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Pete Wurdens Paper

SDI + ISR

In 1983, President Reagan launched the Strategic Defense Initiative (SDI) to research means for defending against ballistic missiles. In the context of U.S. security this meant finding ways to stop a militarily significant percentage (probably more than 50%) of the intercontinental ballistic missiles (ICBM) and submarine launched ballistic missiles (SLBM) which the Soviets might use to threaten the United States during a crisis. While there has been, and no doubt will continue to be intense public controversy over whether deployment of such defenses will enhance U.S. security and lead to a more stable relationship with the Soviet Union, there can be little doubt that a vigorous research and technology development program will proceed. Over the next decade it is likely that between $20-$40 billion will be spent on the SDI program.

Two SDI aspects warrent special note. First, President Reagan has stressed that strategic defenses must enhance the security of U.S. allies as well as that of the United States. Second, the President has directed that the SDI consider defenses against ballistric missiles of all ranges, not just those which directly threaten U.S. territory. In addition, the SDI has been structured to relate closely to work designed to develop effective air defenses. This paper addresses the relevance of the SDI to the defense of Israel. This relevance includes not only defensive possibilities against ballistic missile threats to Israel, but also the military applications of SDI technologies to other Israeli defense problems.

Ballistic missile defense systems have three main functional elements. First, the sensor element detects incoming missiles, identifies and tracks these targets, and determines when they have been destroyed. Second, the battle management system must compute target location and status, and direct the third element, weapons. to target destruction.

Ballistic missile defense systems are most effective if there are more than one defensive layers. Even if each single layer has limited effectiveness, multiple layers can combine to for high overall effectiveness. Moreover, countermeasures devised by an opponent to defeat the defenses are likely to be effective against only one of the layers. For the defense of the United States, the SDI envisions at least three independent layers. The first layer, the so-called boost phase, would stop missiles early in their flights while the main rocket engines are burning to thrust the missile toward its target. The next layer, referred to as the midcourse phase, would negate the missiles or warheads while they are coasting toward their targets. This coasting occurs in outer space for the long-range ICBMs and SLBMs, but is wholly within the atmosphere for shorter range missiles such as most of those threatening Israel. A final layer, the terminal phase, intercepts the attacking warhead in the final minute or so as it descends towards its target.

Current SDI analyses have identified system options for sensors, battle management and weapons in each phase. Sensors for

the boost-phase might be infrared (heat-seeking) devices placed on satellites deep in space. As many as 100 of these sensor satellites might ultimately exist. The same satellites could also carry redundant battle management and communications systems. These two elements would provide worldwide coverage of all missile launches. Weapons for the boost phase would proabably consist of thousands of small homing missiles carried on many hundreds of separate small satellites. These homing missiles, or "kinetic energy weapons" would attack missiles or warheads in space, destroying their targets by physically colliding with them in much the same manner as some air-to-air missiles do against hostile aircraft. Although this boost-phase system would work in midcourse as well for those missiles and warheads which travel outside the atmosphere in space, the SDI is pursuing another ground- and air-based system option for midcourse. For this concept the homing interceptors would be launched from the ground on small, relatively inexpensive rockets. Each rocket interceptor would resemble a surface-to-air missile weighing only a few thousand pounds and costing about $1 million apiece. An airborne system would carry infrared and possibly radar sensors, along with a battle management system. This airborne optical systems would acquire the warheads while they are hundreds to thousands of miles away from their targets and direct the ground-launched interceptor missiles to these targets. The final, terminal defense layer would operate wholly within the atmosphere relying on a sophisticated missile capable of hitting the incoming warhead in the final few miles before it reaches its target. The problem for

this missile is slightly more difficult than for a missile which would intercept its target outside the atmosphere because of the heating and stresses caused by the defensive rocket's high acceleration flight through the atmosphere. Moreover, this missile must react faster in order to perform its intercept in the minute or so it has available. These "endo-atmospheric" (inside the atmosphere) interceptors would also rely on the airborne optical sensor, but could also use a ground-based radar sensor. These radars, using new advances in micro-miniaturized electronics, could be small enough to fit on a tracked or wheeled vehicle.

The "strategic" system outlined above would have significant capability against ballistic missiles of all ranges. Although the shorter range missiles would only be vulnerable to the terminal layer, a second intercept layer could also be added in order to gain the benefit of a multi-layered defense against the "tactical" missiles. A "low-endoatmospheric" defense system could be added to underlay the "strategic" terminal system. This system would rely on a ground-launched interceptor resembling, or possibly even consisting of an upgrade to, current surface-to-air (SAM) missiles. Indeed, the Soviet Union is now deploying nationwide the SA-12 SAM. One version of the SA-12 has been tested against Soviet tactical ballistic missiles and the nationwide network of the SA-12s will give the Soviets substantial defense against such short- and intermediate- range ballistic missiles. These are also U.S. efforts underway to upgrade the PATRIOT SAM for use againt

tactical ballistic missiles. Within the SDI, a program is underway, and a number of preliminary tests already conducted on an advanced low-altitude non-nuclear defense interceptor. These systems could also rely on a small mobile radar or even airborne sensor and battle management system. Although, these systems would be even more effective if they had available long-range "strategic" tracking information from space- or air-based sensors.

Defense against shorter range missiles appears to be less stressing technically than defenses againt longer range missiles. Shorter-range missile, such as those threatening Israel, have flight times between 5-10 minutes, as opposed to the 15-30 minutes for those SLBMs and ICBMs threatening the United States. The shortened flight time reduces the time available for intercept. However, there are also several counteracting factors. Shorter range missile have much slower velocities than ICBMs. This allows a lower-performance defensive interceptor to be effective. Shorter range missiles also have much less "excess" payload. thus, there is little to spare weight for countermeasures, such as decoys, to confuse and exhaust the defense. Indeed, lightweight decoys will not work for the shortest range missiles which spend all of their time within the atmosphere. Air friction will quickly slow a lightweight decoy down relative to the heavy warhead, thus giving away that the decoy is not a real threat.

THREATS TO ISRAEL

The defense of Israel's air bases provides an example how defenses can help gaurantee Israel's security. Against Israel's approximately ten air-bases, her enemies could launch up to 200 surface-to-air missiles. About ten direct hits from these conventionally or chemically armed missiles would effectively knock out the base. The ten air bases currently run a high risk should a crisis situation escalate. This problem differs considerably in the face of defenses. If Israel had two layers of missile defense, each layer with 80% intercept effectiveness, the missile attackers would have to fire 500 missiles at each target base in order to destroy nine of the ten bases. Israel's enemies would need over 5000 missiles, an impossible number, to threaten the air bases they can readily destroy today with their 200 missiles. The missile defenses can thus provide a potent new dimension to Israel's security.

The types of missile defenses needed by Israel follow directly from the SDI program. The first layer of defense would use the same airborne sensor and battle management platform under development by the SDI for late midcourse and high-altitude endo-atmospheric intercept. This "Airborne Optical System" (AOS) might be an unmanned aircraft or a manned system similar to the current air defense AWACS planes. A single aircraft could cover all of Israel. A small number, therefore, could maintain continuous coverage of the nation. The interceptor missiles would stop thier

targets at altitude above 15,000 meters and can defend an area 100 kilometers or more across. Thus a few sites, each with 50-100 missiles would also protect the entire country.

Israel's second defensive layer could intercept attacking missiles at altitude between 5000-20,000 meters. This defense system would be a "point defense" best suited to individual high value targets such as an air base. Each site would get accurate tracking information from the airborne AOS. However, actual target tracking during intercept would be done by a small mobile radar currently under investigation by the SDI. An anti-tactical ballistic missile, under study by the SDI for use in NATO defenses, would perform the low altitude intercept. Since these defenses would protect only a small area, each site would probably require 10-20 missiles per site. Critical military sites in Israel number about 50, with some sites close enough so that several could be protected by a single interceptor facility. Thus a total of 30-40 independent defense sites would provide the second defenive layer.

Cost estimates for this two layer defensive system are somewhat uncertain. However, a rough estimate can be made based on the SDI cost goals. Table I summarizes these cost estimates.

In addition to the Israel-based system described above, a global U.S. strategic defense system would complement and strengthen the Israeli defenses. Space-based sensors planned by

the SDI to detect missile launchs world-wide, can provide accurate early warning and tracking information, enhancing the Israel-based defense system's response time and effectiveness. Moreover, should Israel's enemies acquire the long-range Soviet SS-12/22 intermediate-range missile (range approximately 1000 km) the U.S. strategic defense, probably based in space, could provide additional intercept layers since the SS-12/22 does spend a good portion of its flight time outside the atmosphere.

TABLE I

Possible Missile Defense System for Israel

LAYER I	NUMBER NEEDED	COST/UNIT	TOTAL COST $
AOS	4	$50 million	$200 million
Interceptor	400	$2 million	$800 million
LAYER II			
Radar	40	$20 million	$800 million
Interceptor	800	$1 million	$800 million
TOTAL COST			$2600 million

SDI technologies and systems could also enhance considerably Isreal's air defenses. The loang-range high-altitude airborne sensors might be capable of detecting aircraft at distances of up to 1000 kilometers - perhaps as soon as they become airborne. The low altitude interceptor missiles, as with the Soviet SA-12 interceptors, might have dual capabilities against missiles and

airplanes. The directed energy weapons part of SDI, particularly lasers which could be based on the ground or on airplanes, would have near-term applicability against aircraft. Indeed, the United States demonstrated in the early 1980s an airborne laser to shoot down air-to-air missiles. Because these directed energy weapons incorporate the most advanced technology, particular computer-controlled pointing and tracking, it will be a long time before the eastern-bloc countries and their allies will have similar capability.

SDI technologies represent a force-multiplier in every level of conventional conflict. Just as the United States cannot hope to field comparable numbers of troops as the Soviet Union and its allies, Israel must also rely on superior motivation and training and superior technology. However, as Israel's enemies improve their training and acquire advanced technical capabilities from the Soviet Union, the numerical advantages of the arab states becomes an increasingly severe threat. One way to preserve technological adantages is to incorporate technologies which even the Soviet Union does not have. These are precisely the technologies contained in the SDI battale management and communications research projects -- computers, advanced computer software, and sensors. The increasing use of ultra "smart" munitions, integrated battlefield data management, and real-time battlefield surveillance, can all combine to provide Israel's ground and air forces with a significant long-term advantage over their opponents. The very presence of such capabilities in

Israel's arsenal would present a strong deterrent to agression.

SUMMARY

SDI technologies and technical capabilities offer a significant security enhancement to Isreal. The increasing number of ballistic missile is the arab arsenals present a growing threat to Israel's vital facilities, air bases, troop concentrations, supply depots, and key industries. Moreover, these missiles are an ever present terrorist threat to Isreal's geographically concentrated population centers. Some of the systems being pursued in the SDI could counter directly the missile threat to Isreal. Conversely, the battle management, computer and sensor technologies under SDi development can provide Isreal's armed forces a decisive and continuing edge over the adversaries.

THE STRATEGIC DEFENSE INITIATIVE...Continued

thereby increase the confidence of all nations in the effectiveness and stability of the evolving strategic balance.

10. SDI represents no change in our commitment to deterring war and enhancing stability.

Successful SDI research and development of defense options would not lead to abandonment of deterrence but rather to an enhancement of deterrence and an evolution in the weapons of deterrence through the contribution of defensive systems that threaten no one. *We would deter a potential aggressor by making it clear that we could deny him the gains he might otherwise hope to achiere rather than merely threatening him with costs large enough to outweigh those gains.*

U.S. policy supports the basic principle that our existing method of deterrence and NATO's existing strategy of flexible response remain fully valid, and must be fully supported, as long as there is no more effective alternative for preventing war. It is in clear recognition of this obvious fact that the United States continues to pursue so vigorously its own strategic modernization program and so strongly supports the efforts of its allies to sustain their own commitments to maintain the forces, both nuclear and conventional, that provide today's deterrence.

11. For the foreseeable future, offensive nuclear forces and the prospect of nuclear retaliation will remain the key element of deterrence. Therefore, we must maintain modern, flexible, and credible strategic nuclear forces.

This point reflects the fact that we must simultaneously use a number of tools to achieve our goals today while looking for better ways to achieve our goals over the longer term. It expresses our basic rationale for sustaining the U.S. strategic modernization program and the rationale for the critically needed national modernization programs being conducted by the United Kingdom and France.

