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Ballistic Missile Defense and the Atlantic Alliance

David S. Yost

The Atlantic Alliance may be at the threshold of a new debate on the implications of ballistic missile defense (BMD) for European security. Secretary of Defense Caspar Weinberger and several U.S. Senators and Congressmen support a thorough review of U.S. BMD options, including possible revision of the 1972 Anti-Ballistic Missile (ABM) Treaty and its 1974 Protocol. Although active defense of intercontinental ballistic missiles (ICBMs) seems the most likely application for BMD, other strategic defense options are reportedly under consideration. European-based BMD against theater ballistic missiles such as the SS-20, SS-21, SS-22, and SS-23 is being examined as well. Such defenses are known as anti-tactical ballistic missiles (ATBM) or anti-tactical missiles (ATM). The term "ATM" is preferred in that it implies capability against cruise as well as ballistic missiles.

The political and strategic issues that BMD programs could raise within the Alliance should be explored as deliberately as possible before economic resources are committed. Material for preliminary analysis resides in previous Alliance deliberations on BMD and in the informal discussions recently provoked in Europe by obvious U.S. interest in BMD options, including ATM. The issues go to the heart of NATO's established theory of deterrence and offer an opportunity for fundamental reassessment.

This essay is based on extensive interviews in Europe in 1980 and 1981. Despite obvious risks of over-simplification, owing to the diversity of views in each country on most issues, I have chosen to conform to standard practice by referring to the "Europeans" as a shorthand for what appear to have been and to remain dominant trends in West European opinion. Special thanks are owed to Colin Gray, who first encouraged me to investigate this topic, and to various observers in government and industry (including Benson Adams, Guy Barasch, Charles Kupperman, and Richard Nuttall) who commented on earlier drafts. The views expressed are nonetheless mine exclusively, and should not be construed to represent those of the Department of the Navy or any U.S. government agency.

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Alliance BMD Deliberations, 1967–1968

The previous Alliance deliberations on BMD helped to form European attitudes that have become firmly entrenched over the past fifteen years. The principal deliberations took place in Nuclear Planning Group (NPG) meetings from April 1967 through April 1968. The two key issues were U.S. plans for the Sentinel ABM system and the possibility of BMD in Europe.

McNamara's September 1967 speech announcing the decision to deploy the Sentinel ABM system for defense of the United States against projected Chinese strategic capabilities "created considerable resentment among the allies" for several reasons, including convictions that "the announcement had been made without sufficient consultation and that the United States had failed to honour its obligations to the NPG."¹ The anti-Chinese orientation of Sentinel was seen in Europe as based on "hysterical and dangerous" American fears of China, so that "the dangers that are thought to arise from BMD deployment seem to be incurred for no good reason."²

These presumed dangers were partly those thoroughly articulated by the American opponents of BMD at approximately the same time—above all, that strategic stability and prospects for arms control and détente would be needlessly endangered by highly expensive technology that probably would not be reliably effective. Few indeed were the Europeans of that era who supported a U.S. BMD program as in the West European interest because it might promote coupling by assuring the continued invulnerability of American retaliatory forces.³ The most frequently offered West European argument against U.S. ABM deployment was that it would promote a neo-isolationist "Fortress America" concept, allowing Western Europe to stand alone and vulnerable. The West European reaction was admirably summarized by Johan Holst, recently the Norwegian state secretary for foreign affairs:

It is, on the whole, surprising to note the extent to which European opinion has been so unanimously unfavorable to any deployment of ballistic missile defenses. The generally critical attitude does not differentiate between various alternative U.S. BMD deployment configurations. . . . The expectation

1. Paul Edward Buteux, *The Politics of Nuclear Consultation in NATO, 1965–1974: The Experience of the Nuclear Planning Group* (Ph.D. dissertation, London School of Economics and Political Science, 1978), p. 114.

2. Laurence W. Martin, *Ballistic Missile Defence and the Alliance*, Atlantic Paper Number 1 (Boulogne-sur-Seine, France: Atlantic Institute, 1969), p. 31.

3. An example was Elizabeth Young in *Survival*, Vol. 12, No. 4 (April 1970), p. 149.

[is] that any BMD deployment is likely to generate an arms race which, in turn, will increase tensions between the two superpowers. . . . If, however, we assume a similar Russian BMD deployment, the threat the United States could mobilize on part of her allies might look less impressive the more the Soviet BMD promised to reduce the damage of any American retaliation. Hence, a bilateral BMD deployment might on balance also be perceived as reducing the validity of the guarantee.⁴

Still further "overwhelmingly hostile" arguments were expressed in Europe regarding BMD. Even ICBM defenses might lead to limited area defenses and thus to virtual "decoupling" of the U.S. guarantee, with an enhanced "possibility of nuclear war at Europe's expense." Superpower BMD deployments could even serve the American purpose of "elimination of independent centres of nuclear power in the West," and at the least would reinforce West European feelings of political-military inferiority and subordination. Finally, the European perception that "BMD seems to be entirely concerned with fighting wars rather than with deterrence" guaranteed the concept a "chilly reception."⁵

European distaste for the concept of BMD based in Europe was even more emphatic. In April 1968 the NPG decided that Europe-based BMD "would be too costly, not totally effective, and might compromise arms limitation discussions between the United States and the Soviet Union."⁶ Denis Healey, then British secretary of state for defense, reportedly stressed "its prohibitive cost and lack of effectiveness against a Soviet attack."⁷

In contrast, Holst felt that the "technical problem of providing some reasonably effective defense at a meaningful level in Europe is probably surmountable," owing to the slower re-entry speed of medium-range ballistic missiles (MRBMs) (compared to ICBMs). Holst, however, did note three political obstacles to ABM deployment in Europe: 1) Since the kill mechanism would probably have to be nuclear, he foresaw "a political problem in terms of convincing a suspicious audience about the reliability of the design against

4. Johan J. Holst, "Missile Defense: Implications for Europe," in Johan J. Holst and William J. Schneider, Jr., eds., *Why ABM? Policy Issues in the Missile Defense Controversy* (New York: Pergamon Press, 1969), pp. 190, 194. See also Theodore Sorenson, "The ABM and Western Europe," in Abram Chayes and Jerome B. Wiesner, eds., *ABM: An Evaluation of the Decision to Deploy an Antibalistic Missile System* (New York: Harper and Row, 1969), pp. 179-83.

5. Martin, *Ballistic Missile Defense*, pp. 29-36.

6. Buteux, *Politics of Nuclear Consultation*, p. 123.

7. Benson D. Adams, *Ballistic Missile Defense* (New York: American Elsevier Publishing Co., 1971), pp. 137-138, 179.

accidents and abuse." 2) Disagreements about which localities would be defended "could have disruptive rather than integrating effects" in the Alliance. 3) Most important was the risk to détente, the "danger that a BMD in Western Europe might tend to perpetuate a posture and atmosphere of confrontation."⁸ Such political arguments, especially the latter, were probably as important as the technical and financial ones offered by Healey.

General European Views on BMD

In 1969, the NPG took relatively little notice of the U.S. decision to revise the anti-Chinese orientation of Sentinel to a Safeguard system dedicated to protection of U.S. retaliatory forces and to providing "thin" area defenses against accidental or small attacks, Soviet or Chinese. This contrast in NPG reactions may be explained in part by a recognition by Europeans that theater nuclear weapons analyses would be "the area of greatest allied input into alliance nuclear policy," with strategic force decisions mainly a U.S. responsibility.⁹ An additional factor may have been the imminent commencement of the Strategic Arms Limitation Talks (SALT) and the prospect of negotiated constraints on BMD.

The ABM Treaty of 1972 and its 1974 Protocol were welcomed in Western Europe for all the reasons why BMD was recently opposed. The main benefit was seen as stabilization of the arms race and East–West relations generally, with a firm foundation for continuing détente. Ian Smart suggests three more specific reasons for West European approval: 1) The continued credibility of the British and French deterrents was enhanced. 2) The United States insisted that Article IX of the ABM Treaty (which prohibits the transfer of ABM technology to third countries) would not prevent the transfer of offensive weapons technology. 3) The United States did not make itself less vulnerable to ballistic missile attack than its Allies.¹⁰

In the intervening years, Europeans have generally become even more sensitive to détente considerations, and the ABM Treaty has assumed special importance as a surviving "keystone" of détente. U.S. interest in renegotiating the ABM Treaty therefore appears dangerous and potentially destabilizing to many in Western Europe, and abrogation still more so. An important

8. Holst, "Missile Defense," pp. 200–201.

9. Buteux, *Politics of Nuclear Consultation*, pp. 162–163.

10. Ian Smart, "Perspectives from Europe," in Mason Willrich and John B. Rhinelander, eds., *SALT: The Moscow Agreements and Beyond* (New York: The Free Press, 1974), pp. 187, 191, 194.

example of this view is the statement of the Palme Commission, which includes such influential West European politicians as Egon Bahr, Jean-Marie Daillet, Gro Harlem-Bruntland, David Owen, and Joop den Uyl:

If the ABM Treaty were abrogated and an unbridled offense/defense arms race ensued, the consequences would be severe. . . . as continued development of ABM systems buttressed the illusion that nuclear wars could be fought and survived in some meaningful sense, the risk of the use of nuclear weapons would multiply. Each side, fearing that the other might perceive advantage in a nuclear first-strike, might be tempted to act first. The instabilities and dangers in such a situation are obvious.¹¹

These well-established general attitudes regarding BMD are reinforced by views in specific countries that illustrate the political obstacles within the Alliance that U.S. homeland BMD options and ATM might face.

