The Navy has made it clear that we are prepared to accept on-site inspection of all our ships, negotiated on a reciprocal basis, as part of any arms control agreement."² Two years later Soviet Chief of the General

¹Jeremy Leggett and Patricia M. Lewis, "Verifying a START Agreement: the Impact of INF Precedents," SURVIVAL (September/October, 1988), 417.

²U.S., House of Representatives, Committee on Appropriations, HEARINGS BEFORE THE SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE, Ninety-ninth Congress, Second session, 1986.

Staff Marshall Sergei Akhromeyev told a visiting U.S. delegation that the Soviets would also allow OSI of Soviet vessels as part of a SLCM verification regime.

Despite these forthcoming statements, however, the obstacles to a full-fledged OSI system for SLCM's remain great, especially in terms of the reciprocity issue. There are certain technical possibilities that could help to obviate the OSI question, even if not totally to eliminate it. For example, through the use of "tags", or electronic signalling devices locked on to each missile canister, it may be possible to engage in at least some stand-off identification of missile inventories. "Passive" tags are roughly equivalent to the metallic strip seals used by clerks to check out products at a supermarket and require close-up inspection. "Active" tags, on the other hand, can be read some distance away. With a tamper-proof transmitter they "broadcast" digitized and coded radio signals which can be read by a dedicated receiver. Still other idea in the conceptual stage is the tagging of each missile with a receiver of NAVSTAR satellite signals. NAVSTAR is a U.S. satellite navigation system still in development, which transmits signals for the Global Positioning System. The main disadvantage here is that missiles on submarines when submerged would not be able to receive the signals, and to insist that they emerge at periodic intervals to receive satellite signals would negate one of their major advantages as a weapons system.¹

¹Leggett and Lewis, "Verifying a START Agreement," 421-423; Steve Fetter, "The Use of Tags in Monitoring Limits on Mobile Missiles,"

The reality, then, is that the only measure that would truly negate the necessity of an OSI regime would be a total ban on SLCM's, both conventional and nuclear. Assuming that factories capable of producing these systems were subject to inspection, any production of a SLCM would constitute a de facto violation of such an agreement. A more modest step would be to ban all nuclear-armed SLCM's, which would be harder to verify than the first arrangement but considerably easier to monitor than the more discussed notion of simply putting limits on the number of SLCM's, both conventional and nuclear. One way to achieve the latter would be to limit the number of platforms carrying nuclear SLCM's, and to develop functionally related observable differences (FROD's) in the form of uniquely configured facilities for storing and launching these missiles that would allow verification of each platform's capabilities. This would be similar to the regime imposed on ALCM carriers in the SALT II agreement. As noted previously, however, there is no immediate prospect that the latter arrangement is negotiable within the foreseeable future, and a complete ban on SLCM's is so remote a possibility that it can be virtually dismissed as an idea. The challenge that SLCM's, and in particular nuclear SLCM's, pose to arms control negotiations there ore seems likely to remain as a central point of controversy in discussion of these systems.¹

LLNL Report UCID-21034, Lawrence Livermore National Laboratory (March, 1987).

¹ For a useful survey of the verification problems in an arms control regime affecting SLCM's, see Kosta Tsipis, "Arms Control Verification at Sea: Cruise Missiles," NAVAL FORCES IX (1988).

Some Political Considerations

In concluding this discussion of the role that the nuclear Tomahawk can or will play in the post-INF Treaty security environment, some attention to broader political and what might be called symbolic questions is appropriate. A critical point here is the fact that when NATO planners were considering various alternatives for responding to the Soviet Union's SS-20 buildup--considerations which eventually led to the the December, 1979 "dual-track" decision--the SLCM was specifically rejected as a main component of the NATO INF upgrade. There were technical reasons for this in terms of the more immediate availability of the land-based Tomahawk and Pershing-II for deployment. Cost was also a factor, especially the problem of building sufficient submarine platforms for the nuclear Tomahawk compared to deploying the other systems onto facilities already available in Western Europe.

A major political-symbolic element in the December, 1979 decision, however, was the fact that the GLCM's and the Pershing-II's would be more visible and tangible as a testament to the American commitment to NATO defense than the sea-based systems. As we have already discussed, much of the impetus for the INF upgrade indeed had to do with just such political symbolism, at least much as more narrowly-defined questions of military doctrine and mission. The question thus presents itself as to whether the SLCM can now serve this essentially subjective role as a reassurer to those Europeans concerned about the steadfastness of American resolve to defend Europe. Since SLCM platforms are relatively

"invisible" (in the case of submarines) and widely dispersed outside continental Europe, it may well be asked whether they provide the same sort of psychological reinforcement that the ground-based systems did. Influencing a judgement on this question of course is the matter of whether America's European allies currently feel an equivalent need for such a reinforcement as they supposedly did in 1979.

One point that might be introduced here to support an argument that actually the nuclear Tomahawks are especially well-placed to perform political-symbolic functions in the post-INF environment has to do with the somewhat unexpected difficulties that the GLCM's and Pershing-II's seemed to face in performing their assigned missions. In testimony before Congress, former Assistant Secretary of Defense Richard Perle admitted that these systems "turned out to be far more vulnerable to attack . . . both conventional and nuclear . . . than those who made the decision to deploy them anticipated." The major problem here was in a sense technical but in reality basically political: the difficulty of dispersing these weapons in a timely fashion.

