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ARMS CONTROL SCAMS AND LEGISLATING ARMS CONTROL

Arms control seems to have become the gift wrapping in which new weapons procurement is presented to the public. The arms race itself is increasingly an arms control scam.

At the end of March, the President put forward a plan for making nuclear weapons "impotent" with force shields and told the public this was a road to peace. To defuse the critics, the same President who would not sell the Soviet Union "ball-bearings" lest they be used against us said he "could foresee some future President" sharing the technology for defending cities with the Soviet Union. Where General Daniel Graham and the "High Frontier" crowd had the candor to call their program a "technological end-run" on the Soviets (See p. 11), the President had the gall to describe the same thing as a step toward the end of the arms race. Those supporting his program, including Herman Kahn, have long seen this strategy as a way of putting technological pressure on the Soviet Union—and predictably the Soviet Union saw it just that way. (See pp. 10-11 for Soviet reaction, and for a Federation press conference on this subject, defending the all-important ABM Treaty, which the President was thus happily undermining.)

On April 11, the Scowcroft Commission on Strategic Forces pulled off a second arms control scam. The same MX which everybody had justified on the grounds that Minuteman silos were too vulnerable was to be put back in the same vulnerable holes. Cynics everywhere were vindicated in their predictions. A missile which had been thoughtfully designed to fit in Minuteman holes within one inch was ready to do exactly that.

The arms control package? We needed the MX for bargaining "leverage"—a non-negotiable bargaining chip if you can believe it. The "leverage" was to

threaten Soviet missiles. (Remember when we called that "destabilizing?") Anyway it was to be an interim step toward a single-warheaded missile! (Be happy it should have only one warhead!) And editorial writers everywhere were told that this single-warheaded missile was somehow good for arms control—which they unquestioningly accepted because it came from establishment sources. In fact, this missile is going to raise all the same kinds of problems that cruise missiles do. Mobile and small, it will be exceedingly difficult to verify. (See p. 7 for excerpts from the statement of a leading backer, Congressman Albert Gore, Jr.) It requires, according to Harold Brown, arms control to deploy it. And no deal has been worked out to get the Soviets to go to single-warheaded missiles. This would require both sides to replace all their existing missiles with new single-warheaded missiles—a big, expensive, and time-consuming process during which other dangers will arise (see page 5).

Meanwhile, still another plan for progress through procurement—the so-called guaranteed mutual build-down—calls for giving up two old warheads for each new one. But an attempt to substitute this notion for the freeze resolution failed in the House of Representatives by 190 to 229. One basic problem with this approach is that the technological improvements in the arms race are coming too fast and too dangerously to be left to an invisible hand; left to their own preferences, the weaponeers will simply buy the most dangerous weapons. Arms control is too important and immediate to be left to any one formula—with the exception of some kind of interim freeze. And even here vigilance and custom-crafting will be necessary to make the agreement stick.

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WITHOUT ARMS CONTROL, THERE IS TROUBLE AHEAD

During the last few weeks, FAS has wrestled with the vote on the Freeze, the Scowcroft Commission report and MX, the Star Wars speech and ABM issues, and the debate over cruise and Pershing missiles. Contrary to the hopes of those who argued for finite deterrence in the 1960s, the arms contest shows no signs of petering out through saturation of the target systems. Notwithstanding the ABM Treaty, which was supposed to underline and support a halt to the arms race through overkill, there seems always to be some possible further problem. Indeed, in the testimony within, FAS has evidently been the first to bring to the attention of Senate Armed Services Committee members the dangers of deploying Trident II.

If the U.S. does go ahead with Trident II, it will present

a threat to Soviet ICBMs and bombers simultaneously; when Soviet sea-based counterforce takes place, the same thing will happen to the U.S. in reverse. The window of vulnerability argument will be heard again in the land and with a vengeance. This possibility is nothing less than a repeat of the fiasco that resulted when the U.S. pioneered with MIRV and found that this boomeranged into vulnerability of *one* arm of our deterrent. Only now, *two* arms of the triad will be at risk. With this in mind, we called for a Ballistic Missile Holiday (see p. 3) and found that Leonid Brezhnev had made a proposal, in 1981, that laid the basis for a key part of what we had in mind.

In general, America has got to start bargaining seriously for arms control or we, as well as the Russians, are going to find even greater troubles in the 1990s than we are having in the 1980s (see pp. 6-7). □

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Imitation is, however, the sincerest form of flattery. All this attention to arms control cosmetics is based on favorable opinion polls for the Freeze and continuing opposition to precisely the kinds of weapons the Administration wants: Pershing and cruise missiles, MX missiles and space weapons.

On MX, events may be moving in the direction suggested by one FAS official in a submission to the Scowcroft Commission and a *New York Times* op-ed piece entitled "Barter the MX." Some Senate Democrats seemed poised to approve MX but contingent on some kind of deal being struck with the Soviets. Where we had proposed holding back on the flight tests of ICBMs on both sides while negotiations proceeded, some senators seemed likely to want authorization of at least some missiles, with the rest being approved only if agreement could not be reached with the Soviets for reductions of some of their heavy missiles.

In this connection, America may be getting addicted to the dangerous course of believing it can trade paper plans for reductions of Soviet missiles in being. Granted this has shown potential, to some extent, with Soviet offers in the INF negotiations. But it would be only too easy, following this approach, to overplay our national hand.

Recently the Federation testified, by invitation, before the Senate Armed Services Committee hearings on the MX. (See pp. 3-7 for excerpts from the testimony.) These hearings revealed that the importance of arms control has begun to infiltrate the thinking of that Committee. The Senators who are thinking about it are getting a real education in the obduracy both of the Administration civilians and of the Joint Chiefs of Staff to pursuing arms control if it means limitations on our side. What this Administration, and the Joint Chiefs so far, appear to want is Soviet unilateral disarmament. □

STAR WARS: COMMENDED (!) AS THE LAFFER CURVE OF ARMS CONTROL

"Writing in the *Dallas Morning News* on 19 March 1982, Gregory Fossedal best summarized High Frontier's major military recommendation:

It is a document that may do for Ronald Reagan's military thinking what Jude Wanniski and the Laffer curve did for his economics. It does what the Pentagon apparently has not: fit the new technologies of space and lasers into a military strategy.

