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BALLISTIC MISSILE
DISARMAMENT

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ARMS RACE UNFROZEN AT ICELAND?

Most of Washington's community of commentators considered it the responsible thing to do to ridicule the dialogue at Reykjavik as a pretense. The Federation thought the opposite. Both leaders pretty obviously thought they were engaged in serious discussion—and they have the power to make it so if they wish to try. Why not encourage them?

Furthermore, as our letter below to President Reagan shows, zero ballistic missiles—which the President favors—has the capability to capture the support of both the American right (if President Reagan pushes it) and the American left, which would get more disarmament than it has, heretofore, seen as credible.

And since the Soviet proposal of zero nuclear weapons includes zero ballistic missiles, perhaps the Soviets could propose such additions to zero ballistic missiles, as in limits on cruise missiles, as would make it an acceptable way-station for them en route.

In any case, both sides agreed on 50% reductions in five years on strategic offensive weapons, pending the agreement on a limit on Star Wars development, testing and deployment for ten years. It remains to work out, besides the latter agreement on SDI, the terms of

the second five years of disarmament. Why not discuss the disarmament in the second five years during the first five year dramatic 50% decrease in strategic offensive weapons which, so far, has attracted no critical fire.

For example, working groups could spend the first few years of the first five year agreement working on promising lines of continuation: e.g. a package including zero ballistic missiles could be one approach studied while a second halving of the strategic offensive force in a fashion that enhanced stability could be another. And both working groups could participate in a dialogue with the other nuclear powers on their interests.

In other words, it is not clear that everything has to be worked out in advance. And perhaps it will be easier to negotiate the further reductions in the context of on-going disarmament. The important thing, as we have stressed before, is to get the world on the disarmament road. And percentage reductions of existing strategic offensive forces, albeit at less than 14% a year now planned, could keep the reductions going for a long time preserving a balance—and a process—that would keep both sides from deployments that would upset the apple-cart.

FAS SUPPORTS ZERO-BALLISTIC MISSILES

Dear Mr. President:

We applaud the Administration's readiness to negotiate a nuclear disarmament treaty that would, among other things, dismantle all ballistic missiles.

Such an agreement could effectively return the world to a considerably safer period, more than a quarter of a century ago, before ballistic missiles were introduced. And this agreement does so without requiring the Nation to revise its policies of nuclear deterrence. In particular, critics are wrong in believing that such an agreement would undermine U.S. security.

On the contrary, the U.S. strategic bomber force, armed with cruise missiles, is an even more formidable deterrent now than it was in the late fifties—when it served quite well to satisfy all observers that it could offset any Soviet conventional force advantages. Armed with Stealth technology, it need not fear unconstrained Soviet air defenses. Moreover, the penetration capability of our bomber force would be likewise unconstrained in important ways. In any case, no foreseeable air defense, necessarily untested in nuclear war, can ever be assured of completely defeating a

nuclear armed bomber force.

The important thing to observe is that the elimination of Soviet ballistic missiles would be an enormous gain to U.S. security. It would:

- slow the pace at which a nuclear war might arise by "lengthening the fuse" to war from the 10 to 30 minutes of ballistic missiles to the 3 to 10 hours of cruise missile or bomber attack, and thus provide time to avoid it.
- eliminate the fears of a Soviet first strike (with missiles) against our land-based missiles.
- accordingly save the monies necessary to defend those land-based missiles either with Star Wars technologies or with new missiles such as Midgetman.
- greatly reduce the problems of reciprocal fear of surprise attack in which each side strikes out of fear that the other is about to.
- improve our chances of protecting command and control against attack and maintaining command and control if war broke out.

Zero-Ballistic Missile Savings, pg. 9; SDI in Europe, pg.10

- reduce the amount of megatonnage that would be exploded, and the number of cities that would be burned, if war occurred, which is a step toward protecting the planet's ecosystem against fallout and such unexpected phenomena as nuclear winter. (On the Soviet side, on strategic weapons, approximately 90% of both its warheads and its megatonnage would be eliminated. On the U.S. side, the approximate numbers would be 70% of warheads and 50% of megatonnage.)
- avoid a no-win contest with the Soviet Union to build mobile land-based missiles.
- make clearly unnecessary the trillion-dollar expense of a full-scale SDI defense against ballistic missiles by removing all but the threat of clandestine missiles.
- be an excellent first stage toward further nuclear disarmament, some of which may well require those agreements on conventional forces which this proposal does not.

Among other advantages we see for your program of zero ballistic missiles is the pressure it would put on Great Britain, The People's Republic of China and the Republic of France to join in dismantling their ballistic missiles. This necessary condition to the completion of your zero ballistic missile program is, we think, more feasible than critics imagine. These Nations will, after all, gain great advantages from the elimination of the Soviet missile threat to their countries and will be influenced by the strong interest of world public opinion in seeing your program completed.

In particular, the British are close to eliminating their deterrent unilaterally. The Chinese have committed themselves to join in with disarmament when the superpowers reach 50% cuts—which your proposal for zero ballistic missiles calls for in the first 5 years! And the French, faced with the agreement of other states, could, we think, be persuaded to rely upon their excellent bombers as a deterrent.

Too Good A Deal?

Indeed, under normal circumstances, we would argue that the main obstacle to the elimination of strategic offensive ballistic missiles is that it is too good a deal for the United States for it to be successfully negotiated with the Soviet Union. After all, it leaves the United States with a better bomber force, and with a major technological lead in cruise missiles.

But even as the United States is boasting that the Soviet Union made all possible concessions at Reykjavik (except on Star Wars), the Soviet Union is, surprisingly, boasting that, indeed, it was the one that made the concessions.

Secretary-General Gorbachev is clearly taking a statesmanlike approach to the importance of putting the world on a disarmament road. And in his new way of thinking, the counting of nuclear warheads, per se, is less important.

After all, whatever the balance, his Nation also will

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achieve benefits parallel to the ones listed above for our side. Moreover, his Nation will be protected against ballistic missile threats from three other nuclear powers and his own economy will be assisted, as will ours, by containing and reducing the arms competition.

And, above all, we do not assume—and need not assume—that the Soviet Union will agree to zero ballistic missiles without any further side conditions to assure its conception of its security. It will, presumably, want limits on cruise missiles and, perhaps, the right to build up to equal limits. In any case, none of us want to see dramatic reductions in eliminating ballistic missiles turned into a charade in which the missiles are simply replaced by even more cruise missiles and a new round of arms race—so something has to be done about non-ballistic missiles.

But this does not mean that a zero ballistic missile package, including other elements, would not be advantageous. Zero ballistic missiles is a perfectly good starting point for the negotiations.