12. Our ultimate goal is to eliminate nuclear weapons entirely. By necessity, this is a very long-term goal, which requires, as we pursue our SDI research, equally energetic efforts to diminish the threat posed by conventional arms imbalances, both through conventional force improvements and the negotiation of arms reductions and confidence-building measures.

We fully recognize the contribution nuclear weapons make to deterring conventional aggression. We equally recognize the destructiveness of war by conventional and chemical means, and the need both to deter such conflict and to reduce the danger posed by the threat of aggression through such means. ■

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THE STRATEGIC DEFENSE INITIATIVE

13 ISSUES

by DR. COLIN S. GRAY

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More than two years after President Reagan's historic announcement of what was to become the Strategic Defense Initiative (SDI), it is useful to take stock of the policy debate that has evolved. In order to provide a sharp focus for the discussion, the analysis is organized as answers to 13 charges that currently are being leveled at the SDI.

ISSUE: **Character And Purpose Of SDI**

CHARGE: The SDI has been explained in different ways by different officials. There is a lack of coherence in the policy rationale.

ANSWER: The SDI, as an initiative to explore what defensive technologies may be able to do, necessarily cannot be tied to the rationale of a single military mission at this time. It is *not* evidence of policy incoherence to say there is a long-term possibility strategic defenses may render long-range bombardment by missile and aircraft as obsolete as the cavalry charge, *and*, in the shorter term, defenses of a technically more modest character could serve exceedingly useful limited purposes.

One would expect DoD officials responsible for the management of the defense effort to emphasize potential near-term benefits of the SDI and President Reagan and his advisors in the White House to place relative emphasis upon the longer-term, broader-gauged aspects. It is consistent to say (a) one day strategic defense may transform the terms of deterrence essentially so as to exclude nuclear threats, and (b) during a possibly lengthy transition period from today to such a condition of defense, strategic defenses could, indeed should, greatly strengthen the stability of nuclear deterrence as we know it now.

ISSUE: **Stability In Time Of Crisis**

CHARGE: The existence of strategic defenses will create new incentives to strike first in a crisis.

ANSWER: This is the "mad systems analysts' " view of the world. As a matter of narrow defense analysis, it should be true that a first strike would fare better than a second strike against defenses. The argument proceeds to claim the Soviet Union would choose to begin a central war rather than risk being caught by a US first strike and having to retaliate with damaged and uncoordinated forces against intact US defenses.

This charge neglects to explain: (a) why the Soviet Union would anticipate any gain from

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"going first" in a crisis—even if they should do "better" going first rather than second (i.e., why would they expect to do well enough?); and (b) why US defenses sufficiently serious as, allegedly, to motivate a Soviet first strike, would not also be sufficiently serious as to compromise Soviet expectations of military "success."

The people who level this charge tend to be the same people who claim SDI will be a great technical fiasco. They would have us believe that SDI, at the same time, will be technically incompetent and a major threat to stability.

SDI weaponization, far from imperilling crisis stability, will help strengthen existing disincentives to strike first. Even at an early stage of deployment, SDI weapon architecture cannot help but raise critical new uncertainties in Soviet minds over their ability to strike reliably and in a timely fashion against US strategic C³I assets and strategic retaliatory forces. As the military incentive to strike diminishes—with the prospects for military success—so must the political incentive.

It is important that the Soviet Union not be the first to deploy nationwide BMD, in addition to its air and civil defense programs. Soviet official attitudes toward "acceptable damage" may be dangerously different from American attitudes. The tough new Soviet leadership could come to believe a new BMD addition to their posture would give them a new potential for intimidation. (Too many American critics of SDI choose to ignore the cultural asymmetries between the USSR and the US.

Bearing in mind the likely circumstances of an acute international crisis, with both sides' strategic forces in a status of generated alert, a weaponized SDI would provide a very useful hedge against accidental or unauthorized strategic action by any party.

ISSUE: Stability And The Arms Race

CHARGE: The SDI will fuel a more complex defense-offense "spiral" of arms race activity, creating new tensions and not providing any enhancement in security.

ANSWER: There is no technological escape from the arms race. The arms race is on today, substantially—though far from exclusively—in the offense-offense realm. Anything the US elects to do which challenges the military integrity of Soviet war plans is a candidate for a Soviet response. There is nothing uniquely stimulating of an arms race response about the SDI. The Soviet Union will attempt to target US SSBNs, mobile ICBMs, superhard silos (if we go that route), and to detect, track and kill "stealthy" air-breathing strike forces.

What is so different about threatening the military efficacy of Soviet missiles with active defense, as contrasted with agile mobile deployment, prompt launch on confirmation of attack, or protection by concrete and steel? The problem is the Soviet will to compete. It is not with the mode (active defense, in this case) of the US challenge to Soviet strategy.

To claim, sensibly, the Soviet Union will attempt to "race" with the SDI, offensively and defensively, is a trivially obvious point. It is not a criticism, although many critics do not seem to understand that. The superpowers are in a dynamic arms competition today. Prominent among the US policy motives behind the SDI is a determination to shift some of the terms of the competition away from the accumulation of evermore lethal offensive forces.

The SDI is likely to dampen the race in offensive strategic arms if and only if defensive technologies render offensive forces increasingly unreliable military instruments. The SDI offers the only possible path to a transformation in the technical and strategic terms of the arms competition away from weapons lethal to people. Whether the US will succeed remains to be seen; this is what SDI is all about.

ISSUE: Arms Control & The ABM Treaty

CHARGE: SDI poses a potentially fatal complication for the arms control process today, while in the medium term it places at risk the integrity of the ABM Treaty.

ANSWER: There is no denying SDI is providing an important set of complications for the design of arms control policy today. However, those "complications" could better be stated as opportunities. SDI critics tend to forget that the SALT/START/INF process either "failed" or was in acute "crisis" long before President Reagan made his speech on March 23, 1983.

The "problem" of the SDI for arms control today does not reside with the US. SDI, rather, lurks in the (expected) Soviet attempt to discourage the West from pursuing this new approach to stability. Far from being incompatible with arms control, SDI is the only instrument capable of triggering a disarmament régime of substantial benefit to stability.

"Deep reductions" in nuclear arms are of little relevance to peace and security if the forces permitted can be lethal against military targets, and those forces are still very large in absolute terms. SDI could defend retaliatory forces and essential C³I, discourage further accumulation/improvement of offensive forces, and "police" a truly deep-reductions régime (by neutralizing the military/political value of treaty non-compliance—even on a large scale).

If the Soviet Union should come to fear a combination of effective US offensive and defensive forces, it should discern a most pressing set of reasons to negotiate sharp cutbacks in offensive arsenals.

ISSUE: Alternatives To The SDI

CHARGE: SDI is unnecessary.

ANSWER: No one is suggesting that, somehow, the nuclear age can be repealed. But if one believes it may be possible to effect reductions on such a scale in the size—or effectiveness in action—of nuclear arsenals that Western society no longer need be at terminal risk, then it is difficult to discern any plausible alternatives to strategic defense.

To sustain the charge SDI is unnecessary, one needs to argue that "there is a better way." It should not be forgotten that SDI looks

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both to strengthen deterrence and, if need be, to provide physical protection. Since there are no paths available, at present, toward the transformation of the basic character of world politics, this charge has to rest upon the proposition that an offense-dominated deterrence never will fail or be irrelevant.

The case for SDI, in the context of this charge, is: (a) it should lead to a more effective deterrent of war, and (b) it would be the only reliable way in which war damage could be limited drastically. SDI carries the promise of strengthening the pre-launch survivability of offensive forces during the early stages of a "defensive transition," all the while providing more persuasive reasons for the Soviet Union to restructure its strategic forces away from offensive elements (because they will not "work") over the long run.

There are problems with strategic stability in an offense-dominated world—and strategic defense looks to be a cost-effective solution to many of those problems. While, in the longer term, although SDI cannot alter the character of Soviet-American security relations, it certainly may be able to alter the burden of risk to society, indeed to the entire planet, that is inseparable from "the balance of terror."

ISSUE: The Technical Feasibility Of SDI

CHARGE: Whether or not strategic defense is desirable is beside the point; SDI simply will not work.

ANSWER: The technical feasibility of SDI remains to be demonstrated. No one is making extravagant claims—save on the negative side. Military history is replete with examples of whole classes of weapons being rendered obsolete (or having their roles changed dramatically) by new technologies. There is no reason in principle why the long-range ballistic missile might not cease to be a useful weapon of war against a superpower.

The technical infeasibility charge needs to be interrogated closely as to its details. What is it that a weaponized SDI, allegedly, will be unable to do? Protect retaliatory forces? Provide vital minutes (at least) of survival time for C³I assets? Discourage the targeting of urban areas of no, or very minor, military importance? Keep all nuclear weapons away from American society?

Some SDI critics are arguing that the offense always can restore a relation of advantage over the defense. This is poor military historical analysis. It is true there has been a permanent dialectic between offense and defense—meaning one could just as well argue that the defense always restores a relation of advantage—but that dialectic reveals itself in different ways. There is nothing in history suggesting that an SDI ascendancy over offensive missiles need not be permanent, though history (and common sense) suggests two states locked in a long-term competition probably will find new, or revive old, ways to hurt each other.

If one seeks ways to end the arms competition, one must look to political factors, not to technology.

ISSUE: The Cost Of SDI

CHARGE: SDI is not affordable.

ANSWER: It is difficult to conduct cost-effectiveness analysis when the cost (of SDI weaponization) is not known at this time.

SDI critics hover in their cost preferences in the range "several hundred" billion to $1 trillion for SDI, R,D,T,E and procurement. These numbers are worthless, except they have a contemporary political impact not easy to counter. The proper starting point for analysis, if we grant the critics' premise of a multi-tiered (four or five) architecture of defense, is to say that for "X dollars" we should be buying the functional equivalent of (and perhaps the event itself) near-total nuclear disarmament of the Soviet Union. For "X dollars," Americans would have bought effective immunity of American society from terminal (though certainly not all) nuclear danger. No other category of weapon can protect American society in this way. A weaponized SDI, multi-tiered, offers a unique quality and quantity of physical protection. What should Americans be willing to pay for that?

If, for the sake of argument (and only for the sake of argument), we take a figure of $500 billion as the full-up R,D,T,E, and procurement cost of a multi-tiered weaponized SDI, elementary arithmetic shows that the cost would be 8 percent of the defense budget for the next 20 years, assuming a constant defense budget level of $300 billion per annum. If a defensive transition is spread over 30 years, the burden is reduced, of course. No critic of SDI is going to win a political argument claiming that 8 percent of the defense budget for 20 years is not "worth" the physical protection of North America.

ISSUE: SDI And The "Fortress America"

CHARGE: A protected America would retreat upon itself and the current structure of international security would collapse.

ANSWER: The logic in this charge is as bizarre as the claim is popular abroad. It may be true that if US strategic defenses trigger new Soviet strategic defenses, the Western Alliance will need to reconsider its strategy (as the terms of deterrence alter), but the connection between SDI weaponization and American isolationism is so elusive as to be analytically invisible.

A modest scale and character of SDI deployment in the 1990s would strengthen the contemporary terms of offense-dominated deterrence—and thereby would help bolster the last line of NATO-European defense. More capable strategic defenses, designed to keep the vast majority of Soviet nuclear weapons away from American "targets" of any kind, logically must help strengthen the long-standing US role as principal security guardian of distant friends and allies. After all, it has been the vulnerability of North America to Soviet attack that has caused European leaders and theorists,

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since the 1950s, to question American reliability as security guarantor. (Would the US risk New York for Hamburg?)

If America returns to isolationism, it will be because it discerns an unwillingness on the part of allies to help in their own defense to an appropriate degree, not because the US is newly defended by a weaponized SDI.

ISSUE: **The Soviet Response To SDI**

CHARGE: The Soviet Union is willing and able to offset US strategic defense with new quantities and qualities of offensive forces.