...If the U.S. deploys a system able to intercept a majority of Soviet ICBMs it would have restored the strategic umbrella, even if eventually the Soviets match that capability. This in turn would take the pressure off both the need for deploying additional nuclear weapons in Europe and for investing in additional conventional forces...Politically speaking, given today's anti-nuclear attitudes, and the growing Soviet threat, it is the only game left in town!"

Robert C. Richardson III, U.S.A.F. (Ret.)

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NEEDED: BALLISTIC MISSILE HOLIDAY?

What follows is testimony to the Subcommittee on Strategic and Theater Nuclear Forces Subcommittee of the Senate Armed Services Committee on the MX decision provided by Director Stone on April 22. Earlier, the full Committee had heard testimony from the Commission on Monday, April 18, from the Secretaries of Defense and State on April 20, and from the Joint Chiefs of Staff on April 21.

Committee Members attending the hearing included Chairman John W. Warner, and Senators William S. Cohen, J. James Exon, Carl Levin and Sam Nunn. There was very polite and interested treatment of our witness by the Subcommittee.

Senators Exon and Levin range from dubious to outraged about the MX decision. Senators Cohen and Nunn are the co-sponsors of the build-down theory but seem open-minded about other issues and approaches. Senator Nunn took the trouble to ask three retired generals (including General David Jones, former chief of staff) on the next panel about the Ballistic Missile Holiday theory below, and clearly felt the matter needed looking into.

Senator Cohen had spent the week of hearings asking very penetrating questions of all the witnesses. And Senator Warner understands that America has an awful lot of strategic weaponry on its plate already. There is more intellectual life on the Armed Services Committee than there used to be and this is important.

The Scowcroft Commission on Strategic Forces reached a political, rather than a military, strategic or arms control decision. In particular, its widely touted references to arms control omitted any discussion of arms control "now" with which to resolve the MX issue without procurement. The Committee should hold prompt hearings on the general issue of "Arms Control Solutions to the MX Deployment Issue."

The Commission justified the emplacement of MX in fixed vulnerable silos on the wholly irrelevant fact that the Soviet Union could not today, or in the "near term", attack our land-based missile silos and our bombers simultaneously. This is why the Commission is reported to have "closed" the window of vulnerability.

But the MX would not be completely deployed until the later 1980s anyway. By that time, a new and more serious window of vulnerability will be on the horizon as the Soviet Union moves to match U.S. plans for sea-based counterforce with our Trident II (alias D-5) missile, designed to begin deployment in 1989. It would be foolish indeed to base U.S. plans on the assumption that the Soviets would be more than a few years behind, if that, on a matter so important and so much within their control.

With sea-based counterforce capability able to threaten ICBM silos, the Soviet Union *can* indeed simultaneously strike the bomber bases and the Minuteman silos. In fact, it can do so with only ten-minute warning time from submarines off our shores.

In sum, the central reason given by the Scowcroft Commission for permitting the MX to be placed in vulnerable silos was based on an elemental error. The issue is not

COMMISSION CLOSING WINDOW IN "NEAR TERM"

In the judgment of the Commission, the vulnerability of such silos in the near term, viewed in isolation, is not a sufficiently dominant part of the overall problem of ICBM modernization to warrant other immediate steps being taken such as closely spacing new silos or ABM defense of those silos. This is because of the mutual survivability shared by the ICBM force and the bomber force in view of the different types of attacks that would need to be launched at each, as explained above (Section IV.A.). In any circumstances other than that of a particular kind of massive surprise attack on the U.S. by the Soviet Union, Soviet planners would have to account for the possibility that MX missiles in Minuteman silos would be available for use, and thus they would help deter such attacks. To deter such surprise attacks we can reasonably rely both on our other strategic forces and on the range of operational uncertainties that the Soviets would have to consider in planning such aggression—as long as we have underway a program for long-term ICBM survivability such as that for the small, single-warhead ICBM to hedge against long-term vulnerability for the rest of our forces.

Page 17, Report of the President's Commission on Strategic Forces, April, 1983.

Note that this paragraph nowhere mentions explicitly the fact that sea-based counterforce capabilities on the Soviet side would threaten the argument. Presumably, this was because it would have raised the question, which we divined and raised on this page, of negotiating about Trident II; no Pentagon based committee is willing to raise questions about its own systems, even if it has to be imprecise about the evolving Soviet threat. But the Chairman of the Commission, General Scowcroft, did advise the Senate Armed Services Committee on Monday, April 18, that:

"this situation [of a closed window of vulnerability] would continue until they have submarine forces accurate enough to attack silos."

whether an alleged window of vulnerability exists today, or in the "near term", as the Commission put it, because we cannot deploy MX today and cannot sufficiently enjoy its use in the "near term" only. The real question for the Commission is whether these silos will be safe by the time MX is fully deployed *and* for a reasonable time thereafter. It seems that, measured in this fashion, the useful life of MX is going to be far too short to justify its deployment—even in the Scowcroft Commission's own terms of windows of vulnerability. Not even *one*, much less two, decades can be assured.

The Armed Services Committee should recall Scowcroft Commission members to ask them their views on this critical point: how long will MX be viable? Are they, in fact, basing MX viability on the wholly untested possibility that they can come up with subsequent invulnerable basing

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for a follow-on Midgetman missile? If so, they are living dangerously. Such basing for that new system—as former Defense Secretary Harold Brown conceded, in a supplemental statement—would require major arms control limits on warheads. So it cannot be depended upon either since arms control is itself uncertain! So the Commission has no answer *whatsoever* to invulnerability of basing, except arms control. Why not arms control now?

The solution to the dilemma is a Ballistic Missile Holiday in which both sides would agree not to build any more new types of ICBMs or SLBMs. The agreement on *SLBMS* would prevent sea-based counterforce and thus keep this window of vulnerability as closed as it presently is. Accordingly, each side could then afford to preclude the construction of the new *ICBMS* that would otherwise be thought necessary.

This position appears to be negotiable. In fact, on February 23, 1981 the late Leonid Brezhnev said:

“We are prepared to come to terms on limiting the deployment of the new submarines—the Ohio type by the USA, and similar ones by the USSR. *We could also agree to banning modernization of existing, and the development of new, ballistic missiles for these submarines.*”

In short, the U.S. *already* has the bargaining position necessary to secure the bargain we need. We could, by trading off Trident II, buy protection for our ICBMs and bombers from the emerging Soviet counterforce threat from the sea, and in so doing, make possible and demand, a corresponding halt to new ICBMs on *each* side. This is more national security than either MX or Midgetman or both can provide and it would cost absolutely nothing. What is wrong with this?