FRANCE

Approximately fifteen years ago, when the prospects for BMD deployment for area defense in both the United States and the Soviet Union appeared serious, analysts predicted that the emerging French strategic nuclear force program would be deprived of all credibility by Soviet BMD; France could scarcely hope to build enough submarine-launched ballistic missiles (SLBMs) and intermediate-range ballistic missiles (IRBMs) to saturate Soviet defenses. The 1972 ABM Treaty therefore provided a very welcome opportunity for the French to continue the expansion of their strategic nuclear force program. The French government could have reasonable confidence that its deterrent's political utility would not be rendered ineffective without at least some advance warning through public abrogation of the ABM Treaty by either superpower, or through intelligence regarding clandestine Soviet research and development in ABM that might offer the Soviets an option of rapid ABM deployment.

What would the French do if more extensive and effective deployments take place? The official position for many years has been that such a threat is genuine, but that France is fully prepared for the eventuality.¹² One of the

11. *The SALT Process: The Global Stakes* (Vienna, Austria: Independent Commission on Disarmament and Security Issues, February 1981), pp. 2-3.

12. Alain Bru and Lucien Poirier, "Dissuasion et défense anti-missiles," *Revue de défense nationale*, December 1968, p. 1828. Hugues de l'Estoile, Lucien Poirier, and Didier le Cerf, "Les implications stratégiques de l'innovation technologique," *Revue de défense nationale*, January 1968, pp. 23-33, and February 1968, pp. 238-239. General Poirier, then a member of the Defense Ministry planning staff, was the key author of the 1968 documents that became the foundations of the still-valid 1972 defense white paper.

highest officials in the French Defense Ministry's planning department, writing under a pseudonym, explains that the ABM Treaty could be abrogated or circumvented (through air defense missile upgrades) at any time:

Nevertheless our principal guarantee resides in the reciprocal surveillance the two superpowers maintain over each other; each is in fact most interested in assuring that the other will respect the ABM Treaty. . . . So long as ABM defenses remain at the current level, the multiple-warhead system [MRV] that will be in service with the M4 [SLBM] should be able to exhaust these defenses without too much difficulty and to assure the penetration of a significant portion of our strategic missiles. Moreover, what is called the "hardening" of warheads and missiles can make our missiles more invulnerable to the effects of ABM warhead explosions. But still other solutions exist . . . [e.g.,] increasing the number of our missiles . . . [and] cruise missiles, which pose difficult problems for enemy defenses.¹³

When he was deputy director of the planning department, Colonel Guy Lewin added that the number of warheads on existing missiles could also be increased.¹⁴ The director of military applications at the Commissariat à l'Énergie Atomique has declared that re-entry vehicle (RV) separation will be such that, in conjunction with hardening, no enemy interceptor will be able to destroy more than one RV.¹⁵ Decoys and other penetration aids may be under consideration as well.

At the same time, expressions of official concern have also been made. Foreign Minister Jean-François Poncet in February 1981 reportedly "cautioned the Reagan administration against building large-scale anti-ballistic missile systems . . . on grounds that this would create instability in Europe."¹⁶ The director of the Foreign Ministry's planning department has stated that revising the ABM Treaty, even for ICBM defenses, "would weaken the technical credibility of our striking force with respect to the USSR."¹⁷

To date no relevant statements by the Mitterrand government have been made. It nonetheless seems plausible to assume that its officials would also oppose any revision of the ABM Treaty. Jean-Pierre Cot, now minister of

13. Ivan Margine, "L'avenir de la dissuasion," *Défense Nationale*, April 1978, p. 10.

14. Guy Lewin, "L'avenir des forces nucléaires françaises," *Défense Nationale*, May 1980, p. 18.

15. Jacques Chevallier, "Les armes et les ripostes mises en oeuvre par la défense française," in *La France face aux dangers de guerre: Actes du Colloque*, Vol. 1 (Paris: Fondation pour les Etudes de Défense Nationale pour l'Association des Anciens Elèves de l'École Nationale d'Administration, 1980), pp. 175–176.

16. *International Herald Tribune*, February 26, 1981.

17. Jean-Louis Gergorin, "Menaces et politiques dans la décennie 1980," in *La France face aux dangers de guerre*, p. 65.

cooperation and development, once pointed out that Soviet BMD could undermine the French deterrent as part of his advocacy of French participation in SALT negotiations.¹⁸ Moreover, the chief of staff of the armed forces, in discussing the decision to construct a seventh SSBN by 1994, added that it would not be reasonable, in view of France's "sufficiency" needs for deterrence, to have more than seven SSBNs by the end of the century; more than seven or eight SSBNs would lead France away from the "sufficiency" principle.¹⁹ Evidently this concept of sufficiency, influenced in part by France's economic capacity, assumes that Soviet BMD will not be upgraded beyond manageable limits.

It is most improbable that France would reopen the decision announced in the 1972 White Paper against any French BMD program on the grounds of cost and probable ineffectiveness,²⁰ given the short time-of-flight from the Soviet Union to France (around 10 to 12 minutes, of which 4 at most would be useful for interception).²¹ Even if France had the resources to pursue BMD, a French decision to do so could legitimize Soviet interest in BMD and thereby severely undermine the credibility of the French forces. In the meantime, the French insist, as they have since 1967 when the question of IRBM vulnerability was first raised, that their fixed IRBMs are protected by their SLBMs. An attack against French IRBMs would be the plainest proof of aggression, and would justify strategic retaliation.²² In Giscard d'Estaing's words in June 1980: "Any nuclear attack on French soil would automatically provoke strategic nuclear retaliation."²³ The French would therefore probably oppose Europe-based U.S. BMD against Soviet theater missiles—the anti-tactical missile (ATM) concept—as likely to legitimize Soviet BMD. Any form of U.S. homeland BMD beyond the ABM Treaty regime's limits would be seen as even more certain to provoke the expansion of Soviet BMD programs.

BRITAIN

British sensitivity regarding the ABM Treaty, and possible improved Soviet BMD within its confines, can be seen in the Chevaline program for hardened,

18. Jean-Pierre Cot, "Plaidoyer pour l'intérêt national," in *La France face aux dangers de guerre*, p. 202.

19. Général Jeannou Lacaze, "La politique militaire," *Défense Nationale*, November 1981, pp. 13–14. Cf. Mitterrand in *Le Monde*, July 26–27, 1981, p. 6.

20. *Livre blanc sur la défense nationale*, Volume 1 (June 1972), p. 18.

21. General François Maurin in *La France face aux dangers de guerre*, pp. 389, 421.

22. Defense Minister Pierre Messmer in *L'Express*, December 11, 1967.

23. Giscard d'Estaing in *Le Monde*, June 28, 1980.

maneuvering and early separating re-entry vehicles with advanced decoys as penetration aids. The British government has acknowledged that, because of the Galosh ABM system protecting the Moscow region, the targeting list of “key aspects of Soviet state power” for British SLBMs may include targets outside Moscow—cities and “many high value targets, such as major dams and waterways, major oil refineries, major naval shipyards, major iron and steelworks, and major nuclear reactor establishments.”²⁴ Since these targets are presumably unprotected today, why did the British go to the expense of the long-secret Chevaline program (nearly £1 billion over the 1973–1980 period) to harden the SLBM RVs and equip them with penetration aids? Apparently both Chevaline and the July 1980 Trident SLBM decision assume possible improvements in Soviet BMD. Soviet construction of significant BMD would require enhanced British penetration capabilities. This concern is expressed delicately in public British documents:

Though the Chevaline programme will keep our Polaris missiles able to penetrate anti-ballistic missile defences into the 1990s, continuing Soviet effort in research and development, allowed by the 1972 ABM Treaty, might in time reduce our assurance of this. . . . [Trident I’s] MIRV capability and long range give excellent margins of long-term insurance against further advances in Soviet ABM and ASW capability. . . .²⁵

In other words, Britain’s position on BMD is similar to that of France. Precautionary steps have been taken in case Soviet BMD improves, while preservation of the ABM Treaty’s constraints is emphatically preferred. Some observers have speculated that Britain would find superpower ICBM defenses more acceptable than any area defenses. This might be tolerable in theory for the maintenance of the credibility of Britain’s deterrent, but even such ICBM defenses could promote the deployment of Soviet BMD that could be oriented to defense of population centers and other targets of potential British interest. No official British preferences have been expressed other than continuance in force of the existing ABM Treaty and Protocol provisions.