SDI and Zero Ballistic Missiles

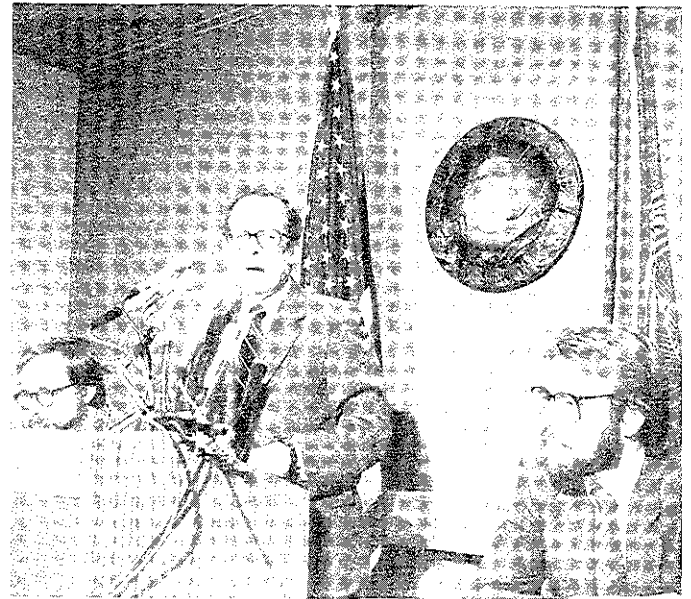
Ironically, of all the problems of reaching a ratified treaty on zero ballistic missiles, the SDI issue may be the least difficult. The ten-year ballistic missile disarmament program would have either succeeded or failed before the Star Wars defense was deployable. If the disarmament program were successful, Star Wars would cease to be an issue because the SDI defense—if one wanted to build one—would not start a new arms race or threaten any other Nation with its offensive capabilities. Such an “insurance” defense could therefore be considered at that time, in the light of the technology of the defense, its cost and its felt need in a zero ballistic missile world that, after all, would still be based on nuclear deterrence.

Accordingly, we believe that the ABM Treaty, adhered to along traditional lines of interpretation for ten years, would be a wholly suitable solution. From our point of view, the SDI program is not much slowed by such limitations for the next ten years, and therefore neither side in the negotiations should care much about the exact restraints to be agreed on SDI.

Americans Together

Mr. President, probably all Americans are for either disarmament or SDI, and some favor both. But all can agree that the elimination of the Soviet ballistic missile threat through disarmament would deal with that Soviet missile threat in a zero-cost way and with complete reliability. SDI may have polarized the Nation, but zero ballistic missiles can bring us together.

As we understand your position, it is well defined. In the first five years, strategic offensive forces of all kinds—including air-launched cruise missiles and bombers as well as ballistic missiles—would be cut in half. And in the second five years, strategic offensive ballistic missiles of all ranges would be eliminated also—along with such side constraints as are necessary to make this package agree-



FAS director, Jeremy J. Stone (ctr) Council Member, Bruce Blair (rt) Associate Director for Space Policy, John E. Pike (left) at press conference releasing Reagan letter.

able to both sides. We see no serious dangers with this approach, but only many advantages.

In particular, such an agreement requires no change whatsoever in the American strategies of deterrence, or flexible response and leaves NATO strategy just where it once was. It represents the perfect first giant step toward making America truly safe against nuclear war.

Your goal, Mr. President, as we see it, is to “turn the clock back”. Zero ballistic missiles turns the clock back three decades. Others, thereafter, will see how to turn it back in safety further if, indeed, your negotiators do not leave behind some further blueprint.

Just as tax-reform became successful only when really large changes in the tax-rates made it possible to oppose the special interests, so also zero ballistic missiles has the power to force all concerned to investigate the real security trade-offs of this really major disarmament program. We look to you to explain to the American public the enormous offsetting advantages of eliminating Soviet ballistic missiles as the price of eliminating our own. We stand ready to work with you in this in any way we can.

As you know, Mr. President, our organization is the single oldest organization devoted to that nuclear arms control and disarmament of which we are speaking. Founded in 1945 by Manhattan Project atomic scientists, we have worked on these problems for four decades.

We have not dared, in recent years, to envision anything as dramatic, as an immediate goal, as your zero ballistic missile solution. We have not seen a concatenation of political forces that might bring it about here and in Moscow. But now we see a real opening. We hope you will not lightly be dissuaded from pressing this possibility.

Respectfully,

Jeremy J. Stone John P. Holdren Frank von Hippel
Director & CEO Chairman, 1984-86 Chairman, 1980-84

EXCERPTED TRANSCRIPT OF PRESS CONFERENCE RELEASING FAS LETTER

JEREMY J. STONE: There's been a lot of confusion as to whether this was thought through by the President in advance of the Iceland talks or not and whether he meant zero nuclear weapons or zero offensive strategic weapons or just zero ballistic missiles.

We're releasing a letter to the President saying that zero ballistic missiles, which is what he referred to in his later speech, is a very good idea, and well worth pursuing.

Zero ballistic missiles is something the public should think about as a zero cost completely reliable SDI. In other words, those who like SDI, and those who like disarmament, can stand together in being for zero ballistic missiles.

So the President's proposal for "Star Wars" may have polarized the country, but the President's proposal for zero ballistic missiles can bring us together.

Second, in proposing zero ballistic missiles, the President is not proposing some unknown world. He's not proposing something we haven't seen before.

He's proposing turning the clock back to a period that we lived with quite successfully 25 and 30 years ago before ballistic missiles were introduced.

Third, President Reagan's proposal is a really good deal. If you could get this agreed to by the Soviet Union, with whatever side conditions they might want or need, this would be a very good strategic bargain.

We're alarmed that the criticism of the President's proposal may prevent it from getting off to a good start.

So we want the public to know that an organization that's been very critical of President Reagan's plans in the past, and very critical of the SDI program, sees great merit in this disarmament proposal, is wishing the President well with it, and is urging him not to be lightly dissuaded from continuing with it.

BRUCE BLAIR: Let me just review the strategic predicament that we find ourselves in today, as a result of a massive buildup of ballistic missiles, intercontinental ICBMs, and submarine launched ballistic missiles over the last two decades or so.

And the predicament, simply put, is this: On the one hand, our strategic planners cannot count on political authorization ever to initiate a strategic attack; and on the other hand, they can't count on our command system, and to some extent our forces (namely, our land-based ballistic missile forces) to ride out an attack.

So the solution to this dilemma, as it's evolved, operationally, is a policy of launch on warning. That is currently our default alternative, our principal strategic option. And launch on warning or launch under attack, or whatever it may be called, allows a very short period of decision-making on the part of the President, measured probably in minutes, at the most 10 minutes or so.

This zero-ballistic missile proposal, which is really a landmark proposal, in strategic arms control, would reintroduce a period of time for decision in the event of an intense crisis between the both sides or the outbreak of war.

It would reduce the possibilities of inadvertent or accidental war, and would allow decision-makers to undertake or conduct a cooler, more reasonable, and reasoned decision process.