The Commission Closed the Window of Vulnerability

The Commission conclusions are, however, valuable to the Committee in one regard especially. The Commission has shifted the strategic accounting rules from requiring that ICBMs be invulnerable on their own to the more sensible original requirement that they should simply contribute to a strategic force which is, *overall*, secure against attack.

The implications of this closing of the window of vulnerability are far-reaching and worth a moment of reflection:

1) **CASE FOR MX ENORMOUSLY DIMINISHED:** If one will excuse the pun, in closing the window of vulnerability, the Commission threw out of the same window the primary rationale for MX, viz., that it would enhance the then-said-to-be-crucial vulnerability of the land-based missile force. Obviously, the case for the MX is enormously reduced.

2) **CASE FOR SINGLE-WARHEADED MISSILE ALSO MUCH REDUCED:** As another consequence of this report, the case for “de-MIRVing” and “single-warheaded” missiles has also been undermined—even while the Commission report gives rhetorical encouragement to it. After all, if one concedes that the land-based missile force need not be invulnerable on its own, why

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ARMED SERVICES COMMITTEE OPPOSED SILO BASING FOR 7 YEARS

Militarily, this Committee has been constant, vigilant, and accurate on the issue of emplacing MX in Minuteman silos. In 1976, your Conference Committee Report made it a violation of law for the Defense Department to spend monies even to study this possibility. It said:

“The rationale behind the development of a new missile system (MX) is to provide a land based survivable strategic force. The development of an alternate basing mode as opposed to a fixed or silo based mode is the key element in insuring this survivable force. The conferees are in agreement that providing a survivable system should *not* be constrained for silo basing; that *none of this program's funds shall be expended in fixed or silo basing for MX*; and that none of the program reduction shall reduce the Department's proposed investigations of mobile deployment.” (italics added)

On March 24, 1982, six years later, this very Subcommittee on Strategic and Theater Nuclear Forces reaffirmed the same conclusion in its Report on the FY 83 Defense Authorization Bill:

“The number of additional warheads that would survive an attack upon MX missiles so deployed (in Minuteman silos) does not appear to justify the costs—assessed at \$2.6 billion over the next five years—associated with this basing scheme.”

“The Committee also is concerned that the possibility may exist that strategic deterrence and crisis-stability could be jeopardized, rather than enhanced, by the deployment of high-value, militarily important weapons in so small a number of relatively-easily destroyed shelters.”

This report was endorsed, as you know, by Senators Thurmond, Goldwater, Cohen, Quayle, Jackson, Nunn, Hart, and Exon.

Others who expressed the same views within a year or so of that date included the Chairmen of both the Senate and House Armed Services Committees (John Tower and Melvin Price), the Secretary of Defense (Caspar Weinberger), the Undersecretary of Defense for Research and Development (William Perry), the Chairman of the Joint Chiefs of Staff (General David Jones), and the Chief of Staff of the U.S. Air Force—the service responsible for the program (General Lew Allen).

In sum, an extraordinary consensus existed two years ago *against* this very approach. [See P. 6 also ed. note.]

As late as one year ago this week, this Senate Armed Services Committee included in its April 14, 1982 Report on the FY 83 Defense Authorization Bill an order to halt any “further work...in support of fixed-point silo basing of MX.” It said:

“The planned interim basing of MX does not redress the problem of the vulnerability of the land-based ICBM force...The \$715 million requested for research and development on interim basing of the MX is denied. No further work is to be undertaken in support of fixed-point silo basing of MX.”

—from FAS Testimony, April 22

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spend tens of billions to spread it out with small mobile missiles, in a search for invulnerability? (Some estimates suggest this would cost \$750 per family of four.)

Backers of the single-warheaded missile approach were at pains to seek to resolve "even hypothetical" surprise attack problems. To my mind, this 15-year-old debate over land-based missile vulnerability reveals that there will always be "hypothetical" surprise attack problems associated with manipulative shifts in the strategic accounting rules. The solution to these fears is not another decade of force building or force substitution but a political struggle to maintain proper accounting rules.*

3) **VALUE OF U.S. HARD-TARGET CAPABILITY THROWN INTO QUESTION:** As a third consequence of the Commission's closing the window of vulnerability, we must review the significance of seeking hard-target kill capability against Soviet silos. They also may have accounting rules that seek a deterrent that is, *overall*, invulnerable to attack. If the vulnerability of our land-based force standing alone is not that important, why is it so important to make *their* land-based force vulnerable? What, in particular, makes us think they will take down those heavy vulnerable missiles just because we make them vulnerable—which, indeed, the heaviest missiles seem to be already from Minuteman III missiles. More likely they will just buy more missiles. The Russians don't throw things away!

If it is the survivability of the overall strategic forces that matters, and their deterrent capability, who are we kidding when we talk—as this report does—of this deployment of 100 MXs providing:

"a means of controlled limited attack on hardened targets but not a sufficient number of warheads to be able to attack all hardened Soviet ICBMs..." (italics added).

We are not going to attack the Soviet Union in less than an all-out way because we are not crazy. Why continue to pretend we are crazy after closing our own window of vulnerability by arguing that the Soviets were not crazy enough to do precisely this if they could not attack bombers simultaneously?

4) **CASE FOR ICBM REDUCTIONS ENHANCED:** When I proposed to the Commission that parallel reductions of ICBMs on each side might help resolve the political and strategic issues involved in land-based missile vulnerability, I was told that reductions would not, in and of themselves, solve the problem of ICBM vulnerability. Now that the Commission has resolved that issue by clos-

*Buying off defense scares with new weapons is simply too expensive. As a splendid example of the fact that there is always something to worry about, if one wants to, the United States is periodically alarmed about Soviet civil defense programs. This is after 10 years of Soviet compliance with an anti-ballistic missile treaty giving all our ICBMs and SLBMs a free ride in attacking Soviet cities and population.

Building one's way out of defense scares also takes too long, during which time new defense scares arise. As an example of how another decade might buy time for another defense scare, we have the President's recent Star Wars speech which reveals that the 1990s, with specters of space-based ABMs, could soon provide "hypothetical" threats to the future well-being of small mobile ICBMs.