British interest in BMD is even less likely than French, given that the British have no hardened retaliatory forces to protect and greater financial constraints. British officials would probably oppose the ATM concept as

24. Official evidence in the *Twelfth Report from the Expenditure Committee*, cited in Lawrence Freedman, *Britain and Nuclear Weapons* (London: Macmillan, 1980), p. 47. See also Freedman’s useful discussion of Chevaline, pp. 48–51.

25. *The Future United Kingdom Strategic Nuclear Deterrent Force* (London: Ministry of Defense, July 1980), pp. 7, 20. This statement would also apply to the even longer-range and more effective Trident II (D-5), which is to be purchased in lieu of Trident I.

likely to endanger the ABM Treaty. Because of Britain's close relationship with the United States in strategic nuclear matters, some observers have speculated that the British might be more likely than the French to accept readily a U.S. decision to seek extensive revisions in the ABM Treaty regime if BMD came to seem overwhelmingly necessary to preserve the credibility of the U.S. guarantee; that credibility might be seen as a higher priority than maintenance of the ABM Treaty for the sake of the penetrability of British RVs. Although such arguments might be adopted as rationalizations if Britain had no other choice, this speculative distinction between British and French views would almost certainly prove unfounded in practice. Britain would oppose revision of the ABM Treaty regime as firmly as France.

FEDERAL REPUBLIC OF GERMANY

The government of the Federal Republic of Germany (FRG) is perhaps more keenly aware than other European governments that the continuing credibility of the British and French deterrents is in the interest of Western Europe in general. This reason for favoring continuation of the ABM Treaty regime is, however, probably secondary to the Treaty's perceived importance for the future of détente and stability in East–West political relations. Favoring continuation of the ABM Treaty regime is implicit in the FRG's support for the continuing SALT/START arms control process, which is deemed "of permanent importance in all political efforts aimed at safeguarding peace and achieving stabilization in the East–West balance of power."²⁶

At a time when U.S. strategic arms control policy remains under review, the ABM Treaty appears to be one of the few surviving pillars of détente—a link to the optimistic early years of the *Ostpolitik* initiated in 1969 by the current SPD–FDP government. Unilateral U.S. action to alter the ABM Treaty regime would be more upsetting than Soviet–American agreement on a revision, but no revision at all seems preferred. Perhaps even more than elsewhere in NATO Europe, the negative impression prevails that BMD is a technology more oriented to nuclear war-fighting than deterrence.

Given these general attitudes, the FRG would probably not welcome U.S. interest in the ATM concept. Yet West Germany would be the key European ally regarding ATM. A major share of the new intermediate-range nuclear forces (including all the Pershing IIs) are to be based in the FRG. Moreover, since Britain and France, who in any case have a special nuclear status, are

26. *White Paper 1979: The Security of the Federal Republic of Germany and the Development of the Federal Armed Forces* (Bonn: Federal Ministry of Defence, 1979), p. 69.

unlikely to take any initiative on ATM, the rest of the Allies (and the U.S. Congress) would await a West German decision with the keenest interest.

A positive ATM decision from the current West German government would be likely only under some combination of the following conditions: 1) further obvious deterioration of détente; 2) a strong and consistent U.S. commitment to ATM; 3) non-nuclear kill (NNK) mechanisms in the ATM system; 4) favorable financing and production arrangements; 5) deployment of ATM on the soil of at least two other non-nuclear Continental members of NATO—probably Belgium and Italy; 6) a NATO Council endorsement of the ATM concept; and 7) however paradoxical, the establishment of an appropriate arms control negotiating context that would demonstrate West Germany's interest in the continuation of détente and preference for an arms control solution. These conditions may be predicted from the recent history of West German participation in NATO theater nuclear modernization decisions; most, if not all, would probably apply with a CDU/CSU-led government as well.²⁷

Some doubt that the ATM concept would be accepted even by a CDU/CSU-led government, even with these conditions—if they could all be fulfilled. Hans Rühle of the CDU-sponsored Konrad Adenauer Foundation has, for example, published a view of “profound skepticism” regarding the ATM option: “. . . this option appears neither technologically practicable within acceptable financial limits at present, nor is there any prospect of an optimized combination of strategic defense systems in the foreseeable future.”²⁸

The Alliance difficulties U.S. BMD programs might face become even clearer when both limited U.S. homeland options (ICBM defenses and “thin” area defenses) and potentially extensive U.S. homeland BMD are examined from a European perspective.

U.S. BMD Alternatives

LIMITED U.S. HOMELAND BMD OPTIONS

ICBM defenses constitute the least controversial option for three reasons.

27. See David S. Yost and Thomas C. Glad, “West German Party Politics and Theater Nuclear Force Modernization Since 1977,” *Armed Forces and Society*, Vol. 8, No. 4 (Summer 1982), in press.

28. Hans Rühle, “A European Perspective on the U.S.–Soviet Strategic-Military Relationship,” in William Schneider, Jr., et al., *U.S. Strategic-Nuclear Policy and Ballistic Missile Defense: The 1980s and Beyond* (Cambridge, Mass.: Institute for Foreign Policy Analysis, 1980), p. 51.

First, the technical feasibility of defense of hardened ICBM launchers seems increasingly credible, especially if leverage could be provided through mobile and/or deceptive basing. Second, ICBM defenses would not violate the long-standing offense-dominant verities of the "assured destruction" outlook. Pre-launch survivability of retaliatory forces would be enhanced with no degradation of their ability to penetrate to countervalue targets; the assumed stability of mutual counter-society threats would be unimpaired. Third, precisely because Soviet cities and other "countervalue" targets would remain undefended under this hypothetical revised ABM Treaty regime, British and French nuclear forces would retain their ability to penetrate to their presumed targets. Nonetheless, any attempt to revise the ABM Treaty regime to accommodate ICBM defenses could become controversial in Europe. Fears of an arms race destabilizing East-West relations would probably surpass more technical concerns about possible expansion and reorientation of ICBM defenses to area defenses, and so forth.

Limited area defenses would probably be even more controversial in Europe. Jan Lodal has made probably the strongest case for limited U.S. area defenses, partly on the grounds that they would strengthen the credibility of U.S. guarantees to Allies. Lodal reasons that

an active defense would eliminate any Soviet incentive to carry out "limited" nuclear attacks against U.S. territory, even if the United States had used tactical nuclear weapons to stop a Soviet invasion. The defense would be capable of intercepting a small-scale attack; a Soviet leader would have to launch a large attack (several thousand warheads) to penetrate these defenses. A rational Soviet leader ought to be deterred from launching such an attack, realizing that an assured destruction response is a much more credible reaction to an attack of several thousand warheads than to an attack of a few warheads.²⁹

In Lodal's proposal for limited area defenses, mutual Soviet-American "assured destruction" capabilities would remain the guarantors of strategic stability. But what Lodal calls "a second 'firebreak' in the ladder of escalation" (in addition to the NATO-assumed conventional/nuclear firebreak) would be created: the United States could use battlefield nuclear weapons with less risk of catastrophic Soviet retaliation against the U.S. homeland.

Lodal rightly points out probable European objections to such area de-

29. Jan M. Lodal, "Deterrence and Nuclear Strategy," *Daedalus*, Vol. 109, No. 4 (Fall 1980), p. 167.

fenses. Even more than with ICBM defenses, the main European concerns would include fear of an arms race undermining prospects for détente and the legitimization of Soviet area defenses possibly reducing the effectiveness of British and French nuclear forces. Above all, limited U.S. area defenses “would make it relatively more likely that a war could be fought in Europe alone, without involving U.S. territory—a result that would be decried as decoupling.” Although the ongoing debate about the prospective deployment of intermediate-range nuclear forces (INF) has shown great resonance among European publics of the false argument that the U.S. purpose in INF modernization is to “confine a nuclear war to Europe,” Lodal’s proposal is intended to maximize that possibility. Lodal judges that implementation of his proposal would nonetheless be “healthy for the alliance,” because of the increased credibility of U.S. guarantees and thus the reduced likelihood of any conflict, even at the conventional level, in Europe: “No possible strategy can fully satisfy the European countries. . . . our European allies continue to look for an easy solution where none exists.”³⁰

EXTENSIVE U.S. HOMELAND BMD

In rejecting such proposals for “thin” area defenses, Colin Gray rightly points out that “small-scale nuclear strikes are not much in keeping with what is known about Soviet military style.” Accordingly, Gray suggests that

a “thick,” or truly serious, multi-level [BMD] deployment would usefully reduce American self-deterrence and so enhance the credibility of the extended deterrent. . . . in the absence of substantial homeland protection, U.S. strategic nuclear forces lack both credibility as an extended deterrent threat and ability in the event of need. The Soviet Union cannot be certain that this is so (even incredible threats deter to some extent) but the required quality of deterrence, its robustness in periods of very acute political stress, could well be lacking if the U.S. homeland continues to be totally at nuclear risk.³¹

More credible extended deterrence guarantees could thus be a by-product of extensive homeland defenses.