ANSWER: There is no question that the Soviet Union is strongly motivated to discourage the United States from pursuing open-ended, all-purpose, strategic defense R&D, wheresoever it might proceed. Similarly, there can be no doubt the Soviet Union is able to produce more offensive forces and upgrade the quality of new offensive weapons. However, Soviet defense planners can be trusted to be sensible in their allocation of scarce economic assets. A highly cost-effective SDI deployment, the only kind the US would field, will not be met by an endless proliferation of Soviet offensive assets. Facing an exponential rise in the price of access to American "targets," Soviet defense planners will have to recommend a fundamental change in policy. This happened before. Until 1968–69, the Soviet Union favored heavy constraints on offensive forces and permitting defenses to run free.

Furthermore, a point frequently neglected, the Soviet Union's difficulties with the effectiveness of its offensive forces do not reside solely in the realm of (potential) problems with SDI. Whether or not the US SDI matures into a period of weaponization, Soviet planners have to be anxious that the days of confidence in offensive counterforce success may be passing swiftly. US C³I modernization means a much reduced prospect for a decapitation strike, prompt launch out, under or after attack, of MX and Minuteman may not be usefully targetable, and Ohio class SSBNs pose an intractable ASW problem. All of these concerns, and more, should point to the conclusion (already signalled tentatively by Marshal Ogarkov) that defensive counterforce is more reliable a means of limiting damage than is offensive counterforce. This is not suggesting the Soviet Union would choose one or the other exclusively.

When the Soviet Union comes to believe that the United States truly will stay the course with SDI, its tactics should change towards arms race management. It is more likely than not that the Soviet Union will seek to negotiate a new strategic defensive arms treaty which permits deployment in technical areas wherein Soviet competitive potential is good (terminal and late mid-course), and precludes deployment of a kind not reliably attainable by Soviet, science-based industry (boost, post-boost and perhaps mid-course defenses).

ISSUE: **SDI And A "Technological Peace"**

CHARGE: Peace can only be political. SDI is a futile attempt to provide an inappropriate technological solution to a political problem.

ANSWER: Peace is indeed political rather than technological. But, the military expression of an essentially political incentive to compete, or even fight, is no less essentially technological. The basic security problem for the United States is the assumed political incentive Soviet leaders might have some day to use their weapons. Given that no one, critic or proponent of the SDI, has any plausible theory today of how we proceed to effect a general and definitive political settlement with the Soviet Union, we have no choice other than to minimize those dangers to our security that can be minimized.

Soviet long-range missiles pose a technological threat to American survival. It is entirely appropriate that, pending the political evolution in a benign direction of US-Soviet security relations, a technological answer be sought to that technological danger.

SDI should enable us to deter war more reliably and even, if need be, survive a breakdown in the deterrence system. No responsible person is claiming that SDI, itself, effectively resolves political problems. But, SDI may enable us to live more safely with the political problems that continue to evade effective political treatment.

ISSUE: **Offense & Defense In Transition**

CHARGE: A period of "defensive transition" would be uniquely dangerous for stale deterrence.

ANSWER: The proper relationship between the offensive deterrent that the United States has today and the defensive deterrent that it may have tomorrow is indeed a challenge to sensible policy-making.

The key to maintaining stale deterrence is to ensure that at no point Soviet military planners have a plausible theory of military victory. It is close to a certainty both superpowers will want to maintain a substantial offensive arsenal, if and when they proceed to deploy new BMD weapons: (a) to "backstop" defensive deterrence; (b) to deter third parties; (c) "just in case . . ." However, as the US government says today, a point should come when deterrent duties *vis à vis* in the USSR can be shifted from offensive to new defensive force elements.

It is important there be no premature transfer of duties, from a deterrent that "is," to a deterrent that "may be." Furthermore, the US SDI would be assisted very considerably if the Soviets agreed to a negotiated deep reductions régime in offensive nuclear arms. For the Soviet Union to be persuaded sooner rather than later to join in a cooperative—or at least partially cooperative—defensive transition, it is important not only that they give great technical credit to US defenses, but also be anxious concerning the ability of US offensive forces to penetrate their defenses.

As President Reagan has stated, it is not the US intention to achieve a first-strike advantage. But, if a very useful disarmament regime is to

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be negotiable, it is probably essential that the Soviet Union anticipate an evolving future strategic balance increasingly to their military disadvantage. It will always be a unilateral possibility for the United States to downgrade the quantity, and even restrict the quality, of its offensive forces—to moderate Soviet anxieties—but Soviet anxieties, unfortunately, really are the engine of arms control progress.

ISSUE: SDI & Western Alliance Cohesion

CHARGE: The SDI will promote a quality of political disunity within NATO that will more than offset whatever military security benefits it might confer.

ANSWER: The security condition of European allies is different from that of the United States, for the simple reason of geographical proximity to a wide range of Soviet threats. That is a fact of political life and long has been recognized in the architecture of NATO's strategy of "flexible response" (MC-14/3 of 1967).

NATO-Europe recognizes the key to its security is Soviet belief in the "coupling" of the US with the security of Western Europe. In practice this means the United States has to be permitted to manage the military details of the central strategic relationship in ways it finds tolerable.

SDI opens the possibility of change in the terms of deterrence—and the NATO-Europeans are suspicious of change. After all, they claim, the current situation is "good enough," is it not? NATO-Europe can see the legitimacy, indeed political necessity, for the United States to defend itself if it can—as an absolute US obligation to itself. US allies, understandably, are concerned (a) lest a US SDI prompt new Soviet defenses that degrade the deterrent value of Western offensive nuclear threats (in which even, "what deters?"); (b) lest a US SDI is so expensive that the US cuts back dramatically its general purpose force deployments in Europe; and (c) lest a defended American prompt a US president to take more risks in foreign policy than Western Europe (vulnerable to Soviet tank armies) deems prudent.

If the US does not pursue SDI as critical to a credible first-use strategy, then Soviet defenses are likely to weaken the deterrent value of the upper echelon of the "NATO triad." Deterrence, in a heavily defended world (East and West) will be enforced by more effective conventional forces, protected defense mobilization potential, and residual nuclear anxieties. A weaponized SDI could protect the NATO allies from nuclear or conventional missile/aircraft attack, and such SDI protection could be critically significant in reducing Soviet military confidence *vis a vis* a conventional invasion.

Politically, and with reference to military strategy, NATO should come to appreciate the SDI as more of an opportunity for benign change than as a threat to a security system that works well enough.

ISSUE: Ethics And SDI

Charge: There is no ethical case for SDI.

ANSWER: Moral philosophy distinguishes between two kinds of argument, the absolute (or deonotological) and the consequentialist. The case for SDI may be made with both kinds of argument.

In terms of the ethics of consequences, SDI should provide a more robust deterrent against war, and—should deterrence fail nonetheless—should ensure the least damage possible (in admittedly a very bad situation indeed) is suffered. In absolute terms, SDI defends what and who can be defended. It can be argued that the US government has an absolute duty to provide protection to the American people. In addition, one can argue that to deter by threatening to defeat enemy weapons is absolutely morally superior to deterrence by the threat to damage enemy society ("Killing people is wrong, and threatening to kill people is wrong," particularly if there is a better way available).

American society finds all aspects of nuclear weaponry morally repugnant. Moreover, there can be no offensive nuclear strategy "with a human face." US deterrence strategy today, with its quite heavy reliance upon (latent) nuclear threat, is an affront to the values of our culture. It is probably not too strong to say that Western uneasiness with, and distaste for, the means of nuclear deterrence, dangerously undermines the goals of our policy.

In a speech on March 15, the British Foreign Secretary, Sir Geoffrey Howe, posed and answered the following questions:

"But can we afford even now simply to wait for the scientists and military experts to deliver their results [on SDI] at some later stage? Have we a breathing space of five, 10, 15 years before we need to address strategic concerns? I do not believe so. The history of weapons development and the strategic balance shows only too clearly that research into new weapons and study of their strategic implications must go hand in hand."

The study of the strategic implications of SDI is proceeding with no less energy than is being expended upon the technical questions. □

8/1/86

REVIEW & OUTLOOK

SDI: Death of 1,000 Cuts

President Reagan's latest arms-control letter to Chairman Gorbachev means that his strategic defense initiative is now on the table. Whether or not anything comes of this, it was a clear defeat for the Pentagon and other SDI proponents. They set themselves up insisting that nothing worthwhile can be deployed anytime soon.

The letter proposes that the U.S. agree not to deploy SDI for five to seven years, that the Soviets make deep cuts in offensive weapons and that the sides agree that defensive deployments are allowed after the seven years. In some sense, we suppose, this can be read as putting a time limit on our adherence to the ABM treaty limiting defensive deployments. Now, the Russians' only interest in this lies in stopping our technology, and they are not about to change their spots. By now skepticism about their treaty violations is pervasive both in the administration and in the Senate that would have to ratify any agreement. Any official treaty remains remote.

The danger is far more insidious. Our experience has been that, treaty or no, a U.S. negotiating position becomes the planning document for defense research and procurement. If the official line is that SDI eventually will be negotiated away, why should ambitious young officers and scientists hitch their careers to it, or military chieftains devote their budgetary resources to it, or Congress fund it, or even its proponents go to the mat? This kind of death-by-a-thousand-cuts has repeatedly gutted promising weapons systems. Indeed, it is the principal leverage the arms-control process gives the Soviets in curtailing our defense programs.

In its advocacy of SDI, the Reagan administration did not walk but ran into this trap. Its position has been that SDI is only a research program, and will remain only a research program until it solves the problem of building a defense against the possibility that the Soviets might launch their entire missile force against women and children, ignoring military assets that might strike back. We would not deploy anything, the line goes, until our research finds a way to stop every last missile in such an insane contingency.

By taking this preposterous position in the intramural boxing, the pro-SDI forces led with their chins. The pro-arms-control forces have replied: Well, if we're not going to deploy anyway, anything we get out of agreeing not to deploy comes for free. If the Soviets junk some obsolete missiles they were going to junk anyway, we still haven't lost anything. The Soviets are clever enough to frame offers encouraging this line of reasoning, SDI goes on the table and the death-of-a-thousand-cuts begins.

Now, the reason pro-SDI forces have opposed near-term deployment is not entirely foolish. The easiest technical problem is defending the silos for retaliatory missiles. For our part, we would defend the silos today, tomorrow or back when the ABM treaty was negotiated in 1972. It's far cheaper than any of the cockeyed schemes for basing new MX missiles. Doubtless, though, a silo defense—if you stop with that—is anything but a step away from the policy of mutual assured destruction. And if the silos were safe, still-powerful proponents of MAD would even more strenuously argue against defending cities.

Solidifying MAD is not at all what the administration wants from SDI. Even if a silo defense succeeded against an actual attack, a U.S. president would be left with the sole option of launching a strike to kill Soviet women and children. The driving force behind SDI is the desire to give a president more moral and more usable options; this requires a plausible degree of population defense. The Pentagon leadership has opposed any limited system for fear of getting left with only a silo defense.

In fact, quite a few things can be done in the near term that would be highly useful. The technologies now being discussed have large "footprints," and even if centered on missile fields could protect large sections of the country—at the very least against accidental, third-party or demonstration attacks. Even against a significant attack the defense of the national command authority looks both quite possible and vitally important. Perhaps easiest of all, we could start to deploy a defense against tactical ballistic missiles in Europe. These are easier to intercept because they travel slower than their intercontinental counterparts.

The Pentagon's own Hoffman panel took the common-sense position that while a leak-proof defense is far away, you have to learn to walk before you learn to run. It concluded that the place to start is an anti-tactical ballistic missile (ATBM). The German, British and Israeli defense ministries have expressed an interest in cooperating on the project. Sen. Dan Quayle recently won approval in the Senate Armed Services Committee of an amendment to set aside $50 million of the SDI budget for ATBM research and development, with matching funds to be provided by allies.

We certainly think the administration has the right goal in population defense, but it will never get there by waiting for a leak-proof system that can be deployed overnight. We'd also like to believe the president's letter didn't sentence SDI to the death-of-a-thousand-cuts. But to insure the momentum of the technological drive, the administration now needs to get going with the steps it can take sooner rather than later.