HAROLD BROWN ON MIDGETMAN

"But this new system still has many uncertainties, particularly in terms of cost and of the feasibility of hardening truck mobile missiles or superhardening fixed shelters. For example, unless the United States can negotiate severe limits on the level of ICBM warheads, the number of single warhead missiles needed for a force of reasonable capability and survivability could make the system costs, and the amount of land required, prohibitively great. We also do not know whether truck-mobile missiles will be able to survive a megaton blast two miles away. Lacking that hardness, the mobile system is easily barraged into destruction or forced into peacetime deployment on highways, which would raise political difficulties." (italics added)

ing the window of vulnerability, proposals for simultaneous bilateral reductions in land-based missiles, and other analogous proposals, deserve another look.

Legislating Arms Control

Both "Option B: Closing the ICBM Loophole" and the "Ballistic Missile Holiday" have the advantage that they can actually be legislated by the Congress in a bilateral fashion. What I mean by that is this—the Congress could pass legislation that would say something like:

"Option B"

No funds shall be spent after October 1, 1983, to flight-test the one new ICBM permitted by SALT II unless and until the President certified that the Soviet Union had flight-tested the one new ICBM permitted to it after that date.

Or:

Ballistic Missile Holiday

No funds shall be spent for flight-test or deploy the one new ICBM permitted by SALT II or the Trident II unless the President certifies that the Soviet Union is flight-testing or deploying the one new ICBM permitted to it or a sea-based follow-on to the SS-NX-20.

Goal of Arms Control Should be to Negotiate a Halt to the Contest

Obviously, there are other possible proposals including larger packages in which freezes of strategic weapons, or even strategic *and* theater weapons, might be involved. Reductions of various kinds could be included as well, although these seem of less importance strategically, militarily, and in arms control terms than stopping new technological developments on each side.

In this regard, I disagree with the implications in the Scowcroft Commission report that the goal of arms control is simply to "channel" the arms contest—presumably until it either peters out or explodes into war.

It would be irresponsible for American leaders to adopt such a limited view of arms control because we cannot *depend upon* the arms race petering out. Under these circumstances, we have no alternative but to pursue the possibility of a negotiated halt. No matter how difficult it may sometimes seem, the stakes—our survival—are too high to reject out of hand such a potentially valuable third option.

Our Bargaining Position is Adequate to Support the Arms Control That is Essential to our Security

Arms control is the key to our security because we want to stop the Soviet Union from building more and more nuclear weapons, not to build more ourselves. And since we cannot force them to do so, the only way to stop them is to negotiate with them! In short, we must do what members of this Committee are trained to do: palaver and cut a deal.

The Committee ought not fear that our bargaining position is weak. Those members who have visited the Soviet Union may realize that the Soviet position, and their sense of their position, is weaker still. The Russian people have even more confidence in *our* technology than do we. They have also an even greater sense of their own inferiority and vulnerability to attack than these deserve. Their fear of war is also more tangible than our own. And their economic situation and their political situation have locked them into a strong desire for arms control for thirty years. Every Treaty we have signed with them, thus far, has given us, rather than them, the military advantages precisely because, in the end, their hard bargaining weakens in the face of political instructions to settle, while the diversity of our Senate and our Constitutional requirement of Senate ratification stiffens our position.* They do seem to have a continuing interest in ending the arms race for a variety of reasons. While we do also, our own Government, with less central authority, seems to move decisively toward arms control only under the irresistible pressure of public opinion when, about once a decade, the citizens rebel.

Prospects for Winning the Race are Bleak, and for Surviving It, Grim

Although, as I say, I believe that our favorable bargaining position is strongly anchored in the attitudes and situations of the two sides, a continuation of the arms competition will, I firmly believe, produce outcomes unpleasant indeed to this Committee on Armed Services. There is every reason to believe that the Soviet Union will, over time, pull ahead in *numbers* of weapons—albeit numbers of nuclear weapons that are highly irrelevant—if unconstrained by arms control.

Why is this? It seems obvious to me—and a tribute to the common sense of our citizenry and the democratic structure of our Nation—that we will be the first to tire of deploying redundant numbers of nuclear weapons. It seems obvious that the Soviet Union, which doubts its own technology, will continue to take refuge in correspondingly larger numbers of weapons. It is also the Soviet Union which has the greatest sense of embattlement and encirclement. It is, after all, the Soviet steel-eaters of yesteryear that are now locked into the arms race. Thus, in a quantitative arms race, they will hold their own, at least, and very possibly draw ahead.

While many Americans care little whether the Soviet Union has one billion warheads, so long as America retains one million warheads, this Committee would not abide an outcome in which the Soviet Union had 1,000 times more warheads than would we. This is a caricature, perhaps, but

(Continued on page 7)

1981-82: ALL OPPOSED MX IN SILOS

Sen. John Tower, November 2, 1981

“By stuffing the MX’s into fixed silos, we’re creating just so many more sitting ducks for the Russians to shoot at... True, the MX missile itself will be more powerful, more accurate—and we need that kind of weapon. But it’s of little use to us unless the Soviets are convinced that it can survive an attack. Without that, the Russians will have no incentive to start serious arms-control talks.”

Rep. Melvin Price, October 6, 1981

“What is to be gained by deploying just 36 MX missiles in existing silos? If 4,600 silos of the MPS mode would be too vulnerable to proliferation of Soviet ICBMs, how are 36 or even 100 MXs in fixed silos to be more survivable? What technical knowledge do we have now as to the feasibility of deep silos basing?”

Caspar Weinberger, Secretary of Defense, January 6, 1981

“I would feel that simply putting it (the MX) into existing silos would not answer two or three of the concerns that I have: namely, that (the location of) these are well known and are not hardened sufficiently, nor could they be, to be of sufficient strategic value to count as a strategic improvement of our forces.”

General David Jones, then-Chairman, Joint Chiefs of Staff, October 5, 1981:

“In my own view, I consider the MX in a very survivable mode to be extremely important to the security of the Nation. I remain to be convinced there is a survivable mode other than MPS. So, if forced with the difficult choice, B-1, ATB, and MX, I would put MX last under the current program slice.”

General Lew Allen, Chief of Staff, U.S. Air Force, January 29, 1981

“...an essential feature of the MX deployment is that the basing mode be survivable. One does not obtain that through placing it in Minuteman silos. Therefore, I do not favor such a deployment.”

William Perry, Former Undersecretary of Defense, November 13, 1981

“My concern is that if we had this very accurate, very threatening missile in unprotected silos, and if they do not go to a survivable system themselves...that simply increases the hair trigger...on both sides.”

“I agonized over that and said on balance I would not go ahead with that (MX in silos) because I don’t believe we will.”