A true “damage-limiting” posture could, however, also include a theory of “escalation dominance” oriented toward controlling the Soviet Union’s

30. *Ibid.*, p. 171. Herman Kahn has expressed a similar attitude toward probable West European objections to U.S. BMD programs: “They won’t like it, of course, but they are sensible people when they’re forced to be sensible.” (*U.S. News and World Report*, September 21, 1981, p. 54).

31. Colin S. Gray, “A New Debate on Ballistic Missile Defence,” *Survival*, Vol. 23, No. 2 (March/April 1981), p. 68.

power projection advantages in Eurasia as well as denying the Soviets opportunities to play upon the probability of self-deterrence in an undefended America. In other words, while the “assured destruction” verity of near-total population vulnerability would be discarded, U.S. operational capabilities for strategic nuclear war, both offensive and defensive, would be improved in order to make implausible any Soviet theory of victory. Stability would be derived from a U.S. ability to dominate any escalation process by limiting damage to its population centers as well as its military assets. The United States could thus extend and honor guarantees—including, if necessary, first use of nuclear weapons—with less risk of self-deterrence because there would be less risk of homeland damage. Because deterrence would be improved, war would be less probable, and less catastrophic, if it occurred.

All the premises of this compelling and logically consistent strategic prescription are rejected by partisans of the “assured destruction” model of deterrence and stability, who are even more predominant in Western Europe than in the United States. It is assumed that reliable population defenses are infeasible in an offense-dominant world, and that any Soviet–American competition in defensive measures would dangerously destabilize the strategic nuclear balance, in addition to being self-defeating and extremely costly.³² Even more than with limited defenses, Europeans would almost certainly deplore U.S. interest in extensive area defenses as undermining, if not destroying, the peace-preserving structure of deterrence; as possibly sliding from proper control of self-deterrence to a “first-strike” posture; as attempting to confine any future nuclear war to Europe; and as encouraging the Soviet Union to construct similar defenses.

Even if Europeans could generally accept Gray’s judgment that, in “the context of U.S. BMD deployment, Soviet BMD would not be a destabilizing development,”³³ extensive Soviet defenses could make the need for costly improvements in conventional and battlefield nuclear forces in Europe more obvious. NATO’s strategic and intermediate-range nuclear forces could not be as readily applied to deterring Soviet attacks with conventional or battle-

32. Calling this model of deterrence and stability “assured destruction” is admittedly somewhat unfair in that, despite popular perceptions to the contrary, U.S. targeting and operational doctrine has for many years included numerous counterforce and counter-military options. “Assured destruction” nonetheless became the shorthand characterization of U.S. declaratory policy in the late 1960s, and retains a certain descriptive merit owing to grave U.S. and West European deficiencies in active and passive defenses. Those who believe such deficiencies technologically unavoidable and strategically stabilizing carry forward the “assured destruction” logic of the late 1960s.

33. Gray, “New Debate on Ballistic Missile Defense,” p. 65.

field nuclear forces because Soviet defenses would directly counter them. The recent political trials of sustaining an approximate three percent annual real increase in defense spending in NATO Europe suggest how welcome new programs for extensive conventional force improvement would be.

Moreover, extensive Soviet area defenses, more than ICBM or limited area defenses, would tend to reduce the deterrent value of the British, French, and (incidentally) Chinese nuclear forces. Putting aside the question of how great that deterrent value is in U.S. (or, more importantly, Soviet) eyes, the continued technical credibility of these nuclear forces is meaningful to more Europeans than those in the British and French governments. The United States was especially hostile to the French nuclear effort during the 1960s, when Robert McNamara was secretary of defense. For over a decade, however, U.S. policy has accepted, even vaguely approved, maintenance of the French forces (in, for example, the 1974 NATO Ottawa communiqué), though still not with the degree of active cooperation accorded to the British. While damage-limiters could argue that the greater good of the Alliance would be served by the improved deterrence derived from extensive U.S. area defenses, and that smaller independent deterrents would be less necessary, many Europeans would probably be skeptical, to say the least.

Still another West European argument against U.S. homeland BMD is that the resultant Soviet homeland BMD would undermine the U.S. ability to execute limited strategic options. While U.S. penetration technology could perhaps overcome Soviet defenses, the Soviets could nonetheless defend against limited strategic nuclear strikes more readily than against greater ones and could thus oblige the United States to consider more extensive options—increasingly less distinguishable from general nuclear response—in order to honor the guarantee. This is the obverse of the Lodal argument for “thin” area defenses, and it applies with even greater force if more extensive BMD programs in the United States and the Soviet Union are envisaged. The United States may well be self-deterred from executing any limited strategic options. Moreover, even if the United States were not self-deterred from employing such options, what value could they have when the United States is defenseless against the virtually inevitable Soviet strategic nuclear responses?

Finally, West Europeans remain skeptical about the arms control arguments for U.S. homeland BMD set forth by some Americans. Such arguments presume that Soviet and U.S. BMD programs would permit both sides to limit or even sharply reduce offensive strategic nuclear forces because ICBMs

and other targets would be defended. Abrogation or revision of the ABM Treaty would be necessary, but extensive superpower homeland BMD could theoretically also promote strategic stability by minimizing the effects of cheating on negotiated offensive force levels and, more importantly, by enhancing uncertainty as to the cost and feasibility of offensive strike plans. Crisis stability could be improved by reductions in retaliatory force vulnerability, and by "allowing for nonnuclear interceptor launch under real or apparent attack."³⁴ European doubts derive from their judgment that superpower BMD would in practice not result in limitations or reductions in offensive forces, and would probably promote instability through intensified competition instead.

U.S. Interest in ATM

Defense Secretary Harold Brown apparently did not even consider the feasibility of ATM defenses for the planned new intermediate-range nuclear forces (INF)—the ground-launched cruise missiles (GLCMs) and Pershing IIs (P-IIs) scheduled to begin deployment in 1983—when he made the following assessment:

If TNF are to provide a credible deterrent, they must be highly survivable in the aggregate, at least against conventional or limited nuclear attack. To a large extent, force survivability against these threats depends on mobility and concealment from Warsaw Pact target acquisition systems. Given the relatively limited deployment area for NATO land-based systems and short time of flight for Soviet ballistic missiles, absolute survivability against large-scale, bolt-out-of-the-blue nuclear attacks is *probably infeasible and certainly excessively costly*.³⁵ [Emphasis added]

This view is similar to the general European view expressed by RAF Marshall Sir Neil Cameron: "We can, of course, do nothing against a ballistic missile attack but dig deep. . . ." ³⁶

34. G.E. Barasch et al., *Ballistic Missile Defense: A Potential Arms-Control Initiative*, LA-8632 (Los Alamos, New Mexico: Los Alamos National Laboratory, January 1981), p. 23. While this study presents perhaps the most complete version of such arguments, similar ideas about BMD's potentially beneficial effects for strategic stability have been expressed by Herman Kahn, James R. Schlesinger, and others.

35. Harold Brown, *Department of Defense Annual Report Fiscal Year 1981* (Washington, D.C.: U.S. Government Printing Office, 1980), p. 146.

36. Neil Cameron, "Defense and the Changing Scene," *RUSI Journal*, Vol. 25, No. 1 (March 1980), p. 26. For a similar American view on the indefensibility of Europe, see Lodol, "Deterrence and Nuclear Strategy," p. 171.

In contrast, Principal Deputy Undersecretary of Defense Research and Engineering James Wade has made the following evaluation:

The question of active defense for theater nuclear forces is being looked at quite carefully. . . . it is reasonably clear that such a course could have merit. . . . both the GLCM and P-II are designed to achieve survivability against a number of threats through covert field deployment, frequent relocation in the field, and the reduction of signatures associated with field deployment. This mode of operation assumes enough warning to disperse to covert field sites prior to an attack.³⁷ An ATM could reduce the importance of warning time. . . .³⁸

Since Wade's statements, it has been reported in more specific terms that arming the Patriot missile with a nuclear warhead for defense against Soviet theater missiles is under consideration. "A separate study contract is expected from the Army for development of a non-nuclear warhead for theater BMD to avoid the problem of obtaining release authority if Patriot is equipped with a nuclear warhead."³⁹ This report is consistent with other unofficial American discussions of theater ATM capable of neutralizing the threat posed by the SS-20 and other Soviet theater missiles, which could have conventional, nuclear, or chemical warheads.

It is not yet clear whether reported research activities will result in actual ATM programs. No plans currently exist to replace or supplement the nuclear-armed Nike-Hercules air defense system with new nuclear-warhead active defenses,⁴⁰ or with conventional-warhead systems capable of theater ATM defenses. If ATM programs were pursued, they could face serious opposition in Western Europe, given established views on BMD in general and special factors in Britain, France, and the FRG. Six problematic issues could inhibit or even frustrate a U.S. initiative in favor of ATM: technological credibility, Soviet countermeasures, Alliance cohesion, military rationales, implementation of INF modernization, and arms control issues (including INF negotiations as well as SALT—re-named START by the United States in November 1981—and the ABM Treaty).