Our current strategy for the employment of nuclear weapons, in my opinion, virtually precludes military, political, and moral reasoning. And the elimination of nuclear ballistic missiles would reintroduce the possibility of such thinking in times of crisis.

JOHN PIKE: It is important to recall the context in which the Strategic Defense Initiative originated.

The day after the President made his speech in March of 1983, he signed a national security decision directive that was entitled, "Eliminating the Threat from Ballistic Missiles."

As a result of that, the Administration has embarked on a very long-term, five to ten year, very expensive (somewhere between \$50 and \$100 billion) program aimed at a technological means of eliminating the threat from ballistic missiles, the Strategic Defense Initiative.

Now, at the Iceland summit, the President came up with an alternative way of eliminating the threat from ballistic missiles, by eliminating the ballistic missiles themselves. And this both eliminates the threat of Soviet ballistic missiles, and simultaneously eliminates at least one of the main reasons we've been concerned about that threat, our own ballistic missiles, assumed to be a principal target for the Soviet missiles.

So given the task of eliminating the threat from ballistic missiles, it seems that going to the source by actually getting rid of the ballistic missiles themselves is a much more direct way of achieving the President's goal for the Strategic Defense Initiative, and certainly a less costly way.

The second innovation at the Iceland summit was what has been recently termed SDI-3.

We originally had the first incarnation of the President's program, SDI-1, the magic astrodome over the whole country.



John E. Pike

More recently, recognizing that that was not technologically feasible, we've had the second incarnation of "Star Wars", protecting our military forces and closing the window of vulnerability.

Now with the proposed elimination of ballistic missiles, we have yet a third incarnation of "Star Wars", as an insurance policy for a world in which ballistic missiles have been eliminated.

I think that this has very important, and as yet unexamined, implications for the structure and scope of the SDI, as well as possible basis for compromise between the American and Soviet positions in the Geneva negotiations.

Now, when we had the President's original vision of the SDI, the astrodome defense, obviously there was a requirement for a large number of space-based components to attack ballistic missiles in their boost phase.

Even with the second incarnation of the SDI, closing the window of vulnerability, there was at least, arguably, a requirement for these exotic weapons.

But now that we have the third incarnation of the SDI, as an insurance policy, the technical requirements for meeting that mission are much more modest than the earlier incarnations of the program, and could lead to a substantial reduction in the scope of the program.

Obviously, if you're simply dealing with an insurance policy deployment, there's no requirement for the type of exotic space-based boost phase weapons that are currently a part of the program; and I think, most importantly, is the issue that has gotten the Soviets so upset with the "Star Wars" program.

Under the President's new vision of the SDI, as an insurance policy in a world in which ballistic missiles had been eliminated, there really isn't a requirement for those components of SDI that have caused the Soviets so much heartburn.

This, I think, provides the basis for a compromise in the Geneva negotiations. We would agree to restrict the SDI to developing only those components required for an insurance policy, essentially meeting the Soviet goals stipulated in Mr. Gorbachev's speech shortly after the Iceland summit, that there should be no testing of space-based components outside of the laboratory.

I think that one of the unexamined and perhaps unrecognized consequences of the Iceland summit is that by changing the definition of what the SDI is attempting to accomplish, Mr. Reagan has laid the basis for a breakthrough in the Geneva negotiations, and a compromise acceptable to both sides, consistent with their original goals, on the SDI program.

Now, my third point is, in recent days, a number of people have a lot of questions about what a world would be like in which we had eliminated ballistic missiles. A number of people have raised a variety of problems that would arise if we got rid of our ballistic missiles.

Clearly, a world in which we had no ballistic missiles would be a very different world than the world we live in today.

One of the unexamined consequences of that world,



Bruce Blair

however, would be a substantial surplus of money in our defense budget for solving the problems that have been raised in the last several days.

Today, in our budget, we're spending about \$7 billion a year on land missiles, and approximately \$10 billion a year on submarine launched ballistic missiles.

To the extent that there were concerns about the ability of our bombers to penetrate Soviet air defense; to the extent that there were concerns about the ability of our air defense to match Soviet air defense; and particularly to the extent that there were concerns about the capability of our conventional forces in Europe, I think that \$17 billion a year disarmament dividend would go a very long way toward alleviating those concerns.

So it seems to me that the proposal to eliminate ballistic missiles goes a long way toward meeting the President's goal of eliminating the threat of ballistic missiles; that by restructuring the SDI to an insurance policy, Mr. Reagan has outlined the basis for a compromise acceptable to both sides on the SDI; and that the peace dividend of eliminating ballistic missiles would go a long way toward resolving any problems that people might see in a world in which there were no ballistic missiles.

JEREMY J. STONE: Another criticism that John didn't mention is the problem of getting other nations to join in.

In the first place, we think the British would fall in with this quite well. Many in Britain want to eliminate their deterrent unilaterally and this permits both bombers and cruise missiles, which can be put on submarines.

The Chinese have promised to join in when the superpowers cut their forces by 50 percent, which they have pledged to do in this agreement anyway.

And the French and the Chinese might rely on a combination of bombers and cruise missiles for their deterrent.

But the pressures on these third countries to fall in with this plan would be enormous, if the superpowers were prepared to do such a thing and if, as proposed, they had first eliminated half of their strategic forces.

This kind of arms control is so dramatic and far-reaching that — like the new tax reduction plan that just got through the Congress — it forces everybody to reconsider their position, and to consider the advantages as well as the disadvantages of this plan.

So we think there's going to be a lot of rethinking about the advantages of this. The number of megatons that would be reduced by eliminating the missiles is approximately 1,500 on the U.S. side, and 4,500 on the Soviet side.

And the number of warheads that would be eliminated from the arsenals would be 7,900 for the U.S. and 9,500 for the Soviet Union.

The planet would be much more likely to survive a nuclear war if this were done.

The problem of reciprocal fear of surprise attack — in which missiles are feared to be on that attack, and other missiles are attacking out of fear that the first set of missiles were about to attack, would also be much diminished.

Finally, I want to emphasize this: If the arms program is going to go forward in a decade, then it's going to go forward long before "Star Wars" has a chance to be deployed, before SDI can really get started.

That means that it's relatively easy to negotiate a solution to the "Star Wars" aspect of this plan; because in a sense, nothing much can happen in "Star Wars" deployment in the ten years you're talking about.

The disarmament plan will be over before you find out whether a "Star Wars" deployment would really work or not.

I'm simplifying. But the point is that if you do the disarmament fast enough, and it takes long enough to build "Star Wars", you don't have to much worry about how you restrain the "Star Wars" research and development while you're doing the disarmament. It'll either be over, or it will have failed, before the question of deploying "Star Wars", and certainly fully deploying a "Star Wars" defense, would take place.

QUESTION: Would you regard this Reagan proposal as a serious one? The reason I ask the question is that Sam Nunn said it had never been cleared with the Chiefs of Staff.