Dr. Richard DeLauer, Undersecretary of Defense for Research and Engineering, March 11, 1982

The reason that I did not relate interim basing (of the MX missile in Minuteman silos) to the survivability problem is that the resulting survivability will be no better than it is now.”

(Continued from page 6)

a meaningful one of what I believe the future holds if the quantitative arms race continues.

I am not alone in taking this pessimistic view. It is no accident that the Heritage Foundation "High Frontier" program discusses outer space as the only area in which we might get a technological "end-run" on the Soviet quantitative drive. But, as virtually all American scientists know, the effort to get a total defense against nuclear weapons mounted by a motivated superpower, through developments in outer space, is an obvious mirage. In short, while our present bargaining position is strong, the projected course of the arms race is a bleak prospect.

When we add to this projection the obvious fact that warning time is steadily being reduced as the arms race progresses, we must conclude that war through inadvertent or careless escalation is increasing in likelihood. Even at the present stage of the arms race, excessive tension between the superpowers must be deemed a direct threat to our survival. It increases the likelihood of uncontrollable escalation subsequent to any, always possible, outbreak of violence in this overarmed world. Just as the chance of winning the arms race must be deemed bleak, the prospect of surviving the arms race must be termed grim.

In sum, in the arms race, as I see it, *both* superpowers are behind and neither can get ahead. In the direct line of enemy fire, as they are, each runs the greatest risks of imminent destruction which any great nation has ever run. No nations in the Southern Hemisphere are in so vulnerable a situation as the Superpowers. Imagine what our Founding Fathers would think of the National Security situation which the Committee Members now survey from their chairs on this elevated dais.

Arms Race Following the Course of Vietnam War

The Arms Race is clearly becoming the Vietnam of the 1980s and 1990s. A popular movement against the arms race is growing, fueled by many who learned to question authority in the 1960s and 1970s during that war. The excesses and ritualized rationalizations of the arms race excite the same reactions from them: contempt and bewilderment. Their sense of personal involvement is no less great also, since all are being drafted, whether they wish to go or not, in the possibility of nuclear war.

The political imperative which led the Reagan Administration to buy off the *European Peace Movement* with a "zero option" plan was only the beginning of a trend that has already seen the Eureka speech—and many subsequent attempts—to placate and/or undermine the *American peace movement*. But the popular percentages in support of a negotiated halt to the arms race have been—and continue to be—astoundingly high: between

*The Atmospheric Test Ban Treaty came at a time when the U.S. was much more experienced in underground testing and much better able to exploit that loophole. The ABM Treaty precluded the Soviets from neutralizing the strategic threats from our allies, Britain and France. The SALT II Treaty had, according to the Joint Chiefs of Staff only a "nominal effect" on our program but it restricted the Soviets from developing four new missiles, and required them to cut 10% of their force.

two to one and four to one in the polls I have seen.

The American domestic base for continuing the arms race is waning. In the absence of honest efforts to end the arms race, this movement will withdraw its support from American strategic weapon procurement. Accordingly, arms control is a narrow window of opportunity to settle this contest on an agreeable basis. If this opportunity is not seized, the Committee on Armed Services will find it increasingly difficult, in the 1990s or even before, to get the authorizations it considers essential. This is not a threat but a warning of impending inexorable developments. The sooner our nation moves toward a negotiated halt the better it will be for all of us.

—Jeremy J. Stone

"DADDY HAS TO SUPPORT A HABIT"



—copyright 1983 by Herb Luback in The Washington Post

CAN ROAD-MOBILE MIDGETMAN BE VERIFIED?

On April 7, Congressman Albert Gore, Jr. introduced into the Congressional Record a Congressional Research Service study on the verification of arms control limits on land-mobile ICBM launchers. He noted that it had long been "accepted wisdom" that road-mobile systems are "inherently estranged" from arms control, because they would be impossible to count or keep track of. He felt there was "considerable truth" to this but "not necessarily an absolute truth".

The study, by Louis C. Finch, gave two approaches to basing. In the unrestricted operating area approach, there would be wide dispersion of launchers and, as a consequence, national technical means "seems inadequate". This would require, the study suggests, on-site inspection at manufacturing plants and "we would need to be confident that there would be no other plants secretly producing launchers".

In the other concept, operating areas would be shrunk to the point where U.S. military bases could house them. This would, however, require that we verify adequately that there were no mobile ICBM launchers outside the designated areas. Whether this would work was unclear to the author of the paper who argued it would require "close scrutiny" by the intelligence community. □

UNTYING THE INF KNOT: A TRIP REPORT

At the invitation of the Nuclear Weapons Freeze Campaign, FAS Arms Control Staff Assistant Christopher Paine traveled to West Germany in late March, where he represented the Campaign at a conference of the *Deutscher Gewerkschaftsbund* (German Confederation of Trade Unions) in Cologne and addressed the annual conference of the Social Democratic Party Youth (SPD) Organization in Oberhausen. While in Bonn he also discussed the Freeze and the INF situation with researchers at the Friedrich-Ebert Institute, and with SPD staff experts, leading SPD parliamentarians, officials from the Defense Ministry, and representatives from several German peace organizations which are leading the popular campaign against the deployment of Pershing II and ground-launched cruise missiles scheduled for December 1983. Here is his report.

Now that the SPD is clearly out of power for a while (as a result of the March 6 elections) it is moving toward a position remarkably like that adopted by the Nuclear Weapons Freeze Campaign at its February 1983 National Conference in St. Louis: a year's delay in implementing the December 1979 "doubletrack decision", coupled with Soviet INF reductions and continuing negotiations to reach an agreement characterized by no new deployments and deep reductions in the SS-20 threat to Western Europe.

Having lost the elections to the Christian Democrats, and with no chance of forming a minority government in coalition with the Green Party—which won 5.6% of the seats in the Bundestag behind the Free Democrats' 6.9%—the SPD will probably be able to avoid a painful split over the missile issue while pressing for more productive negotiations and a delay in implementing the 1979 deployment decision.

While the SPD as a whole certainly acquiesced in this decision, and party leaders actively promoted it, the SPD now has solid grounds for advocating a delay in its implementation. The SPD's endorsement of the "doubletrack decision" was based on two important presumptions that are now no longer operative: that ratification of the SALT II agreement would be followed promptly by SALT III negotiations incorporating both strategic and theater nuclear reductions; and that there would be a full four years to work out a new agreement.