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THE STRATEGIC DEFENSE INITIATIVE:

Addressing Some Misconceptions

It has been two years since President Reagan spoke of his vision of a world free of its overwhelming dependence on nuclear weapons, a world free once and for all of the threat of nuclear war. His speech caused two major developments. It launched a major policy and technology review which led to the initiation of an extensive research program known as the Strategic Defense Initiative (SDI). It also initiated an extensive debate in the United States and throughout the world. In view of the important technological and political implications of the SDI, such a debate is both expected and appropriate. Unfortunately, because much of this debate has been based on a number of commonly held myths about the nature of the SDI program in particular, and strategic defenses in general, it has been seriously misinformed. While there are many myths related to the SDI effort, I propose to deal with some of the more prevalent misconceptions.

I will begin with a short discussion of what SDI is not. First, and most importantly, SDI *is not* a system development or deployment program. It is a long-term, broadly-based, research program designed to answer a number of technological questions that must be answered before the promise of emerging defensive technologies can be fully addressed. No decision has been made to pursue development of defensive technologies nor has any decision been made to deploy such a system. These decisions will be made by a future president and a future Congress. Additionally, these decisions should be based on the results of this comprehensive research program and the state of the strategic balance between the United States and the Soviet Union.

SDI is not based on any single preconceived notion of what an effective defense against ballistic missiles should or would look like. A number of concepts, based on a range of different technologies have been and will be investigated—but no single concept or technology has been identified as the most appropriate. Until more is known about the technological possibilities for providing an effective defense against ballistic missiles, we do not believe that we should commit ourselves to a particular technology or a specific defense system configuration. If, on the basis of an incomplete review of the pertinent technologies, we settled prematurely on a particular system, we could be denying ourselves the use of other technologies which, with additional research, may ultimately prove more effective than the technologies we might choose today.

To achieve the benefits which advanced defensive technologies could offer, they must, at a minimum, be able to destroy a sufficient portion of an aggressor's attacking forces so as to deny him either confidence in the outcome of his attack or the

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ability to destroy a credible portion of the targets he wishes to destroy. The level of defense capability required to achieve these ends cannot be determined at this time. Defensive capability will be extremely dependent upon the size, composition, effectiveness and passive survivability of U.S. forces relative to those of the Soviet Union. Any effective defensive system definitely must be both survivable and cost-effective.

To achieve the required level of survivability, the defensive system need not be invulnerable, but must be able to maintain a sufficient degree of effectiveness to fulfill its mission, even in the face of determined attacks against it. This characteristic is essential not only to maintain the effectiveness of a defensive system, but also to maintain strategic stability.

Finally, in the interest of discouraging the proliferation of ballistic missile forces, a defensive system must be able to maintain its effectiveness against the offense at less cost than it would take to develop offensive countermeasures and proliferate the ballistic missiles necessary to overcome the defense.

Having touched quickly on what SDI is and is not, I would like now to deal individually with some of the misconceptions that have received a great deal of attention in the media and in the general public debate.

Defenses and Stability

Many critics argue that although a fully deployed strategic defense might be an advantageous goal, the transition to such a defense would be destabilizing. The opposite is indeed the case. The initial phases of a defense against the threat of ballistic missiles on the path to a more complete deployment of a multi-layered defense would enhance the stability of our present deterrent.

The security of the United States and of our friends and allies rests on our collective ability to deter aggression, both conventional and nuclear. Our nuclear retaliatory forces help maintain this security and have deterred war for nearly forty years. Yet we have no defenses against nuclear attack by Soviet ballistic missiles. The Soviet modernization of their offensive forces continues at a steady pace and increasingly widens the imbalance in crucial offensive capabilities. In the event that deterrence fails, our only recourse would be to surrender or to retaliate with our offensive forces. President Reagan stressed in his speech that we must find a better way to assure credible deterrence. The SDI offers the promise of finding the technologies to defend against ballistic missiles, so that we will be able to deter war by means other than the threat of devastation.

Our policy has always been one of deterrence and will remain so even if a decision were made in the future to deploy defensive systems. Such systems are consistent with a policy of deterrence both historically and theoretically. While today we rely exclusively on offensive forces for our strategic deterrence, this has not always been the case. Throughout the 1950s and most of the 1960s, the United States maintained an extensive air defense network to protect North America from attack by Soviet bomber forces. At that time, this network formed an important part of our deterrent capability. However, with the advent of con-

tinuously increasing numbers of relatively invulnerable Soviet Intercontinental Ballistic Missiles (ICBM) by the late 1960s, it made little sense to continue to invest in air defenses. Because recent advances in defensive technologies may provide a means of effectively defending against ballistic missiles, there may again come a time when defenses can make a useful contribution to deterrence.

The Strategic Defense Initiative is not being pursued with the intention of acquiring superiority over the Soviet Union through the unilateral deployment by the United States of an advanced ballistic missile defense system. First, even if that was our goal, the fact that the Soviet Union has a major research and development effort investigating similar technologies for several years would make such a goal unachievable. Second, even if superiority were possible, the effort to achieve it through unilateral deployments would be too dangerous and would probably not be a permanent condition. Consequently, if effective defenses against ballistic missiles prove possible, we assume that both the United States and the Soviet Union would deploy such defenses.

Perfect Defenses

Another persistent assumption about ballistic missile defense is that since a single nuclear ballistic missile can destroy a large city, any defense which is not perfect is of little value. This premise is seriously flawed in that it is based on a false view of Soviet military purposes. Based on what we know of Soviet military doctrine, the primary threat to nuclear deterrence has always been that the Soviets could come to believe that, under certain circumstances, they could achieve their military and political goals by preemptively attacking NATO's military forces in order to deny us the ability to retaliate effectively. Direct threats against population centers are deterred relatively easily because such attacks cannot support any useful military or political purpose. Thus, when viewed from the perspective of Soviet military doctrine, and ultimately from that of the Soviet leadership, effective defenses against ballistic missiles can blunt their primary instrument of aggression. As a result, such defenses can have a highly beneficial effect on deterrence and stability in three quite specific ways.

First, by destroying the bulk of an attacker's ballistic missile warheads, an effective defense can undermine a potential aggressor's confidence in his ability to predict the likely outcome of an attack on an opponent's military forces. No aggressor is likely to contemplate initiating a nuclear conflict, even in crisis circumstances, while lacking confidence in his ability to predict a successful outcome.

Second, by effectively destroying attacking ballistic missiles, and thus rendering them "impotent and obsolete" for military or political purposes, such defenses also can eliminate the potential threat of first strike attacks.

Third, by reducing or eliminating the utility of Soviet shorter-range ballistic missiles which threaten Europe, defenses can have a significant and specified impact on deterring Soviet aggression in Europe. Soviet SS-20s and shorter-range ballistic missiles provide overlapping capabilities to target all of NATO Europe. This capability is

combined with a Soviet doctrine which stresses the use of conventionally-armed ballistic missiles to initiate rapid and wide-ranging attacks on crucial NATO military assets throughout Europe. The purpose of this tactic would be to reduce significantly NATO's ability to resist the initial thrust of a Soviet conventional force attack and to impede its ability to resupply and reinforce combatants from outside Europe. By reducing or eliminating the military effectiveness of such ballistic missiles, defensive systems have the potential for enhancing deterrence not only against strategic nuclear war, but against nuclear and conventional attacks on Europe as well.

The Air-Breathing Threat

Even if defenses prove to be effective against ballistic missiles, many critics argue that a defense could not stop cruise missiles or aircraft. It is true that if we plan to defend against aircraft and cruise missiles, we would have to add air defense systems. In fact, these defensive systems might utilize some of the same technologies under investigation in the SDI program.

The SDI program is focusing on defense against ballistic missiles because these missiles, with their speed, short warning time and great destructive capability, pose a greater threat to stability than do the slower flying, air-breathing systems. Because an effective defense against ballistic missiles is the more difficult technology to achieve, priority is being given to the examination of those technologies that might prove effective against that particular threat.

As our research program continues to progress toward President Reagan's goal of exploiting recent advances in ballistic missile defense technologies, effective defenses against ballistic missiles combined with effective air defenses could reduce or eliminate the military utility of ballistic missiles and other airborne nuclear weapons and thus raise the threshold of nuclear conflict.

Fortress America

Many critics are quick to point out that if the United States and the Soviet Union deploy defensive systems against ballistic missiles, our allies will be defenseless against the threat ballistic missiles pose to their security. This assertion is not correct. From the beginning of our research efforts, President Reagan emphatically stated that no change in technology can or will alter our commitments to our allies. He also clearly stated that our security is inextricably linked to the security of our allies. It is because of this commitment that the SDI program is not focusing solely on the exploitation of technologies to meet the threat posed by ICBMs and Submarine-launched Ballistic Missiles (SLBM). Technologies will also be examined which address the threat posed by shorter-range ballistic missiles against our allies. Since President Reagan's decision, we have consulted closely with our allies to ensure that, in the event of any future decision to deploy defensive systems, Allied as well as U.S. security would be strengthened.

U.S. Unilateralism

One of the most stubbornly held myths about the SDI program is that *only* the United States is

conducting research on technologies which may provide effective defenses against ballistic missiles and that such efforts will force the Soviets down a similar path. Again the opposite more accurately describes the current situation. The Soviet Union has always considered defense to be an important part of their national security policy. In fact, the Soviets have spent nearly as much on defensive forces as they have on building their extensive offensive nuclear capability.

The Soviets have for many years been working on a number of technologies, both traditional and advanced, which have the potential for effectively defending against ballistic missiles. Intelligence information indicates that the Soviet Union is currently upgrading the capability of the world's only operational anti-ballistic missile (ABM) system in existence today—the Moscow ABM defense system. The Soviets are also pursuing research and development on a rapidly deployable ABM system that raises concerns about their potential ability to rapidly break out of the ABM Treaty and deploy a nationwide ABM defense system within the next ten years should they chose to do so. In addition to these ABM efforts, the Soviet Union is also deploying a surface-to-air missile system, the SA-10, and is flight testing another, the SA-X-12, both of which have potential to intercept some types of U.S. ballistic missiles. The Soviets also maintain an extensive air defense network and a large civil defense capability, which combined with their interest in traditional and advanced ballistic missile technologies are clear indications that they consider defense to be an important part of the security of the Soviet Union.

While these developments are indeed significant, of most concern to the United States is the fact that since the late 1960s the Soviet Union has been pursuing a substantial, advanced defensive technologies program which includes research on directed energy weapons. These efforts could lead to the testing of space-based ABM systems in the mid-1990s and deployment sometime after the year 2000. Therefore, rather than encouraging the Soviet Union to pursue a defensive technologies program, the Strategic Defense Initiative is being pursued as a prudent hedge against unilateral Soviet efforts to develop and deploy an advanced defensive system. Unilateral Soviet deployment of such advanced technologies, in concert with the Soviet Union's massive offensive forces and its already impressive air and passive defense capabilities, would have a very serious, adverse effect on U.S. and Allied security.

Treaty Commitments

Another prevalent argument raised against the Strategic Defense Initiative is that the research program violates our current treaty commitments. As directed by President Reagan, the SDI will be conducted in a manner which is fully compliant with out treaty obligations, including the 1972 Anti-Ballistic Missile Treaty and the Outer Space Treaty. Article V of the ABM Treaty prohibits the development, testing and deployment of ABM systems or components which are sea-based, air-based, space-based or mobile land-based. However, Gerard Smith, chief negotiator of the ABM Treaty, reported to the Senate Armed Services Committee in 1972 that the agreement does permit research short of field testing of a breadboard

model or prototype.[1] The type of research envisaged under the SDI program can be conducted within the treaty constraints.

Article XIV of the ABM Treaty allows for amendments and occasional reviews at which time possible modifications to the treaty can be discussed. Only after research efforts have uncovered promising approaches for developing and deploying defenses against ballistic missiles would we consider discussing changes to the existing treaty.

The Outer Space Treaty prohibits the deployment in space of nuclear weapons or other weapons of mass destruction. As in the case of the ABM Treaty, because the SDI contemplates only broadly-based research efforts on the appropriate technologies and is not a systems development or deployment effort, the Outer Space Treaty is not violated by the SDI Program.

Arms Control

Many critics believe that the SDI will discourage and eventually destroy all hope of equitable and verifiable arms control, since ballistic missile defenses will inevitably lead to the proliferation of ballistic missiles in an effort to overcome or saturate such defenses.