JEREMY J. STONE: I regard this as serious. The President had always in the back of his mind the notion of eliminating ballistic missiles. That's what the "Star Wars" program was all about. So I'm sure he was sincere in his desire to get rid of ballistic missiles.

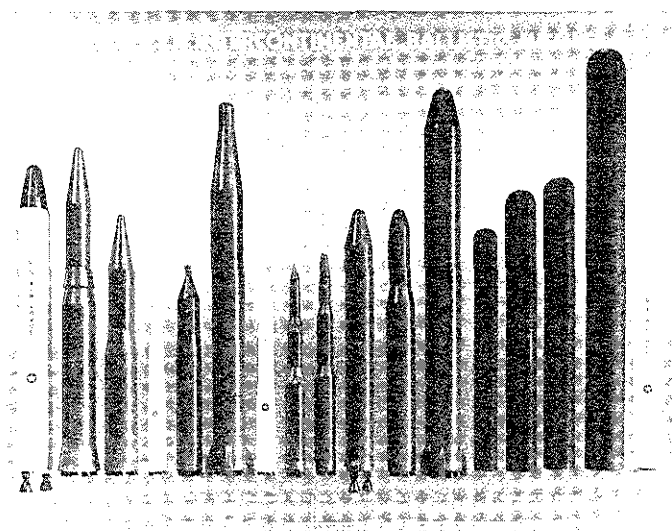
Why hadn't it all been staffed in advance? I think the answer is that when the President got to Iceland, he discovered the Russians were for more agreeable, and making far more concessions, than had been expected.

And just as has been written in the papers, I think the President saw an opening and thought, hey, why don't we press them on zero ballistic missiles.

If you link power to pride of authorship in Washington, you really have something going for you.

This President has more power to get a disarmament program through the Senate than any President we have ever had, or perhaps will ever have, because he's the most conservative President, and the best communicator we've had.

And as a consequence, if he decides this is his pet idea, and wants to pursue it, we believe it will become a serious proposal.



U.S./U.S.S.R. ICBMs (projected through fifth generation).

And when it is finally examined by the Chiefs, they're going to see the advantages that we're talking about here; that this is a really "good deal". So we don't see overwhelming problems about getting it approved by the chiefs.

There is always a major problem in getting a treaty ratified by the Senate, because two thirds are required, and many Senators don't want agreements of any kind anyway.

But if the Russians were agreed to this (with appropriate side conditions) and the President were behind it, the disarmament community would stand with the President and together, we could try to push it through the Senate.

QUESTION: I wonder if you could talk a little bit about verification of a ballistic missile ban?

JEREMY J. STONE: We're now counting Soviet ballistic missiles not in tens or hundreds but in ones. The premise of the SALT II treaty which has already been approved by the Chiefs of Staff is that even this can be verified quite well.

Now, when you go to zero ballistic missiles, verification can be done even more easily, because we're going to verify the destruction of the plants that actually build the strategic missiles.

QUESTION: And that includes the submarines?

JEREMY J. STONE: Well, the submarines are going to have to destroy those parts of the submarines that can fire the ballistic missiles, or they're going to be dismantled completely.

QUESTION: You emphasized that boost phase SDI would not be necessary. But wouldn't the answer from the Reagan side be that if the Soviets cheated with, say, submarines, that you really need boost phase, because they can fire so close off shore, and you have even less time to —

BRUCE BLAIR: Even if they hide a few ballistic missiles, we're going to be left with hundreds of bombers and thousands of cruise missiles on each side.

Don't forget, again, we're not proposing zero nuclear weapons or zero strategic forces. We're proposing zero ballistic missiles. We're endorsing President Reagan's zero ballistic missiles. This is not a brave new world.

The cheating that they could get away with would be of such a scale as not to alter meaningfully the strategic balance, given the proposal that both sides be able to retain a sizable arsenal of bombers.

JOHN PIKE: The point that was raised about a few submarine launched ballistic missiles fired close to our coast refers to a countermeasure that has frequently been mentioned as a way of dealing with boost phase intercepts—because the trajectory of such missiles would be so low that the boost phase would never be able to get access to it.

So this case is irrelevant to boost phase intercept.

In fact, the development of SDI-3 (for an insurance policy) is something that could be accomplished in a fashion consistent with the ABM treaty. The number of interceptors that would be required to deal with the occasional stray missile that might be squirreled away somewhere would be very, very small.

The purchase price would probably be less than the 1987 budget. You're talking only a few billion dollars for 100 or a few dozen interceptors.

JEREMY J. STONE: And because it's not destabilizing to pop up with 10 ICBMs, there's not much motivation to do it. And of course, if anybody were found trying it, then of course this whole program of disarmament blows up; people go back to building more missiles. So there's great danger and no benefits to trying to squirrel away some ballistic missiles for this purpose.

QUESTION: Because they still have bombers and cruise missiles?

JOHN PIKE: Yes, yes. Because there's still a deterrent.

In other words, it'd be just like them building a few missiles as they did in 1959 when we already had bombers then. What did we do? We went back to building some more missiles.

QUESTION: Is the FAS now supporting SDI-3 —

JEREMY J. STONE: The question of whether you want to build a missile defense in a world that was without ballistic missiles, or virtually without ballistic missiles except for problems of cheating, is a question that ought to be decided at that future time, in the light of the technology of the future defense and other issues. How well would it work? Could it be kept on all the time? Would it be good against accidents, or only good in crises?

There are a lot of problems about these systems that cannot be resolved until you know how the system works and how much it costs, and what fears there were at that time of clandestine missiles.

So we feel this doesn't have to be decided upon now. What does have to be decided on is the research program.

And we have never been against a research program for a missile defense at the level that could make it impossible to build that kind of missile defense in the future.

We've always been, in fact, for a research program on antiballistic missiles, one so long as it didn't interfere with the Anti-Ballistic Missile Treaty.

So the research program that's necessary for SDI-3 could be continued without any difficulty whatsoever un-

der the program we've already supported.

QUESTION: Would you also support his call to give "Star Wars" technology to the Soviets, which seems to have riled a few people?

JEREMY J. STONE: If you had a world without ballistic missiles, you could imagine a cooperative effort to shoot down ballistic missiles, if the system lent itself to that.

All of this is very uncertain, because no one knows what the system will be.

But the notion that we would give the Soviets any technology seems to be quite bizarre, because we're not willing to give them ball bearings or truck axles or anything like that.