Timely dispersal is problematic because of the operational constraints placed on the peacetime movement of nuclear missiles. A timely decision to disperse in a crisis is almost certain to be rejected by NATO as an aggravation of an already dangerous situation. This unhappy state of affairs . . . has profound implications for the ability of NATO to deter--

implications that the alliance has so far failed to comprehend, let alone take action to deal with.¹

Presumably the SLCM assets of the alliance could be deployed and positioned in a crisis without encountering some of the more acute political difficulties that confronted land-based INF systems. This advantage of course has to be balanced against the possible political complications that would impact on nuclear Tomahawk deployment in non-NATO areas. In areas such as the Persian Gulf, for example, the existence of such assets could well exacerbate an already tense situation. There is also the matter of port visits: as more and more U.S. Navy platforms become capable of carrying the nuclear Tomahawk, this is bound to arouse the sensitivities of local anti-nuclear groups in countries such as Japan (this factor also obtains in NATO countries such as Denmark and Norway). In sum, the appeal of nuclear SLCM's from a broadly political perspective seems distinctly a mixed bag. Thus judgement might also be applied not unfairly to their strictly military applications. That the nuclear Tomahawk will play an important role in post-INF security calculations for the NATO alliance seems beyond dispute. The exact parameters and potential of that role, however, remain very much in dispute. As one U.S. Navy supporter of the Tomahawk puts it candidly, "the true perspective of power that Tomahawk has given us has yet to be explored fully."²

¹U.S., Senate, Committee on Foreign Relations, THE INF TREATY, Part 3, One Hundredth Congress, Second Session, 1988, 433.

²Libbey, "Tomahawk," 163.

IV.

NATO'S NUCLEAR ASSETS ON LAND

In responding to the new security situation created by the withdrawal of the Pershing-II and Tomahawk GLCM from Western Europe as a consequence of the INF treaty, NATO planners faced a host of options for maintaining deterrence and stability in the European theater. Among these have been the stationing of more nuclear SLCM assets off the coast of Western Europe, increasing the number of nuclear-capable aircraft in the region, and developing and deploying more tactical battlefield weapons, or short-range nuclear forces (SNF).¹ We have already discussed the first option, but an important point to be made here is that while SNF upgrades and a greater reliance on nuclear SLCM's for NATO deterrence are not necessarily (or at all) mutually contradictory, there are those who express considerable doubt about the wisdom of relying on the nuclear Tomahawk as part of NATO doctrine, and instead stress SNF modernization as a preferred substitute for such a sea-based strategy (especially in terms of maintaining the policy of flexible response).² From this perspective, the controversy over NATO's SNF assets assumes a particularly prominent role.

¹John D. Morrocco, "Allies Weigh New Deployments To Offset Proposed INF Cuts," AVIATION WEEK AND SPACE TECHNOLOGY (MAY 18, 1987), 18.

²See, for example, Terry Terriff, "Controlling nuclear SLCM," SURVIVAL (January/February, 1989), 57.

The NATO debate over modernization of land-based nuclear weapons systems in Europe has in any case assumed an increasingly high profile. Particularly from the viewpoint of the United States, Great Britain and France, there is an urgent necessity to make good whatever gaps in the NATO security posture may have been created as a by-product of the INF accord. SACEUR General John Galvin touched on the prevailing concerns when he testified to the Congress that "I hope . . . that there will not be some kind of euphoria about INF and everyone will say, 'Well,, the danger is all over now, we do not need to do these things.' I am a little bit worried about that."¹ A major way in which to do this theoretically is to proceed with various measures to improve the capabilities of the theater nuclear assets that will remain for the NATO alliance once the terms of the INF treaty are fully implemented, assets that are necessary to at least blunt the WTO's superiority in conventional arms in the European region.² We will focus here on various such measures that have been at the forefront of the discussion.

SNF Modernization Options

The one that has certainly received the bulk of the attention concerns the Follow-On-To-Lance (FOTL) issue. The Lance as currently configured is a surface-to-surface missile first deployed

¹United States, Senate, Committee on Foreign Relations, THE INF TREATY, Part II (February 3, 1988), One Hundredth Congress, Second session, 226.

²For a useful review of overall issues in NATO's deployment of SNF assets, see Catherine McArdle Kelleher, "Managing NATO's tactical nuclear operations," SURVIVAL (January/February, 1988).

in 1972 for battlefield use against forward-positioned Warsaw Pact assets. In addition to the ground-based launching mode in which NATO now has it deployed, the Lance may also be launched from a helicopter or fixed-wing aircraft. It may be equipped with either a conventional or a nuclear warhead, and has a range of approximately 70-80 miles. The yield of the nuclear warhead is estimated in open source literature at about 100 kilotons.¹

The ostensible advantages that might be expected from the fact that the Lance can be equipped with either a conventional or nuclear warhead are somewhat lessened by evidence that its accuracy is rather suspect and even more by its being deployed on so few launchers. Since there are only some 990 missiles deployed on 88 launchers in West Germany and Italy, the logic is to arm as many Lances with nuclear warheads as possible. In actuality, the West German government never even bothered to buy conventional warheads for the Lances under their control. Currently, there are in fact about 700 nuclear-armed and 300 conventionally-armed Lances in West Germany and a few more in Italy.² Another NATO member, France, also has 32 launchers for its short-range Pluton system. By way of comparison, the Soviet Union and her Warsaw Pact allies have about 1500 FROG, Scud and SS-21 triple-capable (nuclear,

¹Jim Hoagland, "NATO's Next Missile?" THE WASHINGTON POST (December 29, 1988), 23.

²Charles Daniels, "NATO Looks for Arms Control Loopholes," BULLETIN OF THE ATOMIC SCIENTISTS 43 (September, 1987), 9. See also the statement by Lawrence Woodruff, Deputy Undersecretary of Defense for Nuclear Forces, to the House Armed Services Committee in March, 1987 on the FOTL debate.

chemical and conventional) launchers with ranges from 35 to 185 miles. In nuclear-capable artillery, 2700 NATO pieces are matched against 6260 Warsaw Pact pieces. Within range of these systems are as much as 80 percent of NATO air defence batteries, airfields and nuclear storage sites.¹

It is suggested that the Lance as currently constituted will have lost much of its utility by the middle 1990's, not only because of its increasing age and obsolescence but also because the WTO will have moved their logistics and communications centers just out of the range of the missile into Poland and Czechoslovakia as well as hardening these facilities in concrete bunkers.² From this perspective there is considerable reason to consider replacing the Lance with an entirely new system, but for political reasons there is pressure to conduct the debate not in terms of introducing something quite new but rather in terms of a simple "upgrade" of the Lance itself. Indeed, under the Service Life Extension Program (SLEP), which Congress appropriated funds for in 1986, there has been a replacement of the warheads and guidance systems of the Lance as they reach the end of their operational lives. NATO allies of the United States have participated in this program, and many missiles have been so upgraded.