37. Wade in U.S., Senate, Armed Services Committee, *Department of Defense Authorization for Appropriations for Fiscal Year 1981*, Hearings, Part 5, Research and Development, March 13, 1980 (Washington, D.C.: U.S. Government Printing Office, 1980), pp. 3013-3014.

38. Wade cited in "Protection for Europe-Based Nuclear Missiles," *Flight International*, October 18, 1980, p. 1496.

39. *Aviation Week and Space Technology*, June 22, 1981, p. 89.

40. *The FY 1983 Department of Defense Program for Research, Development, and Acquisition*, Statement by the Honorable Richard D. DeLauer, Under Secretary of Defense Research and Engineering to the 97th Congress, March 2, 1982, pp. VII-14.

Technological Credibility of ATM

European experts, to say nothing of politicians and the general public, will not be easily convinced of the technical feasibility of ATM defenses. The tendency is to assume that the infeasibility of reliable BMD was long ago established at the intercontinental level, and that shorter distances, shorter warning times, and lower trajectories make theater BMD even more difficult. BMD technology has in fact advanced, particularly in such areas as discrimination, computerization, data processing, radar, and other—i.e., optical—detection systems. Moreover, because the distance and duration of their boost flight phases are relatively short, theater ballistic missiles (especially the SS-21 and SS-23) have significantly slower re-entry speeds than SLBMs, ICBMs, and longer-range theater ballistic missiles like the SS-22 and the SS-20. Shorter flight-times tend to aggravate (or, as BMD specialists say, “stress”) the intercept problem, while slower re-entry speeds tend to simplify it.

Skepticism has focused initially on the reported idea of using Patriot in an ATM role. When the Patriot study program (then called SAM-D) was started in the mid-1960s, an ATM role was envisaged, in addition to a capacity against high-performance aircraft at high and low altitudes. U.S. policy (as reflected in the NPG deliberations) then favored consideration of ATM. However, the ATM requirement was later dropped because of costs and the challenges of defending against heavy nuclear attacks, in addition to the Alliance recommendation against theater BMD. Patriot is now intended to serve as a replacement for the Hawk and Nike-Hercules air defense systems. Patriot radars are presumably designed only for anti-aircraft operations. Even if equipped with radars and data processing for ATM-capable discrimination and responsiveness, Patriot might not be prompt and accurate enough for an ATM role unless a nuclear warhead were used as the kill mechanism. Even then some observers would have grave doubts, especially concerning the higher re-entry speeds of longer-range Soviet missiles (e.g., the SS-20 and the SS-22). Developing a low-performance range ATM (on the basis of the Patriot, or, in the Soviet case, the SA-10) capable of intercepting cruise missiles or slower, shorter-range ballistic missiles (e.g., the SS-21 and SS-23) would be less challenging than developing a new high-performance missile. Probably only an entirely new high-performance ATM missile, if equipped with effective sensing and homing devices, could avoid the requirement for nuclear warheads.

The potential necessity for nuclear warheads, which would pose the polit-

ical problem of introducing new nuclear weapons systems in Western Europe, underlines the many advantages of non-nuclear kill (NNK) mechanisms. These advantages would include reduced manpower requirements; simplified logistics, security, and command, control, and communications; minimized risk to allies; no self-inflicted nuclear effects—i.e., electromagnetic pulse (EMP) or blackout—hindering radars and communications systems; no requirement for nuclear weapon materials; simplified release authority; and confidence in system reliability, because total system testing is feasible, including destruction of incoming target warheads. Even though NNK warheads, designed for either direct impact or high explosive detonation near the RV, are cheaper than nuclear warheads, skepticism about NNK cost-effectiveness and reliability will persist until research (including operations research) leads to more definitive conclusions and the publication of authoritative assessments.

Although some observers, perhaps correctly, deem ATM “the only effective option” for “a reasonable degree of survivability” for NATO theater nuclear forces, including INF,⁴¹ one recent official discussion of ATM technology noted the need to consider its costs and effectiveness in the context of alternatives to ATM:

The technology required to defend against an IRBM attack includes: Acquisition and tracking radar capable of picking up and tracking an incoming warhead; rapid, sophisticated signal processing equipment to allow firing an interceptor within a few seconds; a high-speed, high acceleration missile which can reach the incoming warhead in time to kill it at a sufficient range to preclude damage to the defended target; adequate terminal homing; and an interceptor warhead capable of destroying the incoming reentry body. In addition, if a system is to be used to defend a mobile target such as a Pershing launcher, all of the interceptors and supporting equipment must have mobility consistent with that of the target to be defended. This technology is attainable; much of it exists from our ABM development work, although there are differences between defending fixed targets against ICBMs, and defending mobile ones against IRBMs. What will be at issue is the degree to which ATM hardware contributes to survivability in the aggregate, what other active and passive measures can enhance survivability, arms control consideration, cost of ATM alternatives, and the best technical approach should we elect to field such a system. . . .

41. Wayne R. Winton, “Applications of BMD Other Than ICBM Defense,” in *U.S. Arms Control Objectives and the Implications for Ballistic Missile Defense*, Proceedings of a Symposium held at the Center for Science and International Affairs, Harvard University, November 1–2, 1979 (Cambridge, Mass.: Puritan Press, 1980), p. 96. Cf. Carnes Lord, “The ABM Question,” *Commentary*, Vol. 69, No. 5 (May 1980), p. 38.

We are not far enough along in our examination of this complex issue to have the answers to all these questions. . . . While we are not yet prepared to estimate what such a system might cost, I am certain that the cost would be substantial. . . .⁴²

Alternatives to ATM would presumably include improved dispersal planning and mobility, deception, redundancy, and signature reductions.

The ABM development work that may be of greatest relevance to ATM is that on the Low Altitude Defense System (LoADs), which consists of small radars and interceptors designed for possible mobile deployment with the MX ICBM. In conjunction with emerging technology for endoatmospheric NNK, LoADs development might be directly applicable to ATM.⁴³ Nonetheless disagreement within the technical community persists as to the feasibility of reasonably effective BMD, owing to technical and operational problems, including the challenge of reliable NNK.⁴⁴

Uncertainties would persist, even with reliable NNK. Endoatmospheric interception with NNK of the chemical warheads the Soviets have reportedly deployed on theater ballistic missiles could be less than satisfactory, since such an interception over Allied territory could spread the chemicals, depending on the altitude of the interception and other factors. Prompter interceptions might therefore provide better solutions against Soviet chemical warheads over the long term.

High-level NNK interceptions over Allied territory could also represent a problem if the Soviets designed their warheads with the mechanism of “salvage-fusing,” whereby incoming RVs might be detonated by the impact of the interceptor’s kill mechanism. While the obvious advantage of intercepting the Soviet warhead several miles away from its intended target would remain, a “salvage-fusing” nuclear explosion could interfere with subsequent Allied defenses because of its effects on radar and communications systems. However improbable the “salvage-fusing” possibility seems—owing to its great cost and difficulty, and risk of catastrophic failure—it could serve as a

42. Wade, in *DoD Authorization . . . FY 1981*, p. 3014.

43. Winton, “Applications of BMD”; Jonathan E. Medalia, *Antiballistic Missiles*, Issue Brief, Number IB81003 (Washington, D.C.: Congressional Research Service, September 1, 1981), p. 15.

44. For somewhat contrasting assessments of BMD technology, see the Los Alamos study cited in note 34; Guy Barasch, Nikki Cooper, and Ray Pollock, *Ballistic Missile Defense: A Quick-Look Assessment*, LA-UR-80-1578 (Los Alamos Scientific Laboratory, June 1980); Chapter 3 (on BMD) of U.S., Congress, Office of Technology Assessment, *MX Missile Basing* (Washington, D.C.: U.S. Government Printing Office, 1981); and the articles by William A. Davis, Jr., Deputy Ballistic Missile Defense Project Manager, in *National Defense*, September/October 1979 and December 1981.

basis for European technical skepticism. Such uncertainties as the technical effectiveness of NNK ATM would not necessarily deprive ATM of all deterrent value. Resultant Soviet uncertainties as to the effectiveness of their offensive strikes could still be helpful to deterrence.

Soviet ATM Countermeasures

Soviet responses to a U.S. ATM program for NATO could be offensive, defensive, and political.

Offensive responses would be systems designed to destroy, overwhelm, or circumvent Western ATM systems. Given the deficiencies of NATO's current air defenses, the Soviets could attack the ATM radars and other components with air-breathing systems. Improved air defenses and ATM defenses would therefore both be required in a serious damage-limiting effort by NATO.