This is an argument which has served so long as orthodoxy that it no longer accords with reality. Unlike the technologies of the past, recent advances made in the essential technologies of ballistic missile defense may make it possible to develop defenses that can maintain their effectiveness at less cost than would be required to develop offensive countermeasures or to increase the number of deployed ballistic missiles sufficiently to overcome the defense. This is one of the central issues which the SDI research program is examining. If, as now appears possible, these new technologies can reverse the cost advantages that offensive forces have traditionally enjoyed over defenses, they can exert powerful incentives for significant arms reductions. By reducing the military and political value of ballistic missiles (a condition for which offensive countermeasures or proliferation are no cure), such defenses could increase the likelihood of negotiated reductions of the strategic nuclear arsenals of the United States and the Soviet Union.

The pursuit of the Strategic Defense Initiative and equitable and verifiable arms control agreements are not mutually exclusive, in fact, they are mutually supportive. If a decision were made in the future to deploy an effective defensive capability, there would, of course, be broader implications for arms control. In this regard, effective defenses against ballistic missiles have the potential of complementing our policy of pursuing significant reductions in ballistic missiles forces. To the extent that defensive systems can reduce the effectiveness and, thus, the value of ballistic missiles, they also can increase the incentives for negotiated reductions. Should significant reductions in offensive arsenals occur, such reductions, in

1. U.S. Congress, Senate Committee on Armed Services, *Military Implications of the Treaty on the Limitation of Anti-Ballistic Missile Systems and the Interim Agreement on Limitation of Strategic Offensive Arms*, 92nd Cong., 2nd sess. (June - July, 1972), p. 377. At the hearings, "It was understood by both sides that the prohibition on 'development' applies to activities involved after a component moves from the laboratory development and testing stage, wherever performed."

turn, would serve to increase the deterrent potential of defensive systems. A decision to deploy defensive systems would, of course, lead to a rather dramatic change in the structure of U.S. and Soviet military forces that would require the formulation of a new and broader U.S.-Soviet arms control environment than that to which we have been accustomed. Because the United States does not view defensive measures as a means of establishing military superiority and because it has no ambitions in this regard, deployments of defensive systems would be most useful in the context of a cooperative, equitable and verifiable arms control environment that regulates the offensive and defensive developments and deployments of the United States and the Soviet Union. This will be important both in the period of transition from an offense-dominant deterrent to one based on a balance of offensive and defensive forces and in the period following the transition when defensive systems are deployed.

The Prospects for Arms Control

On March 12, 1985 arms control talks between the United States and the Soviet Union resumed for the first time since the Soviets walked out of the talks in December 1983. We believe that the SDI effort played a major role in the resumption of these talks. Both the United States and the Soviet Union agree that offensive and defensive forces are inextricably linked. Consequently, we have agreed to structure the negotiations in three parts: strategic nuclear forces, intermediate nuclear forces, and space and defense issues. Though we agree with the Soviets that the subjects to be dealt with in these three categories are closely related, we do not believe that progress in the negotiations on one or more of these categories should be held up until agreement is reached in all three subgroups.

During the next ten years, the U.S. objective is a radical reduction in the power of existing and planned offensive nuclear arms, whether on Earth or in space. We are now looking forward to a period of transition to a more stable world, with greatly reduced levels of nuclear arms and an enhanced ability to deter war based upon the increasing contribution of non-nuclear defenses against offensive nuclear arms. This period of transition could lead to the eventual elimination of all nuclear arms, both offensive and defensive. A world free of nuclear arms is an ultimate objective to which we, the Soviet Union, and all other nations can agree.


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July 24, 1986

The President
The White House
Washington, D.C. 20500

Dear Mr. President,

News accounts suggesting that we are proposing to lengthen the period before we could withdraw from the ABM Treaty to 5 or 7 years are certain to lead Members to conclude that the Strategic Defense Initiative has become a bargaining chip. Under those circumstances it will never be adequately funded. Even the most ardent supporters of the SDI program here in Congress will question the program's future. It should be remembered that Congress drastically cut funding for ABM research during the 1970s following movement on the ABM Treaty.

Few American leaders have had the ability to dramatically change the course of world events through decisions they made on national security policy. Your decision, in 1983 to create the Strategic Defense Initiative in order to find a way to "make nuclear weapons obsolete", could dramatically change the course of world events if the task which has been well begun is pressed to fruition.

Mr. President, we are encouraged by your efforts to proceed with negotiations on verifiable nuclear arms reductions. But we believe that any proposal made the Soviets should, to the degree that we are bound by the ABM Treaty, insist on the legally correct interpretation of the treaty -- not the restrictive interpretation under which the program cannot be completed. This course of action provides the best method of assuring the success of arms control agreements in the future.

Sincerely,

Robert K. Dornan David Dreier Dan Burton

Tom DeLay Mark D. Bill Dannemeyer

Jack Kemp Bob Lowingston

Dan Lungren

Toby Roth

Bill Coble

Jim Lightfoot

Newt Gingrich

Newt Gingrich

Joe Barton

Pat Swindall

Henry J. Hyde

Henry J.

Bob McEwen

Robert

Bob

Bill McCollum

Duncan Hunter

Helen Delich Bentley

Helen Delich Bentley

JACK KEMP
31ST DISTRICT OF NEW YORK

COMMITTEES:
APPROPRIATIONS
SUBCOMMITTEE:
FOREIGN OPERATIONS
RANKING MEMBER

BUDGET

Congress of the United States
House of Representatives
Washington, DC 20515

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July 28, 1986

Honorable Ronald Reagan
The White House
Washington, D.C.

Dear Mr. President:

We are deeply disturbed by reports that you may have directed that certain limits on U.S. strategic defenses may be incorporated within our negotiating position at Geneva. Because we believe this represents a grave threat to the integrity of your SDI, and a departure from your previously well-defined arms control objectives, we urgently seek a meeting with you to discuss these concerns in full. Pending that meeting, we would like to raise a number of points for your consideration.

First, as you know, we number among your strongest supporters in the House and the Senate. And we must warn you, if the U.S. pursues this new negotiating course, we fear for the survival of SDI funding in Congress.

If we succumb to Soviet entreaties to extend the ABM treaty or otherwise bargain away our right to near-term SDI deployment, we will risk losing strategic defenses altogether. As we know from our experience with the ABM treaty, when the United States pledges <u>not</u> to do something -- such as deploy strategic defenses -- the Congress will not appropriate funds to preserve that option.

Secondly, we respectfully suggest that were you to commit this country to abide by the American arms control lobby's private interpretation of the ABM treaty, your Strategic Defense Initiative would thereafter exist in name only -- and everyone would know it. The advice you are receiving that such a commitment would be gratis because we could not, in any event, build respectable strategic defenses over the next five to ten years, is technically wrong and politically too clever by half.

Contrary to what some in your Administration have asserted, there <u>are</u> things we can and must do by way of near-term SDI deployment that we are not doing precisely because the ABM treaty stands in the way of sensible planning.

For example, right now we could build an American equivalent of the dual capable SA-12 surface-to-air missile system that is now coming off Soviet assembly lines. Such a system would provide insurance to great numbers of innocent people, and complicate any attack on military targets.

In addition, because we have neglected near term options available to us, the Soviet Union will soon have the first high-energy laser in space while we have none. They won't call it an anti-missile device, but it will be able to destroy U.S. missiles. How many, we won't know. (You may wish to request an update on how an object in space can be hidden, camouflaged, and decoyed.) But there is no reason why the United States should brook further delay in acquiring these powerful tools for upsetting enemy attacks and protecting millions from their consequences.

Another example, the ERIS rocket, the successor of the HOE interceptor that destroyed a warhead above Kwajalein two years ago, could be put into production. The Army's airborne optical adjunct, a kind of infra-red airborne warning and control system for warheads, could be produced and mounted on a Boeing 767. Together, these two systems could reduce any attack just above the atmosphere and provide broad area coverage.

Additionally there are near term surveillance capabilities that would not only greatly enhance our warning capability but would also multiply the effectiveness of new intercept technologies. And there are other examples of present technology we could exploit, if only the SDI program were designed to include near-term deployment options.

Mr. President, if the Administration keeps on defining SDI as a faraway dream for the next millenium, no one will support it, including us. But if we begin now, as we must, to build the anti-missile devices we can build, the American people would soon enjoy real and growing protection.

We must caution you, however, that we will lose this singular opportunity to strengthen stability and peace if the course of arms control negotiations imposes limits on SDI deployments.

Finally, there is a real question about the seriousness and sincerity of our arms control compliance policy. You have reported to Congress three times now that the Soviet Union is in violation of the ABM treaty. Moreover, it is the judgment of our intelligence community that the Soviet Union may be laying the infrastructure for a nation-wide ABM defense -- precisely what the ABM treaty was intended to prevent.

Given this irrefutible evidence, we cannot conceive how the United States could possibly agree to extend the ABM Treaty and maintain any credibility in our efforts to put an end to Soviet arms control violations. Nor in good conscience could we, as elected representatives, ask the American people to reaffirm an old treaty that the Soviets are blatantly violating even as they put their signature to paper.

The fact of the matter is that the ABM treaty has only served to constrain U.S. strategic defenses. The Soviet program has proceeded apace. The ABM treaty was predicated on offensive reductions that never materialized. Instead, the Soviet Union has engaged in the greatest offensive military buildup in history. The cumulative result has been a steady erosion of our deterrent.

It would be a tragedy and a mistake of historical magnitude to reaffirm this failed arms control path, just as we are on the verge of achieving a breakthrough in your magnificent vision of a defense based on destroying weapons and preserving human lives.

We anxiously await the opportunity to meet with you to discuss this new negotiating overture, and its impact on SDI and the future security of our nation.

Respectfully,

MALCOLM WALLOP
U.S. Senator

JACK KEMP
Member of Congress

DAN QUAYLE
U.S. Senator

HENRY HYDE
Member of Congress

PETE WILSON
U.S. Senator

JIM COURTER
Member of Congress

JAMES MCCLURE
U.S. Senator

DUNCAN HUNTER
Member of Congress

Dear:

I greatly appreciate your support for the Strategic Defense Initiative and for my efforts to achieve deep, equitable, significant, and effectively verifiable arms reductions. I assure you that SDI is not a bargaining chip, and I have not proposed any delay in the progress of the program. Don't be misled by ill-informed press reports. I am determined that we must move ahead on schedule to the point at which a future President and Congress will be able to make an informed decision on deployment. The potential of SDI for providing a safer, more moral, basis for deterrence is too great to be traded away.

I share your concern that Congressional actions could damage the program. Indeed, some in Congress are now proposing funding cuts which would stunt progress as well as force us to narrow the focus of the program. Undercutting SDI now would be doubly dangerous, because it would foreclose or delay future options for ensuring stability and deterrence through defenses, and could lead the Soviets to misjudge our resolve to rid the world of the threat from ballistic missiles.

We are seeking to have, at the earliest possible moment, a system of effective strategic defenses -- that is, one which is militarily effective, survivable, and does not provide incentives to try simply to overwhelm it by building additional offensive forces. To meet our goal we must follow a carefully designed program to demonstrate <u>all</u> the technologies needed for strategic defense.

Some urge me to move now with deployment of limited systems. To do so would be short-sighted. It would divert funds from and delay our efforts to achieve truly effective defenses. It could give the Soviets a military advantage because they could press forward faster than we on limited ground-based defenses; and, we would be introducing exactly the kind of incentives we seek to eliminate -- those that encourage the Soviets to build more ballistic missiles.

Perhaps those who press for deployment now have been misled by erroneous reports of my recent letter to General Secretary Gorbachev. Some stories allude to a "grand compromise", in which the hope of a world safe from the threat of ballistic missiles would be traded for reductions of U.S. and Soviet nuclear arsenals. Such a trade is neither my proposal nor would it be good policy. I have suggested how we can pursue the hope for a safer, more stable strategic regime through introduction of effective strategic defenses, while addressing some stated Soviet concerns. I repeat, SDI is not a bargaining chip.

The greatest threats to SDI are the funding restrictions and reductions proposed by some in Congress. Therefore, I urge you to remind your colleagues that we are at an important moment of opportunity for strengthening peace and our national security. Congressional support is critical to the success of our broad strategic program, including: modernizing our retaliatory forces over the near term; negotiating radical reductions in existing and planned nuclear forces; and taking steps now to determine future options for effective strategic defenses. All of these efforts are necessary and complementary. To reduce our commitment to one is to undermine hopes for the others, including arms control.