¹Bernard Trainor, "NATO's Tactical Missiles: Updating Set Back," NEW YORK TIMES (December 15, 1988), 45; North Atlantic Assembly, DRAFT GENERAL REPORT ON ALLIANCE POLITICAL DEVELOPMENTS IN 1987-1988 (Brussels: North Atlantic Assembly, November, 1988), 7.

²Statement by U.S. Army Lt.Col. John Reitz in "Time Blunts Effectiveness of NATO's Lance Weapon," THE WASHINGTON TIMES (February 15, 1989), 4.

The original decision to modify or replace the Lance grew out of a report by Supreme Allied Commander (SACEUR) General Bernard Rogers to the NATO Nuclear Planning Group (NPG) in Luxembourg in 1985. General Rogers was tasked to prepare a report outlining feasible reductions to be made in NATO's theater nuclear arsenal in response to the allies' agreement to go along with INF modernization. This was the unpublicized compromise that had been arrived at as part of the 1983 NATO Montebello agreement, and was essentially political in nature. The idea was to defuse objections by segments of West European public opinion to the introduction of the Pershing-II's and GLCM's by promising reductions in other tactical nuclear systems.

The Rogers Plan, among other things, recommended the withdrawal of an additional 1400 SNF warheads by 1988, and this has been carried out. The reductions were obtained by removing all Atomic Demolition Mines (ADM's) from West Germany and Italy; phasing out the remaining Honest John missiles in Greece and Turkey; and reducing the number of nuclear artillery shells from around 6000 to approximately 4000. At the same time, as noted, the Rogers Plan also called for the modernization of certain SNF systems, such as the production and deployment of new, extended-range 155-mm and 203-mm nuclear artillery shells, replacing or extending the range of the Lance, developing a new tactical air-to-surface stand-off missile (TASM), and continued deployment of new

and more capable aircraft capable of carrying either the TASM or new nuclear gravity bombs.¹

More recently, the Air Force has said it wants to use the 250-kilometer-range Short Range Attack Missile (SRAM) IV to fulfill the role originally envisioned for the TASM, partially because of its increased effectiveness and partly because of cost-efficient considerations.² IOP for the SRAM-IV is estimated to be about 1993, and it is expected to be the standard nuclear weapon for tactical aircraft such as the F-111G (the SRAM-II will serve an equivalent function for the B-1B and B-2 strategic bomber force). Deployment of some 51 F-111G's to Great Britain from the American Strategic Air Command is expected to begin in late 1989 or early 1990.³

The basic thrust of General Roger's recommendations was subsequently reaffirmed at regular NPG meetings in 1986 and 1987, but the West German government has so far prevailed upon NATO to avoid any language which publically commits them to the language contained in the Roger's Plan. This was evident, for example, from the wording of the communique issued from the NPG meeting in the

¹Jesse James, "Theater Nuclear Modernization--the NATO Decision That Won't Go Away," ARMS CONTROL TODAY (December, 1988). See also U.S., Department of Defense, SUPPORT OF NATO STRATEGY IN THE 1990'S. A Report to the United States Congress in Compliance with Public Law 100-180 (Washington: GPO, January 25, 1988).

²"NATO Nuclear Jitters", BULLETIN OF THE ATOMIC SCIENTISTS (January-February, 1989), 67.

³David Fouquet and Nick Cook, "NATO Forced to Rethink Nuclear Battlefield," JAMES DEFENCE WEEKLY (February 4, 1989), 16. "US F-111s set for UK to fill INF gap," JAMES DEFENCE WEEKLY (July 2, 1988), 1335.

Netherlands in October, 1988. The statement on nuclear modernization says that the member states had revalidated their commitment to the original Montebello decision and reaffirmed their "continual support of national efforts" to fulfill its requirements. Apparently at German insistence, however, no fixed timetable was established for implementing the Montebello provisions on modernization.¹

Given the fact that a decision to develop in effect a Lance replacement has at least formally been made, the question becomes what systems are prime candidates for deployment. American defense planners indicate that they want to have a suitable system available for the time when it will be needed regardless of whether at the present time they can secure West German agreement to deployment. The Army's preference seems to be for a dual-capable system (able to carry both conventional and nuclear warheads) which would have an extended range and greater accuracy than the Lance, and which would be deployed on the new Multiple Launch Rocket System (MLRS), a quickly-reloadable missile rocket launcher which is already operational and beginning to be based in West Germany.

The missile Army spokesmen originally wanted to build for the MLRS was a version of the Army Tactical Missile System (ATACMS). Tentative plans were for the positioning several hundred launchers and nearly 1000 missiles, the majority of them

¹"NATO nuclear jitters," BULLETIN OF THE ATOMIC SCIENTISTS (January/February, 1989), 67.

conventional.¹ Congress has been allocating funds for this system since 1983, and there is a conventional version of it already deployed in Europe. For several years after 1984, however, the Congress prohibited the Army from building a nuclear warhead for the ATACMS until it seemed certain the Europeans would accept its stationing on their soil. This restriction was removed in the conference report on the defense budget for FY 1989.²

Despite this decision, DOD has evidently moved beyond consideration of the ATACMS as a prime candidate for SNF modernization in Europe, and suggests now that the missile being considered does not even have a formal title as yet. The idea of developing a nuclear version of the ATACMS was apparently dropped because it did not have adequate range (only about 250. kilometers). The as yet unnamed Follow-On-To-Lance is supposed to have a range four times that of the earlier system and with much greater accuracy, even though in terms of its physical dimensions it will bear considerable resemblance to the ATACMS.³

ARMS CONTROL AND POLITICS

As with the TLAM/N, there are significant issues of interest to the arms control community and to political analysts generally

¹"Army to Begin Flight Testing Tactical Missile System," AVIATION WEEK AND SPACE TECHNOLOGY (April 18, 1988), 20.