ATM systems could also be saturated by the Soviets at specific points of interest, at costs partly dependent upon the sophistication and number of Soviet penetration aids as opposed to the ATM's discrimination capability and cost-effectiveness. Even without penetration aids, the numbers of RVs on Soviet theater ballistic missiles are very high:

The number of NATO military installations which the Soviets might target with nuclear weapons is, at most, approximately three hundred. The Soviets presently have ten delivery systems for each target, and when the SS-20 has been fully fielded they will have ten weapons for each target in this system alone. . . . The Soviet motivation for this tremendous capability, enabling them to destroy every military installation in NATO ten times over, continues to be a mystery in the West.⁴⁵

The Soviet capability seems excessive, even allowing for redundancy to compensate for reliability uncertainties and the hypothetical contingencies of Western pre-emption or intra-war attrition, and to cover an even more ambitious target set in Western Europe. Some Western analysts have offered deceptively reassuring explanations in speculating that extra-rational factors (e.g., bureaucratic politics or cultural tradition) may account for the high numbers of Soviet deployments. The Soviets may also be deploying militarily

45. Francis X. Kane, "Safeguards from SALT: U.S. Technological Strategy in an Era of Arms Control," in Paul H. Nitze et al., *The Fateful Ends and Shades of SALT* (New York: Crane, Russak and Co., 1979), p. 116.

redundant INF for negotiating purposes, i.e., no loss of required target coverage, even if negotiations result in reductions. Whatever the explanations, the seemingly redundant warheads in effect constitute double insurance against potential future ATM capabilities—an impressive capacity to overwhelm ATM, which in turn works to discourage NATO from pursuing such systems. If an ATM were to cast doubt on the effectiveness of systems such as the SS-22 or SS-20, the Soviets would probably use it as a new rationale to deploy even more numerous and effective INF; this would make technical and cost-effectiveness arguments for ATM even more difficult for Western proponents.

Although Soviet redundancy in theater ballistic missile numbers makes it improbable, another Soviet offensive countermeasure could be attacking targets defended by European-based ATM with SLBMs and ICBMs. Knowledgeable observers assume that approximately 120 of the SS-11 ICBMs, as well as some SS-19 ICBMs, may have targets in Europe.⁴⁶ This means that a fully credible ATM would require an ability to intercept the very rapid ICBM and SLBM RVs, while the latter might come from any direction. (ICBM RVs could also come from any direction if the Soviets used the Fractional Orbital Bombardment System [FOBS], or orbited missiles; but these delivery techniques seem improbable as concerns targets in Europe.) An imperfect ability to defend against certain types of Soviet intermediate-range missiles would nonetheless constitute an improvement over the current situation, in which no defense exists against Soviet ICBMs, SLBMs, or intermediate-range missiles.

Defensive Soviet countermeasures would consist of expanded BMD systems. Since the ABM Treaty was signed, Soviet BMD research and development has been more intensive than that of the United States. Moreover, in contrast to the United States, the Soviets retain active BMD capabilities around Moscow, permitted by the ABM Treaty and its Protocol, and continue to perfect radars and air defense interceptor missiles for possible future upgrading to BMD roles. Whether the United States retains an advantage in the key areas of BMD technology is no longer clear; at the least, comparative U.S. advantages in certain areas have probably been reduced since 1972, given the contrasting levels of investment effort under the ABM Treaty regime. Although the United States perhaps retains an edge in some areas,

46. Lawrence Freedman, "The Dilemma of Theatre Nuclear Arms Control," *Survival*, Vol. 23, No. 1 (January/February 1981), p. 5.

for example, battle management and discrimination technologies and exoatmospheric nonnuclear kill mechanisms, it is reasonable to suspect that the dimensions of the U.S. lead in ABM technology have been significantly reduced. The Soviets may be better placed than the U.S. to deploy effective BMD in a timely fashion.⁴⁷

Even if new BMD programs could be restricted through Soviet–American negotiations to capabilities against theater ballistic missiles, Soviet ATM, like U.S. ATM, could be virtually indistinguishable in practice from systems capable of intercepting ICBM and SLBM RVs. For full technical credibility, ATM systems would almost have to be capable of such interceptions. Geographical asymmetry would favor the USSR, in that a Soviet ATM, whether capable of ICBM and SLBM RV interceptions or not, could defend the homeland as well as Allies. U.S. ATM in Western Europe would defend Allies alone, not the U.S. homeland. Some analysts speculate that the recent consolidation of the Soviet Troops of National Air Defense (PVO Strany) with the troops of Air Defense of the Ground Forces (PVO SV) may be related to new problems posed by overlapping strategic and theater BMD challenges, though the centralization of air defenses could also be explained by other managerial aims.⁴⁸ Moreover, there remains the possibility that Soviet testing of air defense systems in an ABM mode, possibly in violation of the ABM Treaty, includes development of an ATM.⁴⁹

On the other hand, one wonders how to interpret the repeated Soviet complaints that Pershing II would allow them only 6 to 8 minutes of warning time. (The Soviets naturally never indicate how much warning time Europeans could expect prior to the impact of their INF RVs, or indeed how much warning time U.S. coastal, or West European, targets could have prior to the

47. Indeed, the Soviets may surprise many Western observers by choosing themselves to propose revisions in the ABM Treaty regime or to end it. This essay is concerned primarily with current Alliance issues posed by prospective U.S. BMD decisions, and therefore reflects the widespread Western assumption that the Soviets will be reacting to U.S. and NATO decisions, not vice versa. Soviet decisions for BMD could substantially change the current climate of opinion regarding BMD in the United States and Western Europe. Soviet incentives (e.g., protecting key assets from a U.S. second strike) and disincentives (e.g., prospective alleviation of U.S. ICBM vulnerability) for BMD deployments constitute a large subject distinct from the purposes of this essay. See the DoD assessment of Soviet BMD in U.S., Senate, Committee on Appropriations, *Department of Defense Appropriations for Fiscal Year 1982*, Hearings, Part 5, June 1981 (Washington, D.C.: U.S. Government Printing Office, 1981), p. 466.

48. William F. and Harriet Fast Scott cited by Henry Bradsher in *Washington Star*, July 16, 1981, p. 10.

49. Winton, "Applications of BMD," pp. 96–97; cf. Senator Jake Garn, "Soviet Violations of SALT I," *Policy Review*, Number 9 (Summer 1979), pp. 24–28.

impact of Soviet SLBM RVs.) If sincere, the complaints could imply lack of confidence in their ATM upgrade capability. The Soviet ATM research and development program against Pershing II has been described as “aggressive”;⁵⁰ but the United States officially attributes Pershing II “a high assurance of penetrating future Soviet defenses,”⁵¹ partly because the GLCM-Pershing II combination stresses Soviet defenses and both have potential for penetrability measures upgrade.⁵² The Soviet complaints about Pershing II could, moreover, also be part of the Soviet political strategy of portraying NATO INF modernization as “aggressive.”

The Soviet political response to ATM would be an extension of the bargaining posture the Soviets have already assumed. U.S. interest in an actual ATM program would be seized and exploited for a variety of media themes: the unmasking of the truly aggressive “war-fighting” intentions of the West, the threat to strategic stability and world peace in violating the ABM Treaty with ATM, the initiation of a new “arms race” by the capitalist military-industrial complex, and so forth. More importantly, a U.S. ATM initiative could be perceived by the Soviets as an opportunity to promote antagonism between the United States and Western Europe.

Alliance Cohesion and ATM

The Soviet opportunity to promote antagonism would reside in the potentially divergent U.S. and West European appreciations of the utility of any BMD programs, including ATM. While Britain and France would have their own national reasons for opposing anything that might alter the ABM Treaty regime, these reasons would be endorsed by others in Western Europe and reinforced by the general tendency to see BMD as destabilizing and likely to promote an expensive and futile “arms race” that could end in war. If the United States determined that ATM could be cost-effective and militarily useful, and should be pursued as an active program, ATM could provide another example of the broad dichotomy in U.S.–NATO European views that was noted by Robert W. Komer, when President Carter’s undersecretary of defense for policy: “Indeed, we Americans are increasingly asking whether

50. Senator John Warner in *DoD Authorization . . . FY 1981*, p. 3013.

51. Caspar W. Weinberger, *Department of Defense Annual Report Fiscal Year 1983* (Washington, D.C.: U.S. Government Printing Office, 1982), pp. III–72.

52. William J. Perry, then Under Secretary of Defense for Research and Engineering, in *DoD Authorization . . . FY 1981*, p. 3018.

Europe is as interested in its own defense as is the United States, or perceives the same threat.”⁵³ In contrast, Europeans might view the American concerns as immoderate.

Secondary Alliance cohesion problems could arise if ATM programs were accepted by the Alliance. Intra-Alliance disputes could concern what systems and localities would be entitled to ATM protection, while ATM protection could be opposed for specific localities or for specific purposes.

Military Rationales for ATM

The precise military purposes ATM might serve have yet to be fully clarified. The statement by James Wade cited above (one of the few official comments on ATM's potential utility) stresses the prospective gain in survivability for NATO's new INF if one did not have to count on the Soviets cooperatively providing warning time to NATO before engaging in strikes against the INF. If INF survivability were more thoroughly assured, the INF deterrent threat to the Soviet Union would be more formidable—for pre-war deterrence and, depending on the thickness of the defenses and their endurance potential, for intra-war deterrence as well. While INF survivability may be adequately assured through warning time, mobility, and dispersal, fixed targets would remain vulnerable. If fixed targets such as airfields, nuclear weapons storage sites, and certain command, control, and communications (C³) centers were also equipped with ATM defenses, the damage-limiting capabilities might significantly increase Soviet uncertainty as to the prospects of successful attack against NATO. ATM might, in particular, obstruct probable Soviet plans for pre-emptive nuclear strikes against theater nuclear weapons targets in Western Europe.