[Insert on Soviet non-compliance]

Your steadfast support has already contributed to the rebuilding of America's strength and security, and I am glad to know I can count on you as our programs and negotiations proceed.

Sincerely,

To be inserted before the Final paragraph

On the issue of US policy toward Soviet arms control treaty violations, my decision that the US could not continue to support unilaterally a flawed SALT structure underscores my determination to seek only agreements that can be effectively verified and to refuse to accept one-sided adherance to those agreements. In the meantime, we will continue to press the Soviets to correct their non-compliance with the ABM Treaty.

Current
Policy
No. 730

Kenneth L. Adelman

SDI: Setting the Record Straight

United States Department of State
Bureau of Public Affairs
Washington, D.C.

Following is an address by Kenneth L. Adelman, Director of the U.S. Arms Control and Disarmament Agency, before the Baltimore Council on Foreign Affairs, Baltimore, Maryland, August 7, 1985.

It is a great pleasure to be here this evening before the Baltimore Council on Foreign Affairs. I know firsthand the valuable role such councils play all across the country—particularly in ensuring public awareness of critical issues. Separating fact from fiction in arms control and national security is essential to understand those issues.

The year 1984 is behind us. It was many things, but it was not at all the year George Orwell had depicted. Wars in sundry regions troubled us, but the perpetual wars of Orwell's imagination were nowhere upon us.

Rather, 1984 was most significant for what did not happen. On the 15th of May 1984, the world broke the modern-day record for length of time without major war in Europe—no mean accomplishment. The old record, just short of 39 years, was set between the battle of Waterloo (1815) and the outbreak of the Crimean War (1854).

The year 1984 marked another significant unfolding: the increasing discourse surrounding—and, at times, even enveloping—President Reagan's Strategic Defense Initiative, or SDI. This research program is designed to see if effective defense against nuclear weapons is possible. Over the coming years, the subject will surely come to dominate our discussions on arms control, deterrence, and military strategy—if, indeed, it has not already.

The starting point for any rational discourse on SDI—and many discourses on SDI have not been rational but have been wrapped in and warped by emotion—is a large dosage of modesty at predicting what science and technology can offer in the future. How many times in our history has human ingenuity overcome human expectations and even expert predictions?

To take just a few examples:

- Thomas Edison forecast:

> Fooling around with alternating currents is just a waste of time. Nobody will use it, ever. It's too dangerous . . . . Direct current is safe.

- Simon Newcomb noted in 1903:

> Aerial flight is one of that class of problems with which man will never be able to cope.

- Lee DeForrest argued in 1926 that:

> While theoretically and technically television may be feasible, commercially and financially I consider it an impossibility, a development of which we need waste little time dreaming.

- Admiral William Leahy, Chief of Staff to President Truman, warned in 1945 that:

> The [atomic] bomb will never go off, and I speak as an expert in explosives.

- One scientist argued in 1932 that:

> There is not the slightest indication that [nuclear] energy will ever be obtainable. It would mean that the atom would have to be shattered at will.

That scientist was Albert Einstein.

With these and many more examples, one cannot blithely accept the word of some self-anointed "experts" who tell us how a strategic defense can never work, can never be cost effective, can never be stabilizing.

SDI is a fetching subject which inevitably provokes eruptions. Any meeting that drags can be instantly brought to high drama just by mentioning SDI. Too often, however, the public debate is marked by flamboyant rhetoric and stark, unsupported conclusions. To make an impact in our open society, exaggeration seems unavoidable.

Soviet Propaganda Against SDI

Internationally, the issue has been joined as well. Here, too, there is a good deal of emotion and rhetoric on the subject. And, not to be forgotten, the Soviet Union has launched a major propaganda campaign and strategy to stop or at least slow down SDI. The assault involves disinformation and misinformation—a form of "newspeak," to borrow again from *1984*. It conforms to Lenin's dictum that what happens outside the negotiating room is far more important than what happens within it.

The lines of Soviet propaganda against SDI often have curious inconsistencies. For example, they cast SDI as a dangerous and destabilizing move that will be met by Soviet counter-

measures, while at the same time saying it is useless and won't work. It can hardly be both—or, as you might ask, "If it won't work, why are the Russians so worried about it?"

But make no mistake about it: one of the Soviets' prime purposes is to try to abort U.S. research on SDI while maintaining their own programs. Not surprisingly, they are jumping into our national debate on SDI.

No such public debates, of course, are allowed in their closed system. This, too, leads to curious positions. They can argue, for example, that the "intent" of their own research program is for purposes other than strategic defense. At one point the Soviets claimed that their laser research was for medical purposes. The problem with that claim is that one of their major laser facilities at Sary Shagan is the size of a couple of football fields—not exactly the size or power for use in cataract or other surgery.

Key Questions Concerning SDI

How should we respond to the numerous questions, concerns, misunderstandings, and even to this Soviet "newspeak"? The truth, I believe, is always the best answer. I wish tonight to address three key questions on SDI. As these issues are likely to gain more than less attention, we should focus on them now.

First, does SDI constitute a breach or anticipatory breach of the ABM [Anti-Ballistic Missile] Treaty?

Second, is SDI wrong in terms of strategic stability, the U.S. strategic position, or U.S. arms control objectives?

Third, is SDI ethically wrong?

SDI and the ABM Treaty. As to whether we are breaking or committing "anticipatory breach" of the ABM Treaty, the answer is flatly "no."

That treaty limits deployment of fixed, land-based ABM systems and prohibits development, testing, or deployment of space-based, sea-based, air-based, or mobile land-based ABM systems and their components. The treaty unmistakably leaves the research doors wide open. That was wise when the treaty was negotiated, and it is wise now in light of potentially promising new technologies. Research increases knowledge and, as Prime Minister Craxi of Italy put it recently, "You cannot put a brake on the human mind."

SDI is a research program only. It does not include development, testing, or deployment inconsistent with the ABM Treaty. President Reagan has made clear that the research efforts will be fully consistent with our international legal obligations, including the ABM Treaty. That requirement definitely affects the configuration of the SDI research program. It will be under constant review to ensure that consistency.

The research on defensive systems, as embodied in the President's initiative, is not only permitted under the ABM Treaty but was actively advocated by the Nixon Administration as a necessary safeguard against Soviet programs. When that treaty stood before the Senate, then Defense Secretary Laird noted that we would "vigorously pursue a comprehensive ABM technology program." While not necessarily as vigorous as this statement suggests, active research programs on ABM technology have been supported by every administration since 1972.

Critics of SDI argue that the research is "purposeful" and will lead to abrogation of the ABM Treaty. This is basically an argument of anticipatory breach.

Ironically, this argument assumes that we know exactly where technology developments will lead us and how they will affect us. That assumption, whether by critics or by proponents of SDI, is premature at best. No one has a crystal ball or crib sheet in this business. No decisions on development or deployment have been made. Indeed, they could not be made responsibly until the research efforts yield their results over the next several years.

We are doing a lot of research to look at technological developments and their potential for defense against ballistic missiles. Can they work? Can they be cost-effective? Can they be made survivable? How will they impact on deterrence and strategic stability? We do not know answers to these questions today. That is what the major research program is all about.

At any rate, intent behind any research is simply not relevant to the ABM Treaty limitations. The framers made no distinction between permitted and prohibited research or between purposeful and nonpurposeful research. The treaty simply does not prohibit or constrain research in any way, shape, or form.

The Soviets know this and, before SDI came on the scene, they willingly acknowledged it. In a major statement before the Soviet Presidium in 1972, shortly after the treaty was signed, then Soviet Defense Minister Grechko stated that the ABM Treaty "... places no limitations whatsoever on the conducting of research and experimental work directed toward solving the problem of defending the country from nuclear missile strike."

Despite all the focus on SDI's effect on the ABM Treaty, the threats to the treaty lie elsewhere. They lie, first and foremost, in the Soviets' clear violation of the treaty by the location and orientation of a new, large radar at Krasnoyarsk in Siberia. This Soviet action is most disturbing, as the Soviets must have known we would detect such a massive structure, several football fields large. They had to have planned it in the 1970s, not long after signing the ABM Treaty.

The limitation on the construction of such radars was and still is considered a critical constraint of the ABM Treaty, since such radars are a long lead-time item for any nationwide defense, and that is a key prohibition in the treaty. One of our main objectives in the Geneva arms control talks is to reverse this erosion of the ABM Treaty.

And talk about "newspeak": both in public and in the negotiating rooms of Geneva, the Soviets attempt to deny us the right to do what the ABM Treaty clearly allows—that is, conduct research—while asserting a right for themselves to do what the treaty clearly prohibits—that is, construct the Krasnoyarsk radar.

SDI and U.S. Arms Control Objectives. Given that the SDI research program is consistent with the ABM Treaty, the most central question is: will SDI improve deterrence, strengthen stability, and reduce the risk of war?

Surely we all agree that such defenses should be developed or deployed only if they enhance strategic stability. The arguments on strategic stability and the offense-defense relationship were central to the debate in the late 1960s and early 1970s before signing on to the ABM Treaty. What we do not know, and what we need to look at in relation to SDI, is whether newly emerging technologies can change some of those considerations.

Let's look at a relatively simple example. For years it has been assumed—and correctly so—that defenses against ballistic missiles were not cost-effective. No matter how many defenses one side deployed, it would be cheaper for the other side to overwhelm those defenses with decoys or even with more offensive systems. We do not know if that generalization will hold true for future technologies.

We do know, however, that we must scrupulously guard against a vicious cycle of defensive efforts spurring the other side to yet more offensive weapons in order to saturate prospective defenses, and so on and so on. That

snowball effect would undercut stability and hinder deterrence.

One way to help this is by engaging the Soviets in frank and factual discussions on strategic stability and the offense-defense relationship. How might strategic defenses, if they prove feasible, enhance the security of both sides? How could the two sides cooperate toward such an end? What kind of transition would be necessary? Detailed talks on these subjects should minimize the possibility of misunderstanding. This is another major area we are pursuing in the Geneva talks.

The survivability of defensive systems is also a central criterion. Vulnerable systems or easy targets can provide incentives for preemptive or first strikes. They are the worst systems in a crisis. If defensive systems can be knocked out or overwhelmed easily, they provide no defense at all. Survivability is, thus, essential to SDI, and it alone will involve considerable research into both passive and active defense measures.

If new technologies do prove out and systems could prove cost-effective and be made survivable, they could be stabilizing, not destabilizing. We can surmise now that even a less than perfect defense could markedly reduce a potential attacker's expectation of success by reducing the likelihood that he might realize the objectives of his attack. And this, after all, constitutes the quintessence of deterrence.

We need not go far for examples. Less vulnerability of our command, control, communications, and intelligence capabilities is a critical component of a stronger deterrence; less vulnerability of our fixed land-based ICBMs [intercontinental ballistic missiles] also helps keep the peace. If cost-effective, survivable defenses could better protect these components, would we not be better off?

And what about a capability against accidental launch? How many of us recall the novel *Fail-Safe*? As Martin Anderson once described it:

> If you live in New York City or Washington and the sirens start wailing, it will be of little consolation to . . . learn that the Soviet Union has apologized profusely for the nuclear bomb that is going to explode.

Would we not all be better off if the President had the option of pushing a second button—one that could destroy incoming missiles—rather than only the button that would destroy people? An effective defense system could provide such a button.

So, is SDI worth the investment of scarce resources? I strongly believe so. If the research pans out, then a resulting program could strengthen deterrence based more upon defense against missiles than solely upon the threat of mutual annihilation. While we do not know what the future holds, we do know that the research effort is a reasonable bet. For some, SDI research stands at the very frontier of today's scientific and technological advancements—in computers, in sensors, in radars, in high-energy particle beams, and in lasers.

On the other hand—even if the technology does not pan out or systems do not prove cost-effective or cannot be made survivable—our SDI research is valuable for other reasons.

Greater understanding of the technologies, their potential, and their drawbacks can give us greater understanding of the threat to the United States—the threat emanating from the Soviets' active defensive programs and research. This is particularly vital in view of the Soviets' breakout potential in ABM systems. Not only have they constructed the permitted ABM system around Moscow, but they may be moving toward a nationwide ABM capability, contrary to the heart and soul of the ABM Treaty. They also have an extensive air defense program. They are engaged in vigorous research on lasers and neutral particle beams for strategic defenses.