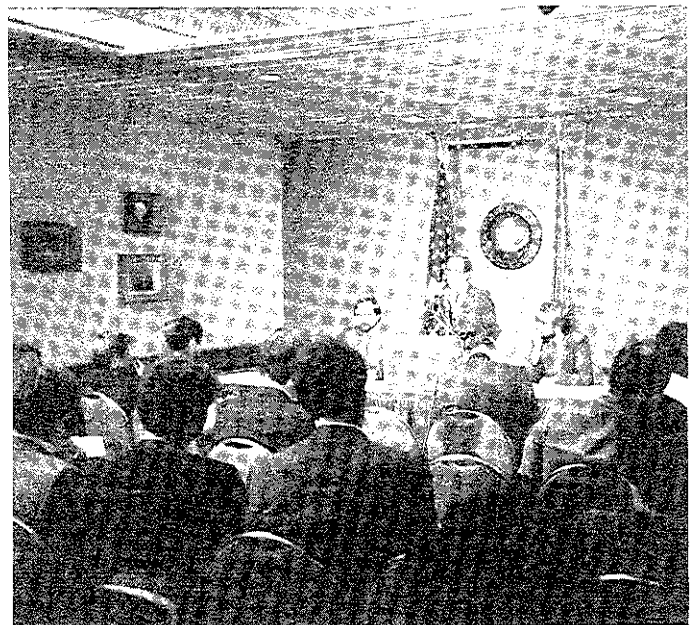
JOHN PIKE: Mr. Reagan's offer to share the benefits of technology—they've walked him back from sharing the technology, and the offer now is simply to share the benefits of the technology — was predicated on the notion that the SDI program would be coming up with anti-missile technologies that would not be available to the Soviets.

Now that might be the case with the original astrodome "Star Wars" or perhaps the case the "Star Wars"-2, defending our military forces.

But with "Star Wars"-3, the insurance policy, the technical requirements for such a modest system are so elementary that that technology has been available to both the United States and the Soviet Union for several decades now. So the question of sharing technology for an insurance policy deployment simply wouldn't arise, because the Soviets have had that technological capability on their own part for several decades.

JEREMY J. STONE: In fact, this is one of the dangers against which the ABM Treaty was designed, the fear that each side might build a thin defense, and the other side have to respond to that.

Both sides gave up the right to build a thin territorial defense against third powers in order to get the ABM Treaty.



BBC INTERVIEW WITH JOHN PIKE

INTERVIEWER: John, what proportion of American scientists have reservations about SDI?

MR. PIKE: Virtually the entire American scientific community has reservations about the President's vision of "Star Wars" as a perfect defense of the population.

There is a clear division of opinion as to whether we ought to be doing research on less-than-perfect defenses that are technically feasible. About two-thirds have questions about it; one-third, those who are in the line for the money, would like to get the money.

But in terms of the President's vision of a perfect defense, even Edward Teller, who is a big advocate of "Star Wars," recognizes that that part of the President's goal can't be realized.

INTERVIEWER: Is "Star Wars" as nonnegotiable as the President makes out it is?

MR. PIKE: The President is certainly acting as though "Star Wars" is totally nonnegotiable. On the other hand, this new vision of "Star Wars" that he has as an insurance policy seems to me to be eminently negotiable, because the research required for developing such a system could be conducted in a fashion consistent with the ABM treaty, and even consistent with Mr. Gorbachev's proposal on limiting the space-based parts of "Star Wars."

So I think that the "Star Wars" program in its new version, along with the elimination of ballistic missiles, is much more negotiable than perhaps President Reagan realizes.

INTERVIEWER: Where exactly are we with SDI? Do we know how much of it is going to work? How much do we know in concrete terms?

MR. PIKE: Over the last three years, the SDI program has made a lot of progress in determining which gadgets won't work. They've eliminated a lot of concepts as really not being very promising.

They are starting to focus on some concepts, ground-based rockets and ground-based free electron lasers, that do seem to hold some promise, but it's going to be the early 1990s before those are proven.

INTERVIEWER: If, as you say, both America and Russia know about the technologies necessary for the insurance policy, the sort of "Star Wars"-3, why is Moscow so worried about it?

MR. PIKE: The part of the SDI that the Soviets have been objecting to is the space-based aspects of it. That's the thing that has been innovative about the "Star Wars" program, and the thing that the Soviets have been complaining about.

Even in their most recent proposals, the Soviets would permit continued research on the type of technologies required for an insurance policy, since they're working on the very same technologies.

INTERVIEWER: So how big is the gap, then, between the American and Soviet positions?

MR. PIKE: Well, now that Mr. Reagan has refocused "Star Wars" as simply being an insurance policy, and the

ELIMINATING BALLISTIC MISSILES BY 1996 WILL PRODUCE A \$200 BILLION BUDGET DIVIDEND BY THE YEAR 2000

The Reagan Strategic Modernization Program projects spending \$615 billion on strategic offensive forces between 1980 and 2000, with \$450 billion to be spent from 1987 through 2000.

The elimination of ballistic missiles over the period from 1987 to 1996 would result in a \$200 billion saving from 1987 to 2000, which is almost 50% of the amount originally planned to be spent over this period.

This \$200 billion dividend would be available to rectify any shortcomings in other strategic or conventional forces that might arise from the elimination of ballistic missiles.

The saving on land-based ICBM's would be \$93 billion, primarily due to the cancellation of Midgetman.

ICBM Research	\$22 billion
ICBM Procurement	\$57 billion
ICBM Operations	\$ 4 billion
ICBM Personnel	\$10 billion

The saving on sea-based SLBM's would be \$97 billion, largely due to the cancellation of the Trident II.

SLBM Research	\$ 7 billion
SLBM Procurement	\$39 billion
SLBM Operations	\$43 billion
SLBM Personnel	\$ 8 billion

Another \$10 billion would be saved by elimination of the Pershing II, as well as through reductions in support costs not allocated to specific systems.

This assumes that research on and procurement of ballistic missile systems ceases in 1987 and that operations and personnel for ICBM's, SLBM's and Pershing II are phased out over ten years.

Soviets have said that we should continue research on ground-based rocket interceptors, there really isn't that much difference between the Soviet and American positions.

The only thing that remains is for the Administration to sort itself out, and recognize that a deal is imminently achievable at this point.

INTERVIEWER: And a deal for keeping "Star Wars" in the laboratory, as the Russians insist?