²"Compensating for INF", BULLETIN OF THE ATOMIC SCIENTISTS (April, 1988), 59; Elizabeth Pond, "NATO Members Declare Unanimity on Keeping Nuclear Arms Up to Snuff," CHRISTIAN SCIENCE MONITOR (April 29, 1988), 42.

³Michael Gordon, "Pentagon Working On New Missile for West Germany," THE NEW YORK TIMES (February 17, 1989), 1.

concerning the whole matter of SNF modernization. On the first point, the most obvious answer to the problems of verification of a possible treaty regime on SNF systems would be simply to add a "third zero" to the double-zero arrangement of the INF accords (i.e., banning all SNF in Europe). Although there are significant public pressures in Western Europe to do precisely that, Washington has so far evinced little interest in such an arrangement, at least until there are agreements to limit conventional arms, ban chemical weapons and reduce long-range nuclear forces. The American position is that SNF modernization is a critical component of the NATO security posture following the INF treaty, and there is considerable skepticism about developing any arms control regime that would merely limit but not eliminate SNF in Europe.

As usual, problems of verification are at the forefront of any notion of a limited arms control regime involving SNF. The United States for its part plans to deploy new SNF missiles on the same tracked MLRS vehicles used for conventionally-armed ATACM's. It would be extremely difficult in these circumstances to tell the nuclear weapon from the conventional ATACM's. The MLRS has a launching box on top of the tracked vehicle which can hold up to twelve missiles. It might be possible that the launching box for nuclear systems could be increased in size so that it could be distinguished from MLRS's carrying conventional weapons, and this might even be technically desirable given the greatly-increased range of the new nuclear missile. Under these circumstances some variety of "national technical means" might be employed in a limited

SNF arms control regime. At present, however, this remains distinctly problematical.

On the matter of the politics of SNF modernization, the principal pattern that emerges is of a steadily increasing opposition within West European publics to the traditional role that nuclear weapons have played in NATO strategy. For example, in 1984 the percentage of Europeans expressing support for first use by NATO of nuclear weapons in response to a conventional WTO attack ranged from a mere seven percent in Denmark to only eighteen percent in Great Britain.¹ The European publics seemed unconcerned for the most part about the prospects of a Soviet invasion but more to the point were confident that "the conventional deterrent is adequate and that NATO can successfully defend against a conventional attack without resorting to nuclear weapons."²

The central focus of the political controversy over SNF modernization clearly lies in West Germany. Public sentiments in that country regarding nuclear weapons are a reflection of European attitudes generally but even more pronounced in their anti-nuclear slant. Thus polls indicate that seventy-nine percent of West Germans want all nuclear weapons withdrawn from Europe, and sixty percent are against SNF modernization. Over fifty percent disagree

¹Wallace J. Thies, "On NATO Strategy: Escalation and the Nuclear Allergy," *PARAMETERS* (September, 1988), 23.

²Stephen Szabo, "European Opinion After The Missiles," *ATLANTIC COMMUNITY QUARTERLY* 24 (Spring, 1986), 11, 13-14. See also Bruce Russett and Donald R. Deluca, "Theater Nuclear Forces: Public Opinion in Western Europe," *POLITICAL SCIENCE QUARTERLY* 98 (Summer, 1983).

with the argument that nuclear weapons help to deter the WTO and keep the peace. Given these views, it is interesting that only about three in ten are in favor of spending more on conventional forces once the terms of the INF accord are realized.¹

Until the signing of the INF treaty the West German government itself was generally consistent in its support of the Montebello agreements. Since the INF accord has come into effect, however, Bonn's position on SNF has been at best mercurial and unpredictable. Prior to Gorbachev's startling announcement at the United Nations in December, 1988 that the Soviet Union would be undertaking substantial cuts in its military establishment, involving in particular a drawdown of some forces in Eastern Europe, Chancellor Kohl gave public support to SNF modernization as long as NATO was willing to develop a "Comprehensive Concept" (Gesamtkonzept) detailing how the nuclear and conventional sides of the Alliance's strategy could be combined into a single plan leading to arms control negotiations with the Soviets. In particular Kohl wanted the Gesamtkonzept to focus on a restructuring of NATO's remaining longer-range nuclear forces while scaling back reliance on shorter-range nuclear weapons and setting out a plan for negotiated reductions of SNF and conventional weapons.² The drawing up of the Gesamtkonzept is expected to be completed in early 1990. Kohl also linked a resolution of the FOTL issue with a substantial

¹"New Attitudes in West Germany" (an interview with Josef Joffe), *WORLD PRESS REVIEW* (December, 1988), 26.

²Clay Clemens, "Beyond INF: West German's centre-right party and arms control in the 1990's," *INTERNATIONAL AFFAIRS* 65 (Winter, 1988/89), 69.

drawdown or even elimination of short-range nuclear artillery on German soil.¹

On the other hand, even within Kohl's own Christian Democratic Party (CDU), there were concerns expressed about the implications of a new NATO emphasis on SNF. Thus CDU Parliamentary leader Alfred Dregger and his deputy Volker Ruhe referred to the special threat of lower-range nuclear weapons in the NATO arsenal that would essentially hit only German soil.² The phrase adopted by Ruhe was, "the shorter the range, the deader the Germans." Aside from what has been called the "singularization" problem, German conservatives were also concerned with the possibility of decoupling: the notion advanced was that an emphasis on modernization of SNF was implicitly an effort by the United States to confine any possible future conflict in Europe employing nuclear weapons to the continent itself, sparing Washington the necessity of committing its own strategic forces to European defense.