They spend some 10 times more than do we on defensive programs overall. Surely the worst outcome would be to tie our own hands on research on defensive systems while the Soviets gained substantial advantage in this realm.

The Ethics of SDI. Finally, is SDI wrong from an ethical standpoint?

The ethics or morality of relying on nuclear deterrence is, as you know, one of the most critical issues of our times. As one who was a religion and philosophy major in college—and as one now deeply involved with nuclear arms control policies—I find the ethical considerations compelling.

The debate on the morality of nuclear deterrence—prompted and reinforced by the U.S. Catholic bishops' pastoral letter in 1983—and the debate on strategic defenses are remarkably similar. We deploy nuclear weapons, not to use them but to make war against the United States and our allies far, far less likely. In this same vein, if we find out that some defensive systems can reduce the risk of war, they, too, would thereby be morally justified. We cannot simply sit back and forever assume that the only deterrent is the threat of mutual annihilation.

It is not coincidental that over 1,000 clergymen have publicly endorsed SDI research. The declaration claimed "that if a non-nuclear, genuinely defensive system is feasible, then its deployment . . . is not only morally justifiable, but perhaps even obligatory for the American people and their government." To the extent that defensive systems can actually reduce the risks of war—through accident, miscalculation, or deliberate design—it would surely be the right thing to do.

U.S. Nonproliferation Efforts

No task is more important to President Reagan than dealing with the threat of nuclear weapons and nuclear war. As this month marks the 40 years since the use of such weapons over Hiroshima and Nagasaki, we need to rededicate ourselves to the goals that they never be used and that the threat eventually be eliminated.

That task requires a broad and vigorous strategy. Not least in this strategy is our effort to prevent the further spread of nuclear weapons. It would be ironic were we to succeed in reducing substantially U.S. and Soviet nuclear arsenals only to confront a world of many small nuclear powers.

Just over 20 years ago, many smart people feared that the spread of nuclear weapons to dozens of countries was simply unavoidable. President Kennedy, for example, warned of a world of 20–25 nuclear-weapon states by 1975. In 1958 the National Planning Association predicted that every state with a significant military capability would also possess "the bomb."

These predictions have not come true. Instead, working together, the United States and other countries have built up a set of norms, practices, and institutions to prevent the further spread of nuclear weapons. Political alliances and security guarantees have been nurtured and strengthened, reducing incentives for seeking security through nuclear weapons. The safeguards of the International Atomic Energy Agency provide essential confidence that peaceful nuclear activities are not being misused for military purposes. Export controls and guidelines have been put in place to make it harder for countries seeking nuclear explosives to acquire the needed material and equipment.

A critical cornerstone in this whole foundation is the Non-Proliferation Treaty (NPT). It is the most widely accepted arms control treaty to date, with more than 125 states party to it.

Two events—one recent and one upcoming—are important in this never-ending battle against the spread of nuclear weapons. President Reagan's decision last month to authorize signature of a nuclear cooperation agreement between the United States and the People's Republic of China signifies a major event in our nonproliferation effort. It helps ensure that China is part of the nonproliferation solution, not part of the problem.

During the 1960s and 1970s, China rejected nonproliferation norms. It actually portrayed proliferation in a favorable light by openly declaring that the spread of nuclear weapons around the globe would diminish the power of the United States and the Soviet Union and would enhance the opportunities for revolution. China denied that a world of more nuclear-weapon states would be riskier.

China also undertook no international legal obligations, and had no policy, to require safeguards and other controls on its nuclear exports. This naturally quickened our concerns about Chinese actions that could help other countries acquire nuclear explosives. Clearly, herein lay the potential for great harm to global nonproliferation efforts, in both word and deed. Against this background, the United States entered into talks—first in 1981 and then more intensively in 1983—on nuclear cooperation.

With the change in Chinese leadership, with its momentous impact on world politics, we have also seen changes in China's thinking on arms control. Over the past 2 years, the Chinese Government has taken a number of important nonproliferation steps. It has pledged neither to engage in nuclear proliferation nor to help other countries develop nuclear weapons. China joined the over 100 members of the International Atomic Energy Agency and made clear that it would require agency safeguards on its nuclear exports. The Chinese also made it clear that they will implement their policies in a manner consistent with the basic nonproliferation practices that we and others support so vigorously.

In the short span of 2 years, China has embraced nonproliferation policies and practices, which it had eschewed so vociferously for a quarter of a century. This positive turnabout is of historic significance in efforts to prevent the spread of nuclear weapons.

We, too, can take a measure of pride in this. I believe the lengthy discussions by us and other suppliers with China, combined with the prospect of agreements for peaceful nuclear cooperation, contributed heavily to these Chinese actions.

The second event in the never-ending battle against the spread of nuclear weapons is the Non-Proliferation Treaty Review Conference later this month. More than 125 parties to this treaty will convene in Geneva for 4 weeks to take stock, to ask how well have the treaty's goals been met.

There is little doubt that the treaty has been successful in helping avoid what President Kennedy feared—namely, a world of many nuclear-weapon states. Indeed, since the treaty came into force in 1970, only one additional country has detonated a nuclear explosive. This contrasts with the more than 125 countries that have joined the NPT. The NPT can and will stand on its merits; it is an arms control success.

Considerable progress has been made as well in fulfilling the treaty's goal of making available the benefits of the peaceful atom, especially to developing countries. Many NPT parties now make use of the atom in agriculture, in industry, in medicine, in science, in research, and as a source of energy. We believe that NPT parties should receive special treatment; we have sought to give them preference in funding technical assistance, in providing training, in facilitating exports, in funding power projects, and in other ways.

Less progress than hoped for or desired has been made toward the treaty's goal of an "end to the nuclear arms race." But let there be no doubt about the Reagan Administration's commitment to that goal. We are redoubling efforts to reduce radically both U.S. and Soviet nuclear arsenals. If the Soviets would ever cooperate as well on reducing our respective nuclear weapons as they do on nonproliferation, such reductions could be realized. This would be the best first step in the treaty's vision—and President Reagan's vision—of a world without nuclear weapons. ■

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Paul H. Nitze

Current
Policy
No. 830

The Impact of SDI on U.S.-Soviet Relations

United States Department of State
Bureau of Public Affairs
Washington, D.C.

Following is an address by Ambassador Paul H. Nitze, Special Adviser to the President and the Secretary of State on Arms Control Matters, before the American Enterprise Institute-National Defense University seminar on "The Security Implications of SDI," Washington, D.C., April 29, 1986.

In addressing the impact of SDI [Strategic Defense Initiative] on U.S.-Soviet relations, I will focus primarily on the near term—the period, extending into the next decade, during which the SDI research program seeks to answer the questions posed by the President concerning the feasibility of militarily effective, survivable, and cost-effective strategic defenses. This period of time will be critical for our scientists and engineers who must overcome daunting technical challenges. It will also be critical for our politicians who must find the resources and political measures to undergird these efforts and the diplomats and negotiators who must seek to convince the Soviet leadership that strategic defenses can serve the mutual interests of both the United States and the Soviet Union.

It is this latter task which I will explore with you today. What is the likely impact of our SDI research efforts on the Soviet leadership?

Our understanding of what happens behind the Kremlin walls has advanced beyond where it was half a century ago when Winston Churchill described Russia as "a riddle, wrapped in a mystery, inside an enigma." We have gotten insights from classified sources and from public memoirs such as *Khrushchev Remembers*. It would be misleading, however, to imply that such insights enable us to predict Soviet tactical behavior with high confidence, although we can have a pretty good idea of the Soviets' overall strategic approach.

The confidence we have in making predictions about Soviet behavior is qualified by the Soviet capacity for surprise and sudden reversals of policy. This capacity is inherently greater than that of the West. In the West, there is no tolerance for adopting patently inequitable positions, even in the context of negotiating tactics. Western governments must strive to keep publics informed and must consider likely public reactions to any change in policy. Moreover, there are few internal U.S. governmental policy deliberations which remain invisible to readers of the American press. In stark contrast to the situation in the West, the Soviets tend to conduct policy deliberations in complete secrecy, begin negotiations with totally one-sided propositions, and, on occasion, reverse policy positions with dazzling speed.

What the Soviets Have Said

Analysis should, therefore, begin with a review of available evidence rather than with fixed notions of how the Soviets will react to the U.S. SDI program. Such a review should incorporate both what the Soviets have said and what they have done. A number of themes emerge from Soviet commentary on SDI. They have said:

That the SDI program represents an effort by the United States to gain strategic superiority over the Soviet Union by acquiring a first-strike capability. The Soviets charge that SDI is intended to lead to a first-strike capability in two ways, one indirectly and the other directly: effective strategic defenses deployed over the United States would allow the United States to launch a first-strike attack against the Soviet Union without fear of the retaliatory response which would follow; development of SDI technologies would also provide the United States with an opportunity to deploy space-based systems designed to attack targets on the ground, at sea, and in the air.

That the Soviets seek "to prevent an arms race in space." The Soviets pressed this formulation at the January 1985 meeting between then Foreign Minister Gromyko and Secretary Shultz and sought its reiteration in the joint statement following the November 1985 summit between General Secretary Gorbachev and President Reagan. The Soviets contend that the SDI program will inevitably lead to an unconstrained arms competition in a realm heretofore free of such competition. (Indeed, the Soviets assert that space, which they imply is not yet "militarized," should be kept free of military missions and forces.) The unwillingness on the part of

the United States to terminate the SDI research program is thus labeled as an American breach of the commitments undertaken "to prevent an arms race in space."

That in order to prevent an arms race in space, the Soviets seek a ban on the research, development, testing, and deployment of "space-strike arms." The Soviets originally defined "space-strike arms" as weapons based in space which are designed to attack targets in space and on earth and weapons on earth which are designed to attack objects in space. In Geneva they have modified the latter portion of the definition to cover satellites in space, rather than objects in space. This Soviet position implies a constraints regime going far beyond the limits of the 1967 Outer Space Treaty and the 1972 ABM [Anti-Ballistic Missile] Treaty, to include a ban on all space-based antiballistic missiles, all space-based ground attack weapons, and all antisatellite weapons of any basing mode.

However, the Soviet definition of "space-strike arms" excludes an important area of existing Soviet advantage—ground-based ABM systems—which are capable of attacking satellites or ballistic missile warheads in space. Moreover, the Soviet-proposed ban on "scientific research" on what they call "space-strike arms" also utilizes the criterion of intention rather than capability. Therefore, the Soviet proposal would ban U.S. SDI research because its purpose (to defend against nuclear weapons) is known but leave similar Soviet research untouched (because the Soviets deny that their equivalent research has a military purpose).

That if the United States does not agree to a ban on "space-strike arms," there can be no agreement limiting strategic offensive arms. The Soviets express full confidence in being able to take the necessary countermeasures to SDI and suggest that proliferation of Soviet offensive systems would be one of the means required to do so. This being the case, they will not accept reductions or even limits on offensive systems if the United States refuses limits on "space-strike arms," beyond those already agreed to under the ABM Treaty.

That involvement in the U.S. SDI program by third countries will necessarily damage the bilateral relationships between those countries and the Soviet Union. As an extension of their claim that the SDI program is an attempt by the United States to gain military superiority over the Soviet Union, the Soviets assert that any collusion in that effort by other countries must be regarded as an unfriendly act which will have negative consequences for those countries' bilateral relations with the Soviet Union.

Taken at face value, these themes portray an ominous impact of SDI on U.S.-Soviet relations and, indeed, on global stability. SDI would not only fail to make possible any movement away from deterrence based on the threat of nuclear retaliation; it would also make impossible mutual and stabilizing reductions in strategic offensive weaponry which could significantly improve our existing system of deterrence. Some analysts stop at this point, assert that the negative impact of SDI is obvious, and conclude that the United States should, therefore, abandon SDI.