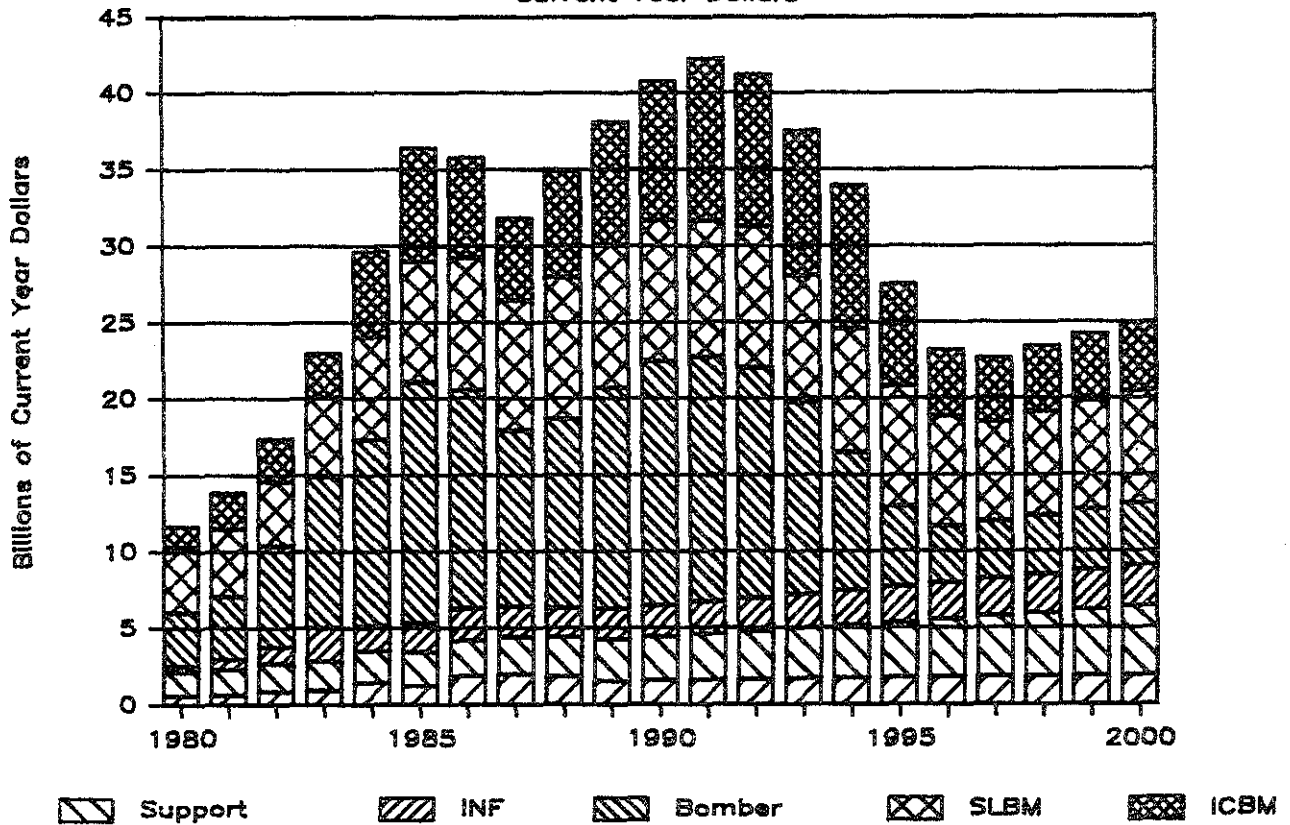
MR. PIKE: Now that the President has refocused "Star Wars" as simply being an insurance policy, and the Soviets have said we can do research on ground-based rocket interceptors, the President should have no problem in putting the space parts of "Star Wars" back in the lab, because those simply won't be required as part of an insurance policy.

INTERVIEWER: You seem to be saying that he threw away the meeting at Reykjavik.

MR. PIKE: I think that the Administration simply hadn't fully thought out what its proposals were. Basically, there were all the components for an agreement on the table there; eliminating the threat of ballistic missiles by eliminating the missiles; limiting "Star Wars" research to just ground-based interceptors. That was something that both sides could have agreed to. And the President threw away that opportunity by not realizing what he had proposed.

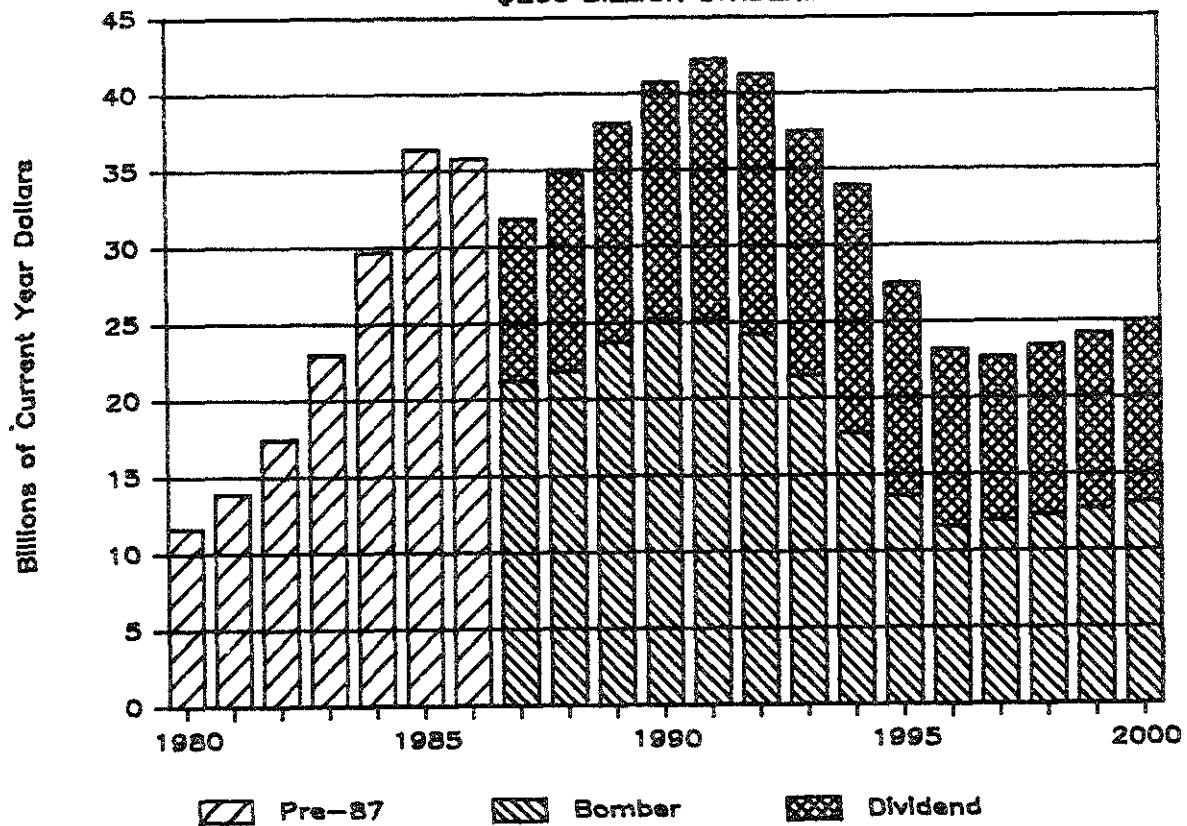
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ELIMINATING BALLISTIC MISSILES

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SDI PROPONENTS PROPOSE EUROPEAN END RUN AROUND THE ABM TREATY

If the most ardent advocates of the Strategic Defense Initiative (SDI) have their way, the first operational deployment of anti-missile weapons will not be in space or in the United States, but in Europe. Fearing that the visionary SDI research program has begun to run out of steam, "Star Wars" advocates in Congress are pressing to get at least some SDI technology out of the laboratories and into the field. Anti-tactical ballistic missile (ATBM) systems, designed to shoot down short-range Soviet missiles aimed at Western Europe, appear to be closer to reality than most of the rest of the SDI, and are key elements in the push for a quick "Star Wars" deployment.