The vast majority of the Social Democratic opposition, not to mention the totally anti-nuclear Greens, in a curious community of views with these CDU representatives, also rejected SNF upgrading, although far more for the first reason than the second.³ At its party Congress in Munster in September, 1988, the SPD passed resolutions

¹Robert McCartney, "Bonn Indicates Shift on Atomic Arms," WASHINGTON POST (November 16, 1988), A12.

²Pond, "NATO Members Declare Unanimity on Keeping Nuclear Arms Up to Snuff," 43.

³Thomas Risse-Kappen, "Odd German Consensus Against New Missiles" BULLETIN OF THE ATOMIC SCIENTISTS (May, 1988), 16.

rejecting any modernization of Lance as well as any measures designed to "compensate" for systems removed under the INF Treaty. Over the long term, the SPD favors removing all nuclear forces from German soil and reducing NATO's nuclear deterrent strictly to sea-based systems linked to American central strategic assets. This is to be accompanied by a shift to a non-offensive conventional defence on German soil itself. CDU spokesman Alfred Dregger has also supported the idea of moving NATO nuclear deterrence out to sea, especially since the nuclear SLCM's would be capable of reaching deep into WTO territory rather than simply being used to convert Germany into a nuclear battlefield. In a blunt statement in Washington in June, 1987, he demanded "to know whether and with which air- and sea-based systems the United States is prepared to maintain intermediate-range deterrence."¹

However, following the Gorbachev pronouncement of unilateral Soviet conventional reductions and an announcement in January, 1989 by Foreign Minister Shevardnadze that Moscow would also be reducing her tactical nuclear inventory in East Germany, Czechoslovakia and Hungary, Kohl's position began to waver. It seems likely that Shevardnadze's pronouncement was directly calculated to influence the debate over SNF in Bonn, especially since it was delivered personally first to West German Foreign Minister Genscher. "It is a very clever ploy by the Soviets," said one NATO official. "They get rid of old tactical nukes that they don't need

¹Ronald Asmus, "West Germany faces nuclear modernization," SURVIVAL (January-February, 1989), 505. 508.

anyway, and this puts heavy political pressure on Bonn."¹ The German Chancellor returned to a position enunciated immediately after the INF agreement to the effect that removal of IRINF and LRINF systems shifted the focus of any possible European military confrontation back onto German soil. Under the circumstances, he advanced the idea of postponing SNF modernization until a way might be found to avoid that possibility, either through an East-West agreement on reducing conventional arms or through negotiated reductions in both sides' arsenals of SNF. Neither Kohl nor his Foreign Minister, Hans Dietrich Genscher, are as such in favor of a "third zero", since they fear it would lead to the total denuclearization of European defense.² In this respect, they are in agreement with the British, French and American positions, all of which are strongly opposed to the total elimination of SNF.³

Secretary of State James Baker during a visit to Bonn in early February, 1989 reiterated the American position that Washington hoped for a final decision on the FOTL question as of the NATC summit meeting the following May. Chancellor Kohl held firm to his hesitations, however, saying that he saw no need for such a decision until--at the earliest--after German Federal elections in 1990. His response was undoubtedly conditioned by the fact that an estimated

¹William Tuohy, "Soviet Missile Cuts Could Upset NATO Modernization," LOS ANGELES TIMES (January 21, 1989), 4.

²"Chancellor Kohl Meets With President Reagan," DEPARTMENT OF STATE BULLETIN 88 (May, 1988), 45. In his meeting with President Reagan in February, 1988, the German leader called for reductions and equal ceilings on SNF but "no zero resolution, no denuclearized zone--and least of all, in Europe."

³Kohl v Genscher," THE ECONOMIST (February 11, 1989), 44.

80% of West German opinion was opposed to bringing new missiles into West Germany until the possibility of further arms agreements with the Soviet Union had been more fully explored.¹ It is perhaps significant that on this same visit Baker was informed by his counterparts in Denmark and Norway that they essentially shared Kohl's position and saw no need for an early resolution to the question and in particular to the placing of undue pressure on the West Germans for a decision congenial to Washington.²

In April, 1989, Washington finally accepted the West German desire to have any formal decision on the FOTL postponed until after 1990. This served to defuse the tension over this issue at least temporarily, but only a few days after the American statement there was renewed controversy when the German Chancellor reiterated his demand that NATO should immediately enter into arms control negotiations with the Warsaw Pact to reduce SNF in Europe. Both the United States and Great Britain flatly rejected this suggestion, and the forthcoming NATO summit meeting at the end of May threatened to become an arena of contention between these two seemingly irreconcilable positions.³

Prior to Washington's concession on the timing of FOTL, SACEUR General John Galvin had submitted to NATO Secretary-General Manfred Woerner the results of a nuclear weapons study

¹John Goshko, "Baker Tour Exposes U.S.-West Germany Friction," WASHINGTON POST (February 17, 1989), 34.

²Don Oberdorfer and Robert J. McCartney, "Baker, Kohl Fail To Agree on Missiles," WASHINGTON POST (February 14, 1989), 6.

³Robert J. McCartney, "U.S. Accepts Delay by NATO On Updating Short-Range Arms," WASHINGTON POST (April 21, 1989).

conducted during the previous year that held out the possibility of a reduction in NATO's nuclear assets in Europe by about a thousand, mainly nuclear artillery shells but also aircraft ordnance as well. If adopted, this would reduce the Alliance's overall arsenal of warheads to approximately 2900, compared to a high of about 7000 in the 1960's and 1970's. Nuclear artillery, with a range of about 18 miles, has always been an extremely sensitive weapons systems for the West Germans--implying the potential of a devastating "limited" nuclear war on German soil--and the idea of reducing the number of such weapons was presumably advanced in large measure to mitigate West German opposition to SNF modernization. To date, however, this proposal seems to have had little effect on Chancellor Kohl's position.¹

In a very real sense, the intense debate over the FOTL in particular is not so much a disagreement about specific military capabilities as it is a symbol of West Germany's continuing commitment to NATO. Should Bonn ultimately decide to reject any FOTL, this is calculated to have severe repercussions for NATO solidarity, especially in Paris, London and Washington. French Foreign Minister Roland Dumas stated for example in December, 1988 that any delay in NATO SNF modernization will inevitably lead to a gap in the Alliance's nuclear capability by 1992 and a distinctly unfavorable shift in the balance of forces in Europe. The concerns about the FOTL issue in these capitals is exacerbated by the

¹THE MANCHESTER GUARDIAN (January 24, 1989); Charles Corddry, "NATO Weighs New Nuclear Weapons Cuts," BALTIMORE SUN (February 17, 1989), 1.

widespread evidence suggesting basic shifts in West German public opinion on the threat of WTO aggression and the role of nuclear weapons in NATO strategy that we have already reviewed.