In the text of the December 12, 1979 NATO Ministers' Communique announcing the doubletrack decision, one finds the following: "Ministers attach great importance to the role of arms control in contributing to a more stable military relationship between East and West and in advancing the process of detente. This is reflected in the broad set of initiatives being examined within the Alliance to further the course of arms control and detente in the 1980's...In this regard they welcome the contribution which the SALT II Treaty makes toward achieving these objectives. Ministers consider that building on this accomplishment and taking account of the expansion of Soviet LRTNF (long-range theater nuclear forces) capabilities of concern to NATO, arms control efforts to

achieve a more stable overall nuclear balance at lower levels of nuclear weapons should therefore now include certain United States and Soviet long-range theater nuclear systems...Limitations on United States and Soviet long-range theater nuclear systems should be negotiated bilaterally in the SALT II framework in a step-by-step approach." (emphasis added)

Clearly, the Reagan administration has pursued policies that violate both the letter and spirit of this Communique. Instead of using arms control to "advance the process of detente," the Reagan administration has been using arms control as a major means of *destroying* detente, and has indeed proclaimed that arms control *cannot be used* to promote better East-West relations but rather should be used as a means of "strengthening our alliances" and as an adjunct to Alliance military security policy. Far from recognizing "the contribution of the SALT II Treaty," the Reagan administration believes that the entire SALT framework is "fatally flawed" and has no intention of "building on this accomplishment" or including INF missiles "in the SALT II framework."

Moreover, the Reagan administration embarked eighteen months late on two separate negotiations whose strategic premises differ significantly from those underlying SALT, and recently announced its intention to repudiate the ABM Treaty whenever the first feasible technological opportunity presented itself. Under these conditions, the SPD can plausibly defect from the December '79 decision without serious damage to its moderate social-democratic image.

While the Christian Democratic-Free Democratic coalition clings publicly to the 1979 decision, privately it has been urging the Reagan administration to soften its stance and get on with an agreement which would obviate the need to deploy all but a few squadrons of cruise missiles. Based on recent conversations, current official thinking in Bonn goes something like this:

(1) The global limitation on SS-20's sought by the Reagan administration is an unnecessary complication and ought to be dropped, or replaced with a ban on *further* deployments. In fact, some officials, half-joking, see real benefits for Germany in making this "concession" to the Soviets. Why should the Federal Republic suffer social unrest, and an increased military burden, to relieve the SS-20 threat to Japan, thereby lessening pressure to increase Japanese defense spending while Japan uses its non-defense resources to beat up on Germany in world markets!

(2) The British and French nuclear deterrents should be accounted for in some fashion under START, or not at all, but should not be included in some putative calculation of a distinct European nuclear balance, as the Federal Republic, unlike Britain and France, does not have its own nuclear deterrent, and Christian Democrats believe West Germany's security would be sacrificed by any negotiation which struck a balance between Anglo-French nuclear forces and Soviet intermediate-range nuclear missiles. German defense strategists reason that even a modest deployment of cruise missiles only in the Federal Republic

would make the risks of an attack unacceptably high to the USSR, particularly if such deployment were coupled with an abandonment of NATO's suicidal threat to defend the Federal Republic using nuclear weapons on German soil.

(3) While not admitting so publicly, the feeling in Christian Democratic circles is that the Pershing II should be converted into pure bargaining chip, available for sacrifice at the appropriate moment in the negotiation. Like the SPD leaders before them, most, if not all, Christian Democratic leaders feel awkward about the Pershing II: West Germany alone among the NATO nations was chosen for its deployment; the Pershing II has more threatening military characteristics than the GLCM (ground-launched cruise missile); and from the Soviet point of view, placing it on *German* soil must appear especially provocative given the historical legacy of German aggression against the Soviet Union in this century.

According to one defense ministry official, in 1981 then-Chancellor Helmut Schmidt petitioned the Pentagon to develop a bargaining position based on a military strategy that did not include the Pershing II; the Joint Chiefs took another look at their nuclear war scenarios and concluded that the Pershings could not be traded away. Schmidt was annoyed but kept his counsel, hoping that changing political realities would bring about a change in the American position. The failure to nip the Pershing II deployment in the bud during 1978-79 is now regarded by SPD officials and career civil servants as a major mistake in intra-alliance diplomacy. Apparently, many in the current Christian Democratic government share this conviction, but can't find a sympathetic ear in the Reagan administration, which they find overly preoccupied with the notion of exerting negotiating "leverage" on the Russians by *implementing* threats rather than by offering *not* to implement them.

Present Negotiating Situation

	Present Deployment		Reagan Offer		Andropov Offer	
	L*	W*	L	W	L	W
U.S./NATO						
British and French	162	162	(162)	(162)	162	162
US GLCM (1983-88)	(116)	(464)	?	?	0	0
US Pershing II (1983-85)	(108)	(108)	?	?	0	0
TOTAL	16	16	?	486	162	162
USSR/WARSAW PACT						
SS-20 (Europe)	243	729	?	?	162	486
SS-4/5	248	248	0	0	0	0
SS-20 (Asia)	108	324	?	?	(108)	(324)
TOTAL	599	1301	162	486	162	486

*L = launchers W = warheads

The Andropov proposal, as shown in the above chart, is the polar opposite of the Reagan interim plan—*inclusion* of British and French missiles in the intermediate range force balance, *exclusion* of Asian-deployed SS-20's, and *zero* rather than matching deployments of Pershing II and GLCMs.

West German Bargaining Scenario for a "Near Zero" Option

- | Reagan Offer | Soviet Counter-Offer |
|--|--|
| (1) U.S. opening position: Zero U.S./Zero USSR/ignore British & French | (2) Zero U.S./count 162 British & French/162 USSR/exclude 108 SS-20 in Asia |
| (3) "Equal levels:" 300 P-II and GLCM/100 SS-20/equal numbers of warheads/ignore British & French | (4) 144 GLCM/162 British & French/100 SS-20 (excluding Asia) parity based on 300 INF European theater warheads for each side |
| (5) 192 GLCM and 108 P-II/ 100 SS-20 excluding Asia/ignore British & French/300 European INF warheads per side | (6) 192 GLCM/100 SS-20/no P-II's/defer consideration of British & French |
| (7) 192 INF warheads (144 GLCM and 48 P-II/64 SS-20 with 192 warheads | (8) 144 GLCM/64 SS-20 |
| (9) 36 GLCM launchers (144 missiles) deployed in three squadrons of 12 launchers each in Britain, West Germany and Italy/45 SS-20 launchers (135 warheads) amounting to one division composed of five regiments with nine missiles each. | (10) The Soviet side accepts the U.S. offer. |

(Source: Conversations with West German Defense Ministry Officials)

This outcome is predicated on Soviet willingness to defer consideration of the British and French nuclear forces to some other negotiating forum, and to ignore the Reagan administration's burgeoning Sea-Launched Cruise Missile (SLCM) program, now up to one-thousand nuclear armed versions and counting. It also presumes a willingness on the part of the European public to support a modest cruise missile deployment even in the face of substantial Soviet SS-20 reductions to very low levels.