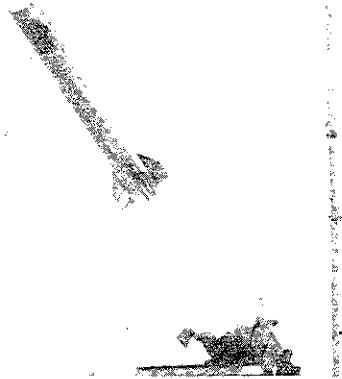
In early October, some thirty leading European and American strategists met at a three-day closed-doors conference in Washington to discuss ATBM systems. Organizing and moderating the conference were two men who have done much to promote the cause of missile defenses in Western Europe: defense consultant Fred Hoffman and Uwe Nerlich of West Germany's Stiftung Wissenschaft und Politik. Hoffman directed an influential 1983 study for the Pentagon that foresaw the need to proceed quickly with deployment of partially effective anti-missile systems, and advocated tactical missile defenses as a promising "intermediate option" on the way to full SDI deployment. Nerlich is an unofficial advisor to West German Defense Minister Manfred Woerner, who embarked on a campaign in favor of ATBM development in the fall of 1985.

Tactical Anti-Missile Weapons a Hot Topic

Since Herr Woerner's well-publicized initiative, whether to deploy tactical anti-missile weapons in Europe has been a hot topic on the NATO military policy agenda. But despite this sudden surge of interest, the ATBM coalition that Mr. Hoffman and Herr Nerlich attempted to solidify at the recent Washington conference is a diverse one. No real consensus exists on the political or on the military purpose of such missile defenses in Western Europe.

The 1983 Hoffman study, presaging many of the arguments now heard from pro-SDI congressmen such as Jim Courter and Duncan Hunter, argued that an anti-tactical missile system could be a useful interim step on the way to full SDI deployment. For one thing, an ATBM program "should reduce allied anxieties" about the possibility of weakening U.S. commitment to the defense of Europe, said the study. Moreover, since missile defenses in Europe would shoot down shorter-range rather than strategic missiles, ATBMs would also sidestep the troublesome issue of ABM Treaty violations. "We can pursue such a program option within ABM Treaty constraints," although the same technologies "might later play a role in continental United States defense," stated the study.

Many European backers of ATBM deployment, on the other hand, prefer not even to mention SDI when making the case for tactical missile defenses. For them, missile defenses are not primarily meant to counter Soviet nuclear missiles: since any missile defense will be imperfect, the



On 11 September, a Patriot missile (above) successfully intercepted a short-range Lance missile in a test of the Patriot's ability to destroy missiles in flight.

threat of nuclear retaliation will remain the guarantor of deterrence against Soviet nuclear attacks. ATBM systems, argued Manfred Woerner and others, are needed as a simple extension of current air defenses, to counter a growing threat posed by *conventionally-armed* Soviet missiles.

According to Woerner and Nerlich, the high accuracy of Soviet short-range SS-21 and SS-23 missiles now being deployed in Eastern Europe gives the Soviet Union the option of using conventional weapons to launch crippling preemptive strikes against NATO. Just as NATO has anti-tank and anti-aircraft weapons, say ATBM supporters, it now needs anti-missile weapons, rather than simply to rely on the threat of nuclear retaliation to deter such attacks. "The lack of missile defense is an anomaly," SDI chief Abrahamson told a committee of Congress in June. "The remarkable point is not that ATBM is needed but that it had not been deployed years ago."

Attempts to turn the ATBM from a strategist's concept to working hardware currently focus on modified anti-aircraft weapons such as the U.S. Army's new Patriot missile. Production-line Patriot missiles and phased-array radars have adequate range, speed, and tracking ability to intercept short-range Soviet SS-21 missiles aimed in their immediate vicinity. The radar must be set to look up at a higher angle, however, and the systems's computer software altered to control intercepts of missiles rather than aircraft.

On 11 September, soldiers at White Sands Missile Range in New Mexico fired a short-range Lance missile downrange toward a Patriot missile firing unit 50 km away. After radar detection of the target, the Patriot crew manually identified the target as hostile and transferred control over both launch and intercept to the system's computer. The Patriot missile, travelling at 1500 m/sec, intercepted its target at an altitude of 7.5 km about 14.9 km from its own launch site, destroying the Lance's guidance system and sending it tumbling out of control. The test took some two minutes from the launch of the Lance to its destruction.

In 1987, the Army will complete tests of the Patriot's software modifications. A \$130 million program to test

modifications of the missile's fuze and warhead will continue, however. These changes are designed to allow the Patriot to intercept higher-velocity missiles, such as the 500 km-range Soviet SS-23.

Despite these efforts, U.S. officials are skeptical about the usefulness of improved anti-aircraft missiles. "The Patriot upgrade is a self-defense, terminal defense type of system. It defends a very small area," Lt. Gen. John Wall of the Army's Strategic Defense Command told Congress this spring. Lt. Gen. James Abrahamson of the Strategic Defense Organization concurred, saying that "it does not constitute a layered kind of defense which would bring us the capability that would be required . . . for a truly deterrent system."

Beyond a marginally effective Patriot upgrade, ATBM enthusiasts have their eyes on the SDI's "terminal defense" technologies—weapons designed to serve as the last line of defense against incoming ICBMs. This part of the SDI program, coordinated by the Army's Strategic Defense Command in Huntsville, Alabama, is developing the next generation of ground-based anti-missile missiles, incorporating higher acceleration, better sensors, guidance, and improved communications and computing systems.

Short-Range Missiles Are Easier To Destroy

Although short-range missiles are slower than ICBMs, and therefore easier to hit, their mobility and short flight times create enormous difficulties for the defender. Airborne sensors may be used for early detection of incoming missiles, but by the time computers determine the trajectory and probable impact area of the missile, alerting ground-based radar and missile units, the time remaining to launch an interceptor missile will be measured in seconds.

"Command and control is a big problem," said one high-ranking NATO military officer. He indicated that a workable missile defense would require major NATO military headquarters to expand their Emergency Ready Units, automate response measures, and delegate launch authority over the defensive missiles to lower-ranking officers. "I don't like it, but we have to do it," he said, in view of the increased capabilities of Soviet missiles.