This concept, which one might call “theater damage-limiting for defense and deterrence,” would be most practical and convincing if used in defense of hardened sites, especially INF and fixed C³ centers. Defense of C³ centers could in particular have a “force multiplier” effect, while allowing current C³ vulnerabilities to persist simply offers the Soviets a lucrative opportunity to degrade the effectiveness of all types of forces.⁵⁴ The Soviets could overwhelm almost any defenses, if determined to do so, yet obliging the Soviets to increase the scale of their attack could be seen as raising the probability of

53. Robert Komer cited in *Aviation Week and Space Technology*, March 3, 1980, p. 57.

54. William R. Graham, “Reducing the Vulnerability of Retaliatory Forces and Command, Control and Communications: A Question of Balance,” in David S. Yost, ed., *NATO's Strategic Options: Arms Control and Defense* (New York: Pergamon Press, 1981), pp. 170–178.

bringing about retaliation by U.S. strategic nuclear forces against the Soviet Union.

ATM could thus be considered a non-provocative and defensive means of denying the Soviets any opportunity they might wrongly perceive of relatively low-cost victory through selective theater nuclear strikes. Deterrence and stability would be enhanced, because obliging the Soviets to use far more nuclear warheads would raise the risks to the Soviet Union. If truly "thick" and cost-effective ATM defenses could be constructed, the Soviet potential for nuclear blackmail against Western Europe might be so severely eroded that doubts about the credibility of the U.S. strategic nuclear guarantee would become an almost secondary concern.

Another possible military rationale for ATM might be escalation control. At present, it is assumed that NATO would receive warning time sufficient for dispersal of the new INF, and that the warning time would have to be used to assure the survival of the INF. In a crisis situation, it seems likely that some Western politicians would argue that actual dispersal of the INF would be provocative, i.e., likely to aggravate the crisis and make war more unavoidable; and yet failure to disperse could equal the destruction of the INF. If ATM defenses were available, warning time and prompt dispersal would be less necessary. Political control over escalation processes might be enhanced if there were less military operational incentive to engage in seemingly provocative behavior.

None of the above military rationales is likely to have much appeal in Western Europe. Such rationales—especially the "protracted war" concept of "enduring" survivability—would appear more oriented toward actual war-fighting than toward deterrence. West Europeans generally are unwilling to accept the Soviet view (increasingly respected in the United States) that deterrent capabilities are a product of operationally effective war-fighting capabilities. Instead, West Europeans (even more than Americans) tend to favor a "deterrence-only" perspective based on threatening strategic nuclear retaliation against Soviet society. The U.S. threat to retaliate against the Soviet homeland is enough, they generally feel, to deter any Soviet invasion. In Ian Smart's words, "West European political leaders and their electorates have rarely, if ever, been willing to devote serious attention to what would happen if the deterrence of initial attack by threat of intolerable penalty should fail."⁵⁵

The favorable reception in West European circles of McGeorge Bundy's

55. Smart, "Perspectives From Europe," p. 186.

keynote address to the 1979 Conference of the International Institute for Strategic Studies is a bit of anecdotal evidence for the same point. Above all, West Europeans drew comfort from Bundy's insistence that deterrence of any Soviet attack is well assured:

. . . no one *knows* that a major engagement in Europe would escalate to the strategic nuclear level. But the essential point is the opposite; no one can possibly know that it would not.⁵⁶

Bundy's affirmation as to the genuine possibility of escalation was reassuring to Europeans because they prefer a concept of deterrence without intra-war escalation boundaries. West European faith in strategic deterrence is often associated with the assumption that more credible theater war-fighting capabilities would undermine strategic nuclear deterrence. The threat to punish Soviet society is the bedrock of deterrence in their view, not an ability to defeat a Soviet offensive against Western Europe.

The possible military rationales for ATM outlined above would, however, not only sound intolerably bellicose to many West Europeans; such rationales could also seem subtly designed to decouple the U.S. guarantee and to confine war to Europe. Protecting the new INF could be seen as creating a distinct "Eurostrategic" level of potential conflict, something the December 1979 NATO decision on INF was intended to avoid. Given the abiding concerns of West Europeans, many would suspect the United States of improving conditions for successful war-fighting in Europe out of a desire to confine a war to that region. What one might call the "incalculability of escalation" could be undermined in European perceptions if ATM promised to increase prospects for holding conflict to the theater level.

Using ATM to avoid premature dispersal of INF in order to enhance political control over the escalation process would not necessarily be an appealing argument in Western Europe because it would underline the potential vulnerability of the INF to Soviet attack. Because ATM defenses could be seen as guaranteeing intensive Soviet strikes intended to overwhelm them and destroy the INF, West European officials are likely to prefer to stress the probability that deterrence will not fail and the adequacy of dispersal through mobility and warning time as means of survivability for the INF. The risk of appearing "provocative" by dispersing the INF would have to be set against 1) the risk of appearing too frightened and vulnerable to do so; 2) the contrasting message of firmness and readiness to act—constructive for "crisis

56. McGeorge Bundy, "The Future of Strategic Deterrence," *Survival*, Vol. 21, No. 6 (November/December, 1979), p. 271.

management"—that dispersal might usefully transmit; and 3) the risk of the INF being destroyed in their peacetime basing areas.

Strategic rationale arguments against ATM could also be derived from the "flexible response" doctrine of NATO. First, it could be argued, at present NATO assumes that whatever nascent ATM capability the Soviets have is inadequate for defense against the Pershing II. However, if the Soviets built up their own ATM capabilities, the option within "flexible response" of what might be called "deliberate limited escalation" would be undermined by Soviet defenses. NATO's strikes would have to be more extensive to achieve similar effects, a fact which might be seen as harmful to escalation control.

A second strategic rationale argument against ATM would apply if the kill mechanism were nuclear. An ATM system would be used as necessary to destroy incoming RVs threatening defended targets. If the kill mechanism were nuclear, this would amount to NATO's using nuclear weapons reactively against an "accidental" target. This situation would contradict the West European preference, for deliberately controlled political use of nuclear weapons if nuclear weapons ever have to be used. It is still assumed (despite mounting evidence of the nuclear orientation of Soviet theater forces) that, unless the Soviets initiate their aggression with a pre-emptive nuclear strike, NATO would precede the Soviets in making decisions on initial use of nuclear weapons, and that the initial use should be planned primarily for political effect with the resultant military effects of secondary importance.

A third strategic rationale (as well as an Alliance cohesion) argument directly follows. A nuclear warhead ATM could not be effective unless it could respond to incoming RVs automatically. This would require an agreement in advance among the Allies to use the weapons, with a pre-delegation of release authority, unless the United States were to insist on a strict interpretation of the 1962 Athens guidelines on consultation only "time and circumstances permitting." It would be politically very awkward for the United States to so insist. It would be no less difficult for the United States to obtain advance approval of nuclear release from the Allies.⁵⁷ Even if it

57. Some observers consider the nuclear-armed Nike-Hercules air defense system to be virtually unusable for these reasons. There is a linkage between Nike-Hercules and the Patriot in that the NNK Patriot for air defense is scheduled to replace the Nike-Hercules, and in that an ATM with a nuclear kill mechanism might be more readily accepted in Western Europe if presented as a successor to the Nike-Hercules system. It has been reported for years that West Europeans would like to retain the nuclear high-altitude anti-air capability that Nike-Hercules represents, and for this reason at least a nuclear successor system with ATM potential might be acceptable. (Cf. Walter Pincus in *The Washington Post*, November 1, 1981; and *Aviation Week and Space Technology*, August 29, 1977, pp. 47-48.)

were a case of defending against incoming SS-20 RVs, many West European officials might argue that warning system malfunctions could lead to a rapid and unnecessary escalation of a crisis if any nuclear explosion took place. The advantages reliable NNC would offer are again apparent.

INF Modernization and ATM

The impact an actual U.S. ATM program might have on the ongoing INF modernization program is indeterminate, but some European officials are concerned that the impact could be harmful in a number of ways. If the ATM required a nuclear warhead, it would constitute a new nuclear system for possible introduction into Western Europe, and hence a new focus of controversy. Moreover, whether nuclear or NNC, ATM would represent a sufficiently dramatic development to "overload" the West European decision-making process. European governments are reluctant to see any new dramatic issues raised (such as enhanced radiation battlefield weapons, chemical weapons, new mid-range nuclear missiles, etc.) that might make implementation of the December 1979 decisions on INF arms control and modernization even more difficult.