President Reagan's recent announcement that the U.S. government is "prepared to negotiate an interim agreement to reduce our planned deployment if the Soviet Union will reduce their corresponding warheads to an unequal level" does not represent a basic shift in the U.S. bargaining position. According to the President, the United States is willing "to consider any Soviet proposal" but only on the condition that it meets "certain standards of fairness" which the Soviet Union has already rejected:

- exclusion of British and French nuclear forces from the arsenals under consideration in the negotiations
- inclusion of all SS-20's wherever deployed, including those in the eastern portion of the USSR targeted against Chinese forces and U.S. forces in the Western Pacific, which are not part of the negotiations.

Hence the outlook for the INF talks is admitted even by
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administration officials to be grim. Ambassador Paul Nitze was quoted as telling the Senate Foreign Relations Committee in early April that he saw "just a small hope" for progress in the negotiations during the next six months. After the confidential briefing, Minority Whip Alan Cranston told the *Washington Post* that he believed "we have bungled and blown the opportunity to have significant arms control." Committee Chairman Charles H. Percy told reporters that "it does not appear that in the foreseeable future there is a chance" for an INF agreement.

The deadlock is largely attributable to the Reagan administration's intransigence. It has been clear for quite some time that significant Soviet INF reductions to levels considerably below their historic level of deployment in the European theater can be obtained in return for canceling some or all of the Pershing II and GLCM deployments. To obtain deep Soviet reductions was the original aim of the arms control track of the NATO "doubletrack" decision, and an administration more intent on arms control than deploying "equal numbers" of U.S. and Soviet intermediate range missiles in Europe could very likely reach an entirely satisfactory agreement.

One way to resolve the deadlock would be to divide it into two stages. In the first stage, NATO would offer to bargain away the most troublesome and threatening weapon system, the Pershing, in return for reductions in SS-20s while deferring, to a second stage, the deployment of the cruise missiles.

NATO might ask that one SS-20 be dismantled for each of the 108 Pershings that would be cancelled. Since this gives the West a reduction of three SS-20 warheads for each Pershing warhead canceled, the West might also cancel deployment of enough GLCMs (with four missiles per launcher) to provide an equality in warhead reduction, e.g. about half the GLCM deployment or 54 launchers might be thrown in to give warhead equality. (This would leave one GLCM squadron for each of the five NATO members planning to receive GLCMs.)

In a second stage, from 1985 to 1987, after these Soviet reductions had taken place, the West could offer to forego the rest of the GLCM deployment, in return for Soviet reduction to only 54 SS-20s launchers with a consequent 162 SS-20 warheads—thus matching the 162 warheads on the British and French forces.

Andropov has already offered to reduce the SS-20s to 162 so as to match the British and French in launchers; this proposal, more demanding, would require a Soviet reduction to a level that matched the British and French in warheads. (But Andropov might well require, in this case, that the British and French refrain from MIRVing their 162 missiles which would, otherwise, push them above the agreed warhead equality.)—Christopher Paine

ABM TREATY INTERPRETED AT FAS PRESS CONFERENCE

On April 4, in light of the Administration's call for increased exploration of anti-ballistic missile systems, the Federation released a summary, with supporting documen-

tation, of the obligations undertaken by the United States and the Soviet Union under the ABM Treaty of 1972, at a press conference at the National Press Club.

These obligations included the better known prohibitions on deployment of anti-ballistic missile systems but also much less well known prohibitions as that "on development and testing" of components of ABM systems that are space-based, sea-based, air-based or mobile land-based.

To assist it in summarizing and interpreting the relevant provisions, the Federation secured the help of key specialists involved in negotiating the ABM Treaty in 1972. Those endorsing specialists, who attended the press conference, were:

Ambassador Raymond L. Garthoff, who was "chief of staff" of the negotiating delegation.

Spurgeon M. Keeny, Jr., who was Assistant Director of the Arms Control and Disarmament Agency for Science and Technology at the time.

John B. Rhinlander, who was the legal advisor to the delegation.

Press Conference Introductory Remarks of FAS

Our Federation has long considered the ABM Treaty of 1972 to be the foundation upon which control of offensive weapons would next be based; in that spirit, we worked for its ratification for a decade.

After its ratification in 1972, we assumed that ambiguities in the Treaty, and new problems arising from technological developments, would be resolved—through discussion in the Standing Consultative Commission (SCC)—in favor of *closing* loopholes rather than *opening* them.

The President's recent speech has changed that presumption. And reviewing the Treaty in the light of what loopholes might now be opened in this changed climate we are truly concerned.

A number of words must be precisely defined to keep the Treaty viable: "development", "test", "component", "strategic", "space-based", "base", "new physical principles", "create", and so on.

A quick staff review at the Federation shows that each of the above words and others are under pressure from research and development activities. These activities will, in due course, force some combination of: changes in the definitions of the words; amendments to the Treaty; weakening of the significance of the Treaty provisions; or an unlikely halt to the R&D efforts themselves.

Moreover, we can begin to see how easily both sides could circumvent the Treaty provisions for some time. After all, the technological parts of ABM systems can be developed—and even, in some cases, could be deployed—as parts of land- or space-based air defense, anti-satellite defense, space surveillance, or even (non-nuclear) offensive space operations.

Finally, and most immediate, we have the clear and present danger to the Treaty that the Administration may ask for an amendment to it for the purpose of expanding the

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STAR WARS: TO ITS BACKER A TECHNOLOGICAL END RUN

"The origins of the effort lie back in the days when I was a military advisor to then-candidate Ronald Reagan. Early in the campaign I was among those insisting that the only viable approach for a new administration to cope with growing military imbalances was to implement a basic change in U.S. grand strategy and make a "technological end-run on the Soviets."

As far as I could determine, all advisors to Mr. Reagan agreed with this conclusion at least in principle at the time.