It is important to recognize that it has been a long-term position of the WTO to call for the elimination of all ground-based short-range nuclear missiles in Europe (and to denounce strongly NATO plans for SNF modernization). Given the substantial advantages that the Soviet Union and her allies enjoy in various conventional arms categories, such a proposal has never evoked much enthusiasm from the majority of NATO defense planners.¹ The fear, however, is that continual delay in arriving at a final decision on FOTL and other SNF upgrades will have the effect of leading to the outcome the WTO proposes, at least on the NATO side of the divide in Europe. Two authoritative military analysts gloomily suggest that "given current sentiments about nuclear weapons among allied publics, the most that NATO probably can hope to do with regard to nuclear forces in Europe is to avoid a further slide toward denuclearization. Yet, even that objective may be difficult to obtain."²

¹For a good survey of the interconnection between the conventional and nuclear balance in Europe and its impact on NATO doctrine, see Stephen J. Cimbala. "NATO Strategy and Nuclear Weapons: A Reluctant Embrace," *PARAMETERS* (June, 1988).

²Jeffrey Record and David B. Rivkin, Jr., "Defending Post-INF Europe," *FOREIGN AFFAIRS* (Spring, 1988), 744.

CONCLUSION

In attempting to arrive at any summary judgments about NATO's security options in the aftermath of the INF treaty, one is inevitably constrained by the fact that the treaty's provisions have only relatively recently entered into effect, and thus it is quite difficult at the present time to assess how NATO strategy and doctrine can or should evolve in response to the elimination of Alliance INF assets in Europe. Nevertheless a few tentative conclusions may be offered based on the analysis contained in the earlier pages of this essay.

Critics of the INF treaty suggested that it was the first step on the road to the "de-nuclearization" of NATO's deterrent capability. This seems to be largely a misplaced fear. As one writer puts it, "removal of superpower intermediate nuclear forces will have little effect on the overall stability of deterrence in Europe. To contemplate a successful European campaign, by their standards, the Soviets would have to somehow prevent NATO from nuclear escalation and from turning the war into an extended contest of attrition."¹ Despite the forebodings of some, even after the terms of the INF treaty are fully implemented, NATO will in all probability continue to have short-range nuclear forces (SNF) on the continent (barring the extremely unlikely elimination of all such assets as part of a "third zero" agreement with the WTO). Moreover, the steady deployment of TLAM/N platforms in the European maritime

¹Stephen J. Cimbala, "NATO Strategy and Nuclear Weapons: A Reluctant Embrace," *PARAMETERS* (June, 1988), 61.

theater, even if they are not formally assigned to NATO, will give the Alliance an expanding nuclear capability that indeed threatens escalation should the Soviets decide on a military move into Western Europe. In addition, some 400 Poseidon SLBM warheads have been allocated by the United States for NATO's defense. Finally, there are the nuclear forces of France and Great Britain as well as American central strategic assets. This panoply of nuclear might seems sufficient to make any rational decision for aggression by the WTO highly doubtful.¹

Of course future arms control agreements could theoretically change this situation in a manner deleterious to NATO's deterrent posture, but again the fears expressed on this point by some seem, at least at present, to be overdrawn. Not only is a total ban on SNF in Europe, as noted above, highly unlikely, but it is equally implausible that the United States would agree to a complete elimination of its nuclear SLCM assets, at least in the absence of a major drawdown of Soviet nuclear and conventional capabilities of a sort hard to imagine. Conventional SLCM's are very much part of the picture here as well: even those in the arms control community who are dubious about the nuclear Tomahawk tend to accept that the TLAM/C gives the Navy a very important capacity to influence a land battle in Europe. As we have already discussed, a total ban on nuclear SLCM would likely impact on the United States arsenal of

¹An excellent survey of the basic ingredients in the geopolitics of European defense is Hugh Farington, *CONFRONTATION* (London: Routledge and Kegan Paul, 1986).

conventional SLCM's, and there is a relatively small constituency pressing for such an outcome.

Even though it is unlikely that NATO will consent to beat its nuclear swords into plowshares, there will continue to be a debate about the best mix of nuclear and conventional forces in terms of overall NATO strategy. A key aspect of this debate will be varying attitudes toward what one author has called deterrence stability versus crisis stability. In brief, the former involves one side's having sufficient guaranteed retaliatory power to make a conscious decision for aggression by an enemy unattractive, either because achievement of his objectives is unlikely or because he is fearful of disproportionate punishment for his transgressions. Crisis stability (or instability), on the other hand, refers to situations in which neither side is firmly committed to aggression, but there is a danger of unintended escalation to hostilities given each side's deterrent posture. Critical to crisis stability is the relative degree of incentive for either to strike first in order to gain decisive military advantage. The overall point is that what may be ideal for deterrence stability may also be highly deleterious to crisis stability.¹ Deployment of the TLAM/N, for example, has been criticized precisely on these grounds. Whatever view one takes of the expansion of American nuclear SLCM capabilities, it is hardly possible to avoid dealing with the dilemma outlined above.

The Nature of the Threat

¹John Mearsheimer, "A Strategic Misstep," INTERNATIONAL SECURITY (Fall, 1986), 7-8.