For the most part, the ATBM remains a concept in the minds of a small, yet influential group of defense intellectuals, not a deployable weapons system. And the most visible product of the ATBM program has been the defense intellectual's stock in trade, the study. Major studies of the ATBM issue have been commissioned by West European defense ministries, the NATO Advisory Group for Aerospace Research and Development (AGARD), the Army's Missile Command and Training and Doctrine Command, the SDI Organization, and by a variety of private groups.

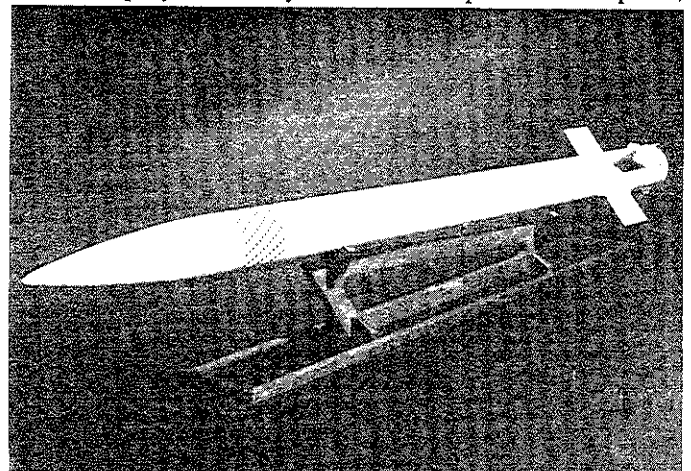
In January, 1987, the Army's Strategic Defense Command will choose several teams of European and American industrial firms to study missile defense in Europe. According to the aerospace industry journal *Aviation Week*, up to six of the twelve competing contractor teams

will receive contracts of \$1.5-\$2.2 million for six-month studies of ATBM requirements. Up to three of these contractor teams will then receive \$6-8 million contracts to carry out one-year follow-up studies. The competing firms hope that carrying out these studies will give them a competitive advantage on later SDI contracts. The SDI Organization may also get a significant political payoff from funding all these studies, building a European constituency for SDI at low cost. The ATBM project helps create the impression that SDI is at least partly a cooperative NATO undertaking.

Israel has recently become an important factor in the ATBM coalition as well. Syria, having acquired the SS-21 from the Soviet Union, is now pressing to receive the longer-range SS-23 as well, said Israeli Defense Minister Rabin during a mid-September visit to Washington. As a result, Israeli interest in possible acquisition of ATBM technology has grown steadily. The Reagan Administration, eager to add to domestic support for vigorous SDI funding, invited pro-Israel groups to the White House in early October for a briefing by General Abrahamson on SDI, ATBM systems, and their value to Israel's security.

If the ATBM project has a fatal political weakness, it is the persistent difference that remains between the motivations of its American and European proponents. Few West European proponents of ATBM research want European missile defenses to become the means by which the U.S. makes an end run around the ABM Treaty, nor do they have much hope that ATBM systems will eventually replace the threat of nuclear retaliation as a means of protecting Western Europe from nuclear attack. Tactical missile defense is only politically acceptable in Europe as an extension of air defense, designed to counter Soviet non-nuclear missiles.

But the military threat posed by more accurate Soviet conventional missiles, according to many analysts consulted for this article, hardly merits a dramatic NATO initiative to deploy ATBM systems in Europe. These experts,



Model of the missile being used for the Flexible Lightweight Agile Guided Experiment (FLAGE) conducted by the U.S. Army Strategic Defense Command to develop a new generation of high-acceleration, highly-maneuverable missile interceptors. The FLAGE's steering system uses 216 small rockets embedded in the 12 foot long missile's forward section.

some of whom have studied the issue for the Defense Department, consider the rationale for tactical missile defense put forward by Defense Minister Woerner and other Europeans a weak one.

Ironically, the case against an ATBM project was made most succinctly in 1985 by Under Secretary of Defense Fred Ikle, who now champions the ATBM project. In a hearing before Congress, he argued that tactical missile defense would be superfluous. "Although in the future NATO's main operating bases may be subject to attack by tactical ballistic missiles, currently programmed passive defense measures will assure bases are completely invulnerable to TBM attack even without ATBM systems," he said. Passive defenses include hiding or hardening facilities to survive attacks, preparing quick repairs of runways, building redundant facilities which allow forces to carry out essential missions even if some things are destroyed in an attack, and dispersing targets over a wider area.

The Air Force was reportedly of the same opinion. And an Army study of possible responses to the Soviet tactical missile threat, finished in August, 1985, also gave first priority to low-profile passive defenses in protecting key targets in Europe. These studies, and the sudden change in Ikle's public statements on the issue, seem to indicate that the ATBM project's attractiveness rests on its political payoff for SDI, rather than a realistic assessment of its military benefits.

Military Analysts Critique ATBM

Why do many military analysts consider a "Star Wars" project for Europe to be an overblown response to new Soviet tactical missiles? To begin with, the number of Soviet tactical missiles is not overwhelming, especially compared to the numbers of manned aircraft facing NATO. There are fewer than 750 Soviet short-to-medium-range missile launchers in Europe, and reloading the launchers to prepare for second and third strikes involves significant delays. According to Farooq Hussain, former director of studies at the Royal United Services Institute, the portion of the entire "threat spectrum" represented by Soviet tactical ballistic missiles is probably not significant enough to

justify any ATBM program beyond predictable advances in surface-to-air missile technology.

Tactical missiles have other disadvantages as well. Their accuracies still do not approach those achieved by manned aircraft. The Soviets, said one expert, assign an average of six warheads to each target. Their high speeds turn out to be a serious disadvantage in dispersing modern cluster munitions of the sort that are necessary to shut down airfield runways. And in contrast to aircraft, they cannot be reused, which is why the Pentagon, in several studies during the early 1980s, determined that a large force of medium-range conventional missiles would not be cost-effective.

"The only reason you would want missiles (rather than aircraft) is if there is something that you wanted to do very quickly—where five minutes (of flight time) rather than fifteen makes a real difference," said one analyst. A nightmare scenario of ATBM advocates accordingly foresees an initial wave of Soviet missiles shutting down NATO's airfields for an hour, after which Warsaw Pact aircraft would come in and shut them down for a week. But according to several experts, the problems of carrying out such a coordinated, preemptive missile attack are enormous. "A bolt out of the blue attack is not really very likely at all," said one knowledgeable NATO officer, because of the complications involved in carrying out target planning. If the Warsaw Pact started to organize such a preemptive attack, its preparations would quickly become obvious, giving NATO the opportunity to disrupt the impending strikes with both passive defensive measures and counterstrikes. "There is a great threat from these (Soviet) missiles," said one analyst. "But there are also great limitations on their employment."

For all of these reasons, a number of analysts argue that increased attention to "passive countermeasures" protecting NATO's most critical targets would have a much greater payoff than pouring money into sophisticated missile defenses. Such protective measures would be effective against all forms of aerial attack, rather than dedicated solely to countering a missile threat whose magnitude is in dispute.

—Dan Charles

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