• • •

A search for technology which would provide the basis for an end-run on the Soviets led inexorably to space. The U.S. advantage in space is demonstrated in its most dramatic form by the Space Shuttle. More fundamentally, the ability of the United States to miniaturize components gives us great advantages in space where transport costs-per-pound are critical. Today, a pound of U.S. space machinery can do much more than a pound of Soviet space machinery.

It also happens that the technologies immediately available for military systems in space—beyond intelligence, communication, and navigation-aid satellites—are primarily applicable to ballistic missile defense systems. This fact raised a strong expectation that space held the key to a technological end-run which would offset current Soviet strategic nuclear advantages and at the same time provide an escape from the balance of terror doctrine of MAD."

Lt. Gen. Daniel O. Graham, USA (Ret.), High Frontier: A New National Strategy

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right to use ballistic missile defense to protect land-based missiles.

In sum, the Treaty is now under rising political and technological pressure and a crunch is coming.

To maintain the Treaty's original purpose under this triad of pressures—stepped-up development, easily available circumvention, and desires for limited deployment—would require, under the best of circumstances, mutual vigilance and bilateral cooperation. Unhappily, in a "pro-defense" climate, these preconditions to maintenance of the Treaty may vanish.

Accordingly, the Federation is eager to remind the public of the precise obligations undertaken by the Treaty and, in so doing, to remind the public of the original meaning of the Treaty, and of its enormous importance.

It is as a first step in this task that we are pleased to present to the press today these three key specialists, in three complementary fields, who performed such magnificent service a dozen years ago in negotiating what is, by far, the single most important arms control treaty we possess.

APPEAL TO ALL SCIENTISTS OF THE WORLD FROM SOVIET SCIENTISTS

We are addressing this letter to all people of goodwill, above all to scientists, as never before has the task of preserving life and peace on Earth been given so high a priority. All who are clearly aware of the realities of our times, understand the implications of incessant stockpiling of death-carrying weapons and creation of ever new, increasingly monstrous means of mass annihilation of people. The security of peoples can be safeguarded by way of nuclear disarmament through a series of purposeful agreements based on the undeniable principle of equality and equal security.

In his speech on March 23, 1983, however, the U.S. President offered the American people another option—the creation of a new gigantic anti-ballistic missile weapons system of an allegedly purely defensive character, placed on Earth and in outer space, and allegedly ensuring for the United States absolute security in the event of a worldwide nuclear conflict.

Basing ourselves on the knowledge, which we as scientists have, and proceeding from the understanding of the very nature of nuclear weapons, we declare in all responsibility that there are no effective defensive means in nuclear war, and their creation is practically impossible.

This option of ours fully accords with the authoritative and responsible statement by the presidents and representatives of 36 academies of sciences in various countries of the world, which was signed, among others, by representatives of the National Academy of the USA, the British Royal Society, Academic Francaise and the Academy of Sciences of the USSR.

In actual fact, the attempt at creating so-called "defensive weapons" to counter the strategic nuclear force of the other side, about which the U.S. President has said, will inevitably lead to the emergence of a new element strengthening the American first strike potential. It is not fortuitous that the practical actions by the U.S. administration are centered now on a crash development of precisely that potential. Such a "defensive weapon" can practically give nothing to a country becoming a target of a sudden massive attack, as it is apparently unable to protect the overwhelming majority of its population. The use of an anti-ballistic missile weapons system best of all suits precisely the attacking side, striving to lessen the power of retaliatory strike. But it cannot, however, fully prevent such a retaliatory strike.

Thus, the initiative of the U.S. President, who promises to create a new anti-ballistic missile weapons system, is clearly oriented toward a destabilization of the existing strategic balance. By his statement, the President is creating a most dangerous illusion, which may cause an even more threatening spiral of the arms race. We are firmly convinced that this act will result in a sharp lessening of international security, including the security of the United States. The U.S. administration displays utmost irresponsibility on the issue of humankind's very existence.

Today when on the scales of history lies our future and

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that of our descendants, guided by his knowledge and his conscience, every scientist should honestly and clearly declare where the world should go—in the direction of creating new types of strategic weapons, which increase the danger of a mutually destructive conflict, or along the path of curbing the arms race and subsequently leading to disarmament. This is a historical moral duty of scientists to humankind.

On our part, we are firmly convinced, and this conclusion has been made on the basis of a strict scientific analysis of all aspects of that problem, that nuclear disarmament is the only way on which the states and peoples can ensure true security.

April 18, 1983

FAS ANSWER TO SOVIET SCIENTISTS

Academician A.D. Alexandrov
President, Academy of Sciences
USSR

Dear President Alexandrov:

We have received the April 9th appeal of Soviet scientists concerning the dangers which anti-ballistic missile systems can cause to world peace and how they can stir up the arms race.

As you may know, American scientists began discussions with Soviet scientists on this subject more than 20 years ago. We well remember the difficulties which had to be overcome, on both sides of the planet, over a period of more than a decade, until both sides could agree on the ABM Treaty of 1972 limiting such systems severely.

We have the honor to confirm that our Federation of American Scientists (FAS)—founded by atomic scientists in 1945 as the Federation of Atomic Scientists (FAS)—still

holds completely to the same views that underlay the Anti-Ballistic Missile Treaty. We do *not* support the notion that peace can be founded on technological solutions to nuclear war. We want the ABM Treaty strengthened rather than weakened. And we consider this Treaty to be the fulcrum on which new limitations on offensive weapons can, and must be, based. Without this Treaty, the arms race would soon speed up, and become still more dangerous than it is even today.

In our opinion, most American scientists, in and out of our organization, agree with us on this issue. And most citizens also.

We well recognize that both the United States and the Soviet Union are continuing research into anti-ballistic missile systems. Here—as perhaps in your own country—there are a few scientists with the illusion that important breakthroughs might someday be possible to change the situation. Here, as in your country, it is an important continuing task of scientists to educate their colleagues and the public about the limits of technology—as you are doing with your letter.

Please convey our views to all of your members and our thanks for your initiative in expressing your views. As participants in those early debates, we well remember the early support in this struggle of such members of your Academy as the late Academician Artsimovitch, of Academician Andrei Sakharov, and later of the late Academician M. D. Millionshikov. It is a real pleasure and relief to realize from the well-endorsed letter which you have sent—and from our own assessment of the views of American scientists—that the scientists of both our Nations are still in firm agreement on this critical issue.

Sincerely,

Jeremy J. Stone
Director

Frank von Hippel
Chairman

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