The debate over NATO's deterrence capabilities also has to be influenced by a continuing rigorous assessment of the character and likelihood of major threats to Western interests and security, not only in Europe but in the global perspective as well. In this regard the recent conclusions of the Commission on Integrated Long-Term Strategy are of some interest. The Commission was a bipartisan Pentagon group assigned the task of developing an overall security strategy for the United States in the coming decades, and included amongst its members such luminaries as Henry Kissinger, Albert Wohlstetter, Zbigniew Brzezinski and others. In one of its more controversial analyses, the Commission suggested that the United States should moderate its past preoccupation with the danger of an all-out Soviet attack in Europe, and instead focus more on regional threats to American security interests in the developing world. In doing so, moreover, the Commission recommended that the United States play down its reliance on nuclear weapons and shift toward a strategy of deterrence that would emphasize more advanced and accurate non-nuclear weapons.¹

The above conclusions seemed calculated to raise some concerns among the European members of NATO that the United States might move toward a "de-coupling" of its security position from that of her European allies. Indeed one specialist close to the Commission indicated that an early draft of the report recommended that American troops be thinned out in Europe but this was later

¹The Commission on Integrated Long-Term Strategy, DISCRIMINATE DETERRENCE (Washington: GPO, January, 1988).

withdrawn.¹ In its final version, the report reaffirmed the wisdom of a continuing strong American military presence in the European theater and the forward deployment of American forces as part of NATO's strategy for deterring WTO aggression. Even though the Commission eventually supported the conventional wisdom concerning American ties to NATO, some of its conclusions did touch on some fundamental questions regarding the allocation of American resources given a balanced overall threat assessment.

The fact is, of course, that the United States--unlike most NATO states--is a global power with global interests and responsibilities, and this has to influence specific decisions on defense commitments to the security of Europe. To be sure the maintenance of Western Europe as a free and economically prosperous partner of the United States has to be considered the first priority of American foreign policy. On the other hand, there is no question but that there are a rising number of other challenges to American security interests in different regions of the world. Given this fact, what portion of American military resources should legitimately be assigned to Europe at the possible expense of the American position in these other regions? We have referred earlier to the fact that some U.S. Navy analysts have concerns that a formal assignment of substantial TLAM/N assets to NATO would reduce the Navy's flexibility in meeting challenges elsewhere.² Overhanging

¹Bernard Trainor, "U.S. Is Urged to Reduce Reliance on Atom Arms," NEW YORK TIMES (January 11, 1988), 6.

²To meet this problem, one writer has called for "a simple, declaratory statement that the SLCM/s will be available in any emergency", which, in his opinion, "should calm allied concerns and

this whole issue is also the matter of probabilities. Certainly the WTO continues to maintain very large military forces in Europe, which inevitably implies a continued threat of aggression. In the Gorbachev era, however, how likely is such aggression compared to emerging threats elsewhere? There are no easy answers here, but the basic question is going to have to be steadily addressed in the coming years.

Alliance Decision-Making

Another general conclusion which emerges rather forcefully out of the analysis contained in this paper is that there is a greater need than ever for a genuine process of consultation and compromise between the North American and European members of NATO. Gone are the days when the United States's overwhelming preponderance in economic and military power generally gave it the decisive voice in determining NATO strategy. A report from the North Atlantic Assembly states that the "need to adjust US and European responsibilities in the Alliance should be confirmed in a new transatlantic bargain between the United States, Canada and the European members of the Alliance."¹

It is unclear at present just what the specifics of this "new transatlantic bargain" might entail, but it is less difficult to describe the sorts of outcomes and situations that it would be

maintain the decades-old deterrent." James L. George, "The Triad After INF and START," PROCEEDINGS (May, 1988), 116.

¹North Atlantic Assembly, NATO IN THE 1990'S (Brussels: North Atlantic Assembly, May, 1988), 11.

designed to avoid. One would be the type of negotiation that took place at the Soviet-American summit at Reykjavik in October, 1986. When the news emerged that President Reagan and General Secretary Gorbachev had discussed eliminating all ballistic missiles and even all nuclear weapons, the reaction in Western Europe was an equal mixture of astonishment and anger, since such a step called into question the fundamentals of the American nuclear guarantee of European security as it had existed since 1949. No matter how compelling and even noble in the abstract total nuclear disarmament between the superpowers may have been, the spillover effect on NATO members was dramatic, particularly since they had received no advance notice that such a discussion would take place.¹

Then there is the current controversy over Chancellor Helmut Kohl's suggestion that the NATO Alliance enter into immediate arms control negotiations with the WTO to reduce short-range nuclear forces (SNF) in Europe. This proposal has been summarily rejected by Washington (and by Britain as well), yet Bonn has the support of about half the NATO membership for its position, including Italy, Belgium, Spain, Greece, Denmark and Norway. There are strong arguments that have been advanced by the Bush Administration against the idea of any near-term negotiation on SNF, especially given the threat which it might pose to the very idea of flexible response in defending Europe, but it is important that this dispute be

¹For the official American position on the Reykjavik summit, see U.S., Department of State, "The Reykjavik Meeting," GIST (December, 1986) and George Schultz, "Reykjavik: A Watershed in U.S.-Soviet Relations," U.S. Department of State, CURRENT POLICY no. 883 (November, 1986).

resolved on the basis of a mutual adjustment of positions and genuine attempt at compromise. For the United States simply to dismiss any idea of SNF arms control for the foreseeable future, in effect unilaterally vetoing such a concept, will likely leave a considerable residue of bitterness and tension within the Alliance, especially given the fact that the WTO has approximately a fifteen-to-one advantage over NATO in short-range missiles (which would seem to support the idea that at least a preliminary negotiation with the WTO to reduce this disparity might be appropriate.)¹