Some West Europeans might see ATM as a justification for not proceeding with the INF modernization decision, even if ATM were presented as a long-term necessity for defense of the new INF. Various arguments might be made to this effect:

- Given the ATM possibility, should the INF decision and its rationale not be re-examined in order to find a more optimal mix of systems and basing for ATM defenses?
- Why introduce new offensive systems at all if the problem posed by the SS-20 and other Soviet theater ballistic missiles can be solved effectively and directly through defensive systems that would not pose a threat the Soviets might perceive as "aggressive"?
- Given the likelihood that the Soviets would try to overwhelm any ATM, should any land-based systems be deployed at all?

A number of influential West Europeans are already concerned that land-based INF would constitute attractive targets in Soviet eyes, and an ATM program might tend to underline that probability. In the words of Carl Friedrich von Weizsäcker, "In case of a crisis, these weapons would naturally

be the targets of a Russian first strike. The necessity of avoiding such crises would make Europe more vulnerable to blackmail."⁵⁸

ATM and Arms Control

Would ATM violate the ABM Treaty? The ATM concept is distinct from the purpose of the ABM Treaty, which defines an ABM system as "a system to counter strategic ballistic missiles or their elements in flight trajectory" (Article II). Some observers therefore argue that ATM could be developed and deployed while complying with the ABM Treaty. After all, the purpose of an ATM would be to protect theater military assets.⁵⁹

On the other hand, Article IX of the ABM Treaty states that "each Party undertakes not to transfer to other States, and not to deploy outside its national territory, ABM systems or their components limited by this Treaty." This provision of the Treaty could be used by the Soviets and by Western European (and American) opponents of ATM to argue that ATM represents an attempt to circumvent the ABM Treaty. It could rapidly become apparent that, even if the Treaty language does not explicitly exclude ATM, politically and in terms of public perceptions, ATM is covered by the Treaty's limitations.

Even if the United States were to point out that the ATM would not be capable of protecting continental U.S.-based assets, the Soviets would respond that this proves that U.S. "forward-based systems" (FBS) in Europe—mostly aircraft—must be limited by arms control measures. FBS are more threatening to the Soviets, if more survivable; the Soviets would therefore insist even more emphatically that FBS be included in the INF negotiations. The ABM Treaty issue could raise "arms race" and "destabilization" specters that might be almost impossible to exorcise in the social democratic circles of Western Europe, even with an NNK ATM. The more effective an ATM is, the more it will look like an ABM, even if incapable of defense against SLBM and ICBM RVs. Ironically, therefore, the less effective the ATM, the easier it might be to deploy in terms of public relations. While the ideal ATM would also be capable of intercepting SLBM and ICBM RVs, even an ATM capable

58. Carl-Friedrich von Weizsäcker, "Can a Third World War Be Prevented?" *International Security*, Vol. 5, No. 1 (Summer 1980), p. 204.

59. See, for example, Winton, "Applications of BMD," p. 97. Cf. Medalia, *Antiballistic Missiles*, p. 17.

only of intercepting Soviet INF could be part of a set of measures enhancing deterrence and security in Europe.

General arms control and détente issues follow directly from this situation. The Soviets might very well propose inclusion of ATM in the INF negotiations or in some other arms control forum, and the suggestion would probably be heartily approved by many sectors of West European opinion. It would be hard for the United States to extricate itself from such an arms control negotiation offer without being portrayed as a “warmonger.” ATM’s inclusion in the INF negotiations would tend to protract an already complex and difficult set of negotiations, and could make useful results even less likely. These negotiations already promise to disappoint many in Western Europe with unrealistic expectations about arms control, and to strain further the fabric of the Alliance.⁶⁰

Conclusion

The sensitivity of West European governments and publics regarding all types of BMD is a factor the United States will have to consider as it examines options that might require revision of the ABM Treaty or that might be so perceived (i.e., ATM). Neither homeland BMD options nor the long-dormant ATM question have been raised explicitly by the United States with West European governments. It is possible that, when and if a BMD question is raised officially, political and technical circumstances will have changed significantly from the current situation. Highly convincing BMD technology (especially for NNK), perceptions of an increased Soviet threat, heightened feelings of dependence on U.S. military power, favorable (i.e., U.S.) financing arrangements, and/or other factors could combine to persuade West Europeans to accept, however begrudgingly, a new U.S. and NATO strategy of damage-limiting for defense and deterrence—i.e., an ability to deny the Soviets victory by defending selected military targets.

No reassessment of NATO’s general strategic outlook could be more fundamental. At present, NATO’s deterrent strategy is based on the assumption

60. Some observers have suggested that an ATM could also be employed as a surface-to-surface missile, in which case an arms control problem might be posed in terms of “changing the numbers” of systems that might target the Soviet Union. The Patriot used in a surface-to-surface role would not, however, have the range to threaten the Soviet Union. Nor does it seem probable that any ATM system now likely to be developed would have a range encompassing Soviet territory.

that any East–West conflict could rapidly lead to an escalation process ultimately including U.S. strategic nuclear strikes against Soviet society. The U.S., Western Europe, and NATO military forces are almost completely vulnerable to Soviet nuclear threats, except for limited air and civil defenses and, above all, the threat to severely punish Soviet society in retaliation.

Both aspects of the posture—the ultimate reliance on a threat to kill millions of Soviet citizens, and the virtually complete absence of effective defenses—could prove most unsatisfactory guarantees of security in war. If technically feasible and cost-effective, damage-limiting capabilities could deny the Soviets part of their ability to threaten the United States and Western Europe, and make it less necessary for the Alliance to threaten harm to Soviet society. An ability to physically deny the Soviets their plausible military objectives could become a yardstick for Alliance strategy superior to the ambiguities of “flexible response.” Since the most plausible Soviet military objectives are not cities but military targets that could be relatively (though imperfectly) well defended, Soviet strategies for nuclear war-fighting and victory could be thwarted, and deterrence strengthened, by damage-limiting capabilities that increase Soviet uncertainties about prospects for successful pre-emptive attack.

The lack of damage-limiting capabilities in the West tends to drive Alliance strategy into embracing politically convenient ambiguities. The ambiguities about what “flexible response” might mean operationally are partly intended to conceal the scarcity of militarily sensible retaliatory options (given the lack of damage-limiting means) from the Soviets and Western publics. “Flexible response” thus ultimately rests heavily on the threat to unleash a conflict that could lead to the destruction of much of North America and Eurasia. Damage-limiting could assist NATO in becoming less dependent on this threat. All that Alliance strategists can hope for at present is that mutual restraint in a “crisis management” process will be able to control nuclear conflict, for the West has virtually no ability to enforce damage limitations through active (non-counterforce) defenses.⁶¹

Reassessment of the merits of damage-limiting is long overdue, and change

61. Anti-submarine warfare (ASW) capabilities are here assumed to constitute a form of counterforce, as opposed to active defenses that could intercept ballistic missile RVs or air-breathing systems in flight. Even if one hypothesizes that Western ASW could neutralize Soviet SSBNs pre-emptively (a highly improbable feat for several reasons, including the fact that land-based ASW communications and detection means would be at risk in war), the threat to Western society from Soviet air-breathing systems and land-based ballistic missiles would remain dire.

may be imminent. BMD, perhaps in conjunction with a deceptive-basing system, is one of three concepts for long-term MX basing under consideration by the Reagan administration. Congress, in the Fiscal Year 1982 Appropriations Act, has mandated reporting a final selection of an MX-basing mode by July 1983, and decisions may be made by April 1983.⁶² While the scheduled October 1982 second five-year review of the ABM Treaty may therefore pass without either U.S. or Soviet proposals for revision, the United States may elect to propose amendments later, perhaps as a result of the MX-basing decision. Amendments to the ABM Treaty may be proposed at any time; and either party may withdraw, with six months' notice, if it judges that "extraordinary events" related to the Treaty's subject matter have "jeopardized its supreme interests."

On the other hand, doubts about the maturity of BMD technology persist in some political and technical circles. The possibility that the Soviets have a superior ABM Treaty "break-out" potential owing to their greater investments in BMD (and air defense) research may be another argument for U.S. caution in proposing major changes in the ABM Treaty. Extensive research (particularly on NNC) seems likely before ATM will become an immediate option. The BMD technology and costs will be key factors in determining whether a shift away from the West's prevailing theory of deterrence (societal punishment) to one partaking of greater elements of damage-limiting is feasible. One might then consider whether, given possible Soviet countermeasures, a damage-limiting strategy—or at least improved damage-limiting capabilities, especially for defense of selected strategic and theater military targets—would be sensible.

Technological opportunity may not, however, determine the rejection or choice of damage-limiting measures as much as established convictions regarding BMD and its political, diplomatic, and financial costs. Less costly BMD technology might reduce the financial burden, but the question of political will to pursue damage-limiting programs over the long term would remain. Without domestic or Alliance consensus on the strategic merits of damage-limiting, the United States would find it hard to sustain BMD deployment decisions. Moreover, U.S. political will to pursue analysis of BMD options seriously and to reassess Alliance strategy in the light of potential damage-limiting opportunities is not likely to be stiffened by encouragement from the Allies in Western Europe.

62. *Aviation Week and Space Technology*, April 5, 1982, p. 23.