Political Dynamics

Avoiding such an outcome is especially important today in view of the fundamentally changed political environment in Western Europe that we have outlined earlier in these pages. There is a considerable irony evident when one examines that environment prior to the INF upgrade decision in 1979 and the one obtaining after the conclusion of the INF Treaty almost ten years later. In the earlier period the United States accepted the lead of the West Europeans, notably the West German Chancellor, in agreeing to deploy Pershing-II's and GLCM's to Europe in order to bolster European confidence in the continued American security commitment

¹In apparent recognition of this fact, leaders of both the House and Senate Armed Services Committees have suggested a plan whereby SNF negotiations would be initiated but with the understanding that they would not effect the deployment of the Follow-on-to-Lance. The Chairman of the Joint Chiefs of Staff, Admiral William Crowe, expressed some support for this idea. Michael Gordon, "Bush Is Criticized On Capitol Hill Over NATO Dispute," NEW YORK TIMES (May 4, 1989), 1.

to the NATO countries. As noted, the 1979 decision was essentially driven by political symbolism, that is, the symbolic reaffirmation of the coupling of European and American security.

Under current circumstances, however, it is the Americans who are insistent on maintaining and modernizing NATO's nuclear assets whereas many in Western Europe, notably the West German Chancellor, are insisting that there is no need for an immediate decision on the nuclear question and that hopefully arms control negotiations will obviate the necessity of ever making such a decision at all. It is important to recognize in this context that the military utility of the original INF upgrade program was relatively minor compared to the political effect. The withdrawal of the Pershing-II's and GLCM's therefore has to be assessed only partly in terms of its impact on NATO military capabilities. The real assessment that has to be done concerns the possibly exaggerated public expectations about detente and arms control in Europe that resulted from the completion of the INF treaty.

Could such sentiments lead to what is pejoratively termed the "Finlandization" of Western Europe? Such a development can fairly be described as one of the nightmares hanging over NATO defense planners for a number of years. As a negative formulation, Finlandization would involve a gradual drift into neutrality by successive European countries, withdrawal from the NATO alliance, and a broad accommodation to Soviet foreign policy demands in return for ostensible freedom in domestic affairs. As part of the process American military forces would perforce be expelled from the continent. The model for all this is of course Finland itself and its

particular relationship with the Soviet Union, based on the 1948 Soviet-Finnish Treaty of Friendship, Cooperation and Mutual Assistance.

Finnish spokesmen themselves are consistently angered by the critical evaluations offered concerning their policy toward Moscow, and indeed proclaim (with some apparent justification) that it has been notably successful in protecting Finnish interests.¹ Whatever one thinks about the Soviet-Finnish relationship, however, alarms about its somehow being duplicated in Western Europe generally seem very wide of the mark for the foreseeable future. For one thing, "Finlandization" depends on an overwhelming preponderance of military power by one side over the other, a situation hardly comparable to that obtaining between the WTO and NATO or likely to obtain. Moreover, Finland because of geographical and political factors (having to do particularly with the so-called "Nordic balance") has had neutrality virtually dictated to it as the only conceivable policy. A coherent association of sixteen NATO nations clearly has far more leverage in maintaining a policy independent of the Soviet Union, especially since the United States has committed itself to that end for some forty years now.

In sum, Finlandization hardly seems to be a spectre haunting Western Europe. Actually, it might be argued that its spread may be far more likely in Eastern Europe than in the West, given recent events in Poland, Hungary and elsewhere. In this sense

¹For a good assessment of the matter, see Adam Garfinkle, "FINLANDIZATION": A MAP TO A METAPHOR (Philadelphia: Foreign Policy Research Institute, 1978).

Finlandization might be an outcome devoutly to be wished by Western policy analysts, given what it implies for a lessened Soviet domination over the East European nations.¹

Future Prospects

The only way in which the European members of NATO seemingly might be tempted by the Finland model would be if Washington makes any one of three fundamental although quite different mistakes: 1) an abrupt withdrawal of its forces and more generally of its security guarantees from the European continent; 2) adoption of a policy of confrontation with the Soviet Union that in effect ruled out arms control talks or any other attempt at resolving East-West differences; 3) a retreat into unilateralism in which Washington attempted simply to dictate the terms and implementation of NATO strategy with only minor concessions to European sensitivities on these matters. Stated in this way, it hardly seems beyond the capacity of the United States to adopt a policy stance toward NATO that will in effect eliminate any real possibility of a drift toward Finlandization in Western Europe.

This upbeat assessment, however, should not disguise the fact that based on the evidence presented here the NATO security posture after the INF treaty is going to be at least somewhat more problematical than it was prior to the conclusion of the treaty. As two defense analysts put it, "NATO will have to learn to live with a lower order of both deterrence and defense in Europe in the post-INF

¹For an elaboration of this argument, see Stephen A. Garrett, FROM POTSDAM TO POLAND (New York: Praeger, 1986), 215-218.

treaty era than that to which it has become accustomed. The alliance has painted itself into a corner and the paint will not dry. Though willing to accept a substantial denuclearization of its European defenses, it is unwilling or unable to put its non-nuclear defenses in order." The same individuals go on to say, however, that this pessimistic conclusion "does not mean that chances of a future war in Europe are appreciably greater than they are today." Barring major mistakes by Western decision-makers and force planners, they conclude, there is no reason to doubt that the Alliance can continue to deter WTO aggression.¹

This seems to be an eminently sensible position to take. After all, NATO still disposes of an impressive arsenal of both conventional and nuclear capabilities. Even if defense analysts might hope that more steps could be taken in certain discrete areas to improve and modernize these capabilities, they should not be thrown into despair if for a variety of reasons not everything on their agenda can be achieved. The freedom of the NATO countries to be sure depends importantly on their military assets. Yet it also depends as well--and perhaps even more fundamentally--on the continued will to remain free. Despite all the controversy and uncertainty be etting the Alliance after the INF treaty, there is no evidence that this will has faded in any material respect.

¹Jeffrey Record and David B. Rivkin, Jr., "Defending Post-INF Europe," FOREIGN AFFAIRS (Spring, 1988), 754.

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