However, Soviet doctrine reflects the goal of pursuing military advantages in both offensive and defensive forces and preserving current advantages in both areas. Soviet assertions about SDI must be considered with these objectives in mind. To conclude otherwise ignores obvious Soviet incentives for encouraging Western publics to accept these alleged Soviet perceptions, even if actual Soviet concerns are quite different. It is in the Soviets' interest to portray the United States as a nation seeking unilateral advantage and thereby fueling the arms race. It is in the Soviets' interest to imply that support for SDI research will make arms control agreements impossible and improvements in bilateral relationships with the Soviet Union unlikely. Thus, in order to understand the impact of SDI on U.S.-Soviet relations, we must go beyond Soviet public statements and examine what the Soviet Union has actually done.

What the Soviets Have Done

They have stressed importance of strategic defense. For Western observers, one of the most striking features of the Soviet military defense establishment and its guiding doctrines is the emphasis placed on strategic defense. In the postwar era, the Soviet Union has devoted approximately the same level of resources to strategic defense as it has to its massive buildup of strategic offensive forces. Heavy Soviet investments in strategic defenses were continuing to be made at a time when the United States was de-emphasizing strategic defenses because we no longer perceived them to be cost-effective.

- While the United States elected not to maintain the 100 ABM missile interceptors allowed under the 1972 ABM Treaty and subsequent protocol, the Soviets both employed and modernized such systems.
- While the United States maintained a modest ballistic missile defense research and development effort, the Soviets undertook an ambitious research and development effort to improve both existing fixed, ground-based systems and to explore exotic new technologies.
- While the United States, for all intents and purposes, abandoned the goal of providing an effective air defense of the continental United States in the mid-1960s, the Soviet Union has maintained and modernized the world's largest strategic air defense system.
- While the United States has scrupulously adhered to the ABM Treaty, the Soviets have violated an important provision of that treaty and have undertaken activities that suggest they may be preparing an ABM defense of their national territory.

There is, thus, no evidence of Soviet reticence about the concept of strategic defense.

They have pursued military uses of space. The Soviets have never manifested a concern about keeping space free of military systems. Instead, they have always been keenly interested in exploiting space for military purposes. The Soviet space program has always had a major military component. The majority of military satellites in space orbit today belong to the Soviet Union, and the majority of space launches are missions of the Soviet military.

The Soviet Union was the first nation to develop and deploy intercontinental ballistic missiles (ICBMs) which launch nuclear warheads on a ballistic trajectory transversing space. The Soviet Union was the only nation ever to develop and deploy a fractional orbital bombardment system (FOBS)—which has since been outlawed—capable of attacking ground targets in the United States with nuclear weapons from space orbit. The Soviets have today the world's only operational antisatellite (ASAT) system. They have an operational antiballistic missile system based around Moscow designed to destroy ballistic missile reentry vehicles in space with nuclear warheads. (These latter three weapons systems—FOBS, ASAT, and ABM—would fit squarely into the Soviet definition of "space-strike arms" if that definition were based upon capabilities rather than the subjectively de-

termined intent of the designers.) Similarly, the Soviets assert that our SDI research, and not their comparable research, is designed to create "space-strike arms."

I recited these points not to suggest that the Soviets are using space in contravention of existing arms control agreements, nor to imply that they are alone in the military uses of space, some of which are vital for our own security and for international stability. Rather, I mention these points to explain why the United States cannot take seriously the Soviet charge that SDI would result in the "militarization of space." The public line taken by the Soviets is designed to obfuscate Soviet capabilities and intentions with regard to the uses of space and detracts from constructive dialogue on defense and space issues in Geneva.

The United States has agreed to the goal of "preventing an arms race in space." The United States could accept this language proposed by the Soviets because the SDI concept we are pursuing is, in fact, the opposite of an "arms race." SDI envisions a jointly managed approach designed to maintain proper control, at all times, over the mix of offensive and defensive systems of both sides, thereby increasing the confidence of all nations in the stability of the evolving strategic balance. We are seeking, even now, to discuss with the Soviets in Geneva how a transition to a stabilizing and more defense-reliant strategic regime could occur, should effective defenses prove feasible.

They have resumed arms control talks. It is instructive to recall what has happened since the President announced the Strategic Defense Initiative in March of 1983. Following the initial deployments of U.S. longer-range intermediate-range nuclear forces (LRINF) missiles in Europe toward the end of 1983, the Soviets walked out of both the INF and START [strategic arms reduction talks] negotiations in Geneva. Soviet negotiators said at the time that it would not be possible to resume these negotiations until the United States withdrew its LRINF missiles from Europe. During calendar year 1984 and the beginning of fiscal year 1985, the President's articulation of a new initiative in strategic defense was translated into an integrated program with significantly enhanced funding over previous levels. U.S. LRINF deployments, meanwhile, continued on schedule. In January 1985, the Soviet Union agreed to a resumption of the START and INF negotiations in connection with new negotiations on defense and space arms.

I believe it would be an oversimplification to assert that SDI alone brought the Soviets back to the negotiating table. There were other important reasons for the Soviets to resume the talks. However, it would be reasonable to conclude that SDI played a part in whatever Soviet calculations of self-interest dictated a return.

They have somewhat narrowed differences at negotiations. There continue to be significant boulders blocking the path of progress at the negotiations on nuclear and space arms which commenced in Geneva in March 1985. Nonetheless, there has also been some positive movement in those negotiations. The Soviet counterproposal in September-October 1985 to our opening position and the U.S. response in November narrowed the differences between the positions of the two sides on some important issues. The joint statement between President Reagan and General Secretary Gorbachev at the November summit built on these developments in its call for early progress in the negotiations, building on areas of common ground, particularly "the principle of 50% reductions in the nuclear arms of the U.S. and USSR appropriately applied," and "the idea of an interim INF agreement." Mr. Gorbachev's proposal of January 15, 1986, showed further evolution in the Soviet position on INF. While the Soviets still demanded unacceptable actions by third parties as preconditions to an agreement, the Soviets have dropped their claim for direct numerical compensation for British and French forces. In the last round of the negotiations, the Soviets chose to restrict themselves to abstractions and generalities. There is, nonetheless, potential for convergence in future rounds on several issues, including reductions in LRINF missiles, ICBM warheads, total ballistic missile warheads, ballistic missile throw-weight, and in the total number of ballistic missiles and heavy bombers.

Vigorous pursuit of SDI research by the United States during the negotiations has not prevented us from developing some important areas of potential common ground. Some assert that SDI and arms control are antithetical, but the evidence points in the opposite direction.

What Do the Soviets Really Think?

Soviet actions provide ample grounds for believing that Soviet concerns and perceptions are not exactly what the Soviets would have us believe. Knowledge that the themes of Soviet public statements are shaped by propagandists does not, however, explain what the Soviet leadership really thinks about SDI. Moreover, it does not remove our obligation to seek a better understanding of true Soviet perceptions, for such perceptions would affect the willingness of the Soviets to engage in a cooperative approach to greater defense reliance.

About the status quo. The Soviets have a superiority in conventional forces and a geographic advantage on the Eurasian land mass. In the nuclear strategic realm, they have a significant preponderance over the United States in prompt, hard-target kill capability which they derive from their large ICBMs. Finally, they have a centralized planning apparatus free of democratic constraints which allows them to rapidly rechannel resources in desired directions. They were quite satisfied with the pre-SDI imbalance in strategic defense activities between the United States and U.S.S.R. They see little advantage in moving cooperatively to a more defense-reliant regime under which their current advantages in both offense and defense would be reduced or balanced. Soviet attitudes regarding intermediate-range nuclear forces seem to be changing. The Soviets were quite content during the period when they enjoyed a monopoly in LRINF missiles. Now that the United States has started to deploy such missiles, the Soviets appear more willing to negotiate limits.

About applications of exotic technologies. I believe that the Soviets are genuinely nervous about a concerted effort by the West to explore the application of exotic technologies to strategic defense systems. This concern derives in part from their deep respect for the sophistication of past U.S. space and other technological efforts. The Soviets may fear that the marriage of Western technological genius and American space expertise can lead to U.S. dominance in the military uses of space. This appears to be a general foreboding not necessarily inconsistent with Soviet boasting about their ability to overcome any future space-based defenses.

I do not believe that the Soviets see a hidden U.S. agenda in SDI, such as the acquisition by the United States of a space-based ground attack capability. The Soviets know what kinds of systems are being researched in the SDI program. They know that systems effective in an SDI ballistic missile defense would be highly optimized for this purpose and would be unsuitable for attacks on

ground targets. They also realize that the United States is developing new offensive systems in its strategic modernization program which are optimized for attacks on ground targets and which we expect to be quite suitable for that deterrent mission as long as such a mission is necessary. My skepticism about Soviet seriousness on this point has been reinforced by private conversations with those who should know Soviet views.

About the cooperative transition concept. The Soviet negotiators in the defense and space talks have expressed little interest in the cooperative transition concept. I believe this reflects less the view that such a transition could not work and more the view that even to engage in discussions at this point would undermine the basic thrust of the Soviet position on "space-strike arms."

The Soviets are skeptical that the United States would deliberately introduce future strategic defenses in such a way that neither side would gain unilateral advantage. To remove Soviet doubts will require consistency and perseverance on the part of U.S. policymakers and negotiators. We are, therefore, prepared for serious discussions with the Soviets about the process by which introduction of strategic defenses could provide each side increased security against attack.

Conclusion

Our hope is that the U.S. SDI research program will be the start of a historic transition to a world in which the most sophisticated technologies are applied against weapons of mass destruction rather than against people. We are under no illusions that this transition will be either short or easy.

On the Soviet side, there must be a change in both tactics and substance. The easiest step for the Soviets to take would be to begin serious discussion of defense and space issues. This means abandoning the propagandistic expressions about "space-strike arms" and "militarization of space" and starting to discuss these issues with precision. It also means abandonment of the Soviet pretense that it has no counterpart to the U.S. SDI research effort.

Another step would be for the Soviets to reverse the erosion in the ABM Treaty caused by their noncompliant activities. Such a step could have an important and beneficial impact on the U.S.-Soviet relationship and on prospects for the nuclear and space arms talks.

Finally, the Soviets should address the legitimate security concerns of the United States and its allies. Soviet advantages in strategic offensive and defensive systems are a reality today. Soviet complaints about potential future U.S. superiority in strategic defensive systems describe a future which the United States does not seek and which the Soviets say they will not allow to occur. We accept that the Soviets, like ourselves, have concerns about the implications of one-sided advances in the strategic forces of the other. We are willing to continue to address the legitimate security concerns of the Soviet Union, but we expect reciprocity. ■

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ROBERT JASTROW

Frequently asked questions on SDI

Q: Don't scientists say an effective U.S. defense against Soviet missiles is impossible?

A: Only four scientists in the entire country with full access to classified information on missile defense say that. [Drs. Bethe, Garwin, Drell and Panofsky.]

On the other side are Dr. G.A. Keyworth II [the president's science adviser], 50 leading missile experts on Dr. James Fletcher's panel, the brilliant weapons experts Lowell Wood at Livermore and Gregory Canavan at Los Alamos, and thousands of scientists and engineers actually working in missile defense.

Nature, the leading scientific journal in the world, wrote recently that "a substantial part of the technical community" agrees defense against missiles is feasible. *Nature* concluded about the objections from some scientists, "Critics for the project should look elsewhere for ammunition."

Fifty-four Nobel Laureates recently signed an appeal opposing space-based missile defenses, or Star Wars, but 53 of the 54 have no experience with missile defense work.

Q: How good will this defense be?

A: Dr. Fletcher, former head of NASA, a physicist with extensive experience in development of missiles, headed a panel of the country's leading missile defense experts which spent 36,000 man-hours on the study of the new technologies. He wrote in a National Academy of Sciences journal that his studies indicate that the basic two-layer defense, which could be operational in the early 1990s, could protect "90 to 99 percent of the nation's population... from a massive nuclear attack." He said the advanced three- or four-layer defense proposed for the late 1990s or the end of the century could protect "perhaps even greater than 99 percent of the nation's population against a nuclear attack."

Q: What good is a 90 percent or even a 99 percent defense when even one warhead can blow up a city?

A: If a Soviet general knows that only one warhead in 10 will get through to its target, he knows he cannot hope to knock out our retaliatory power in a surprise attack. [If] he gives the word to attack, his own homeland will lie in ruins. They will never order an attack under those circumstances. In other words, a 90 percent defense against Soviet missiles gives 100 percent protection.

The Soviets are already racing ahead on missile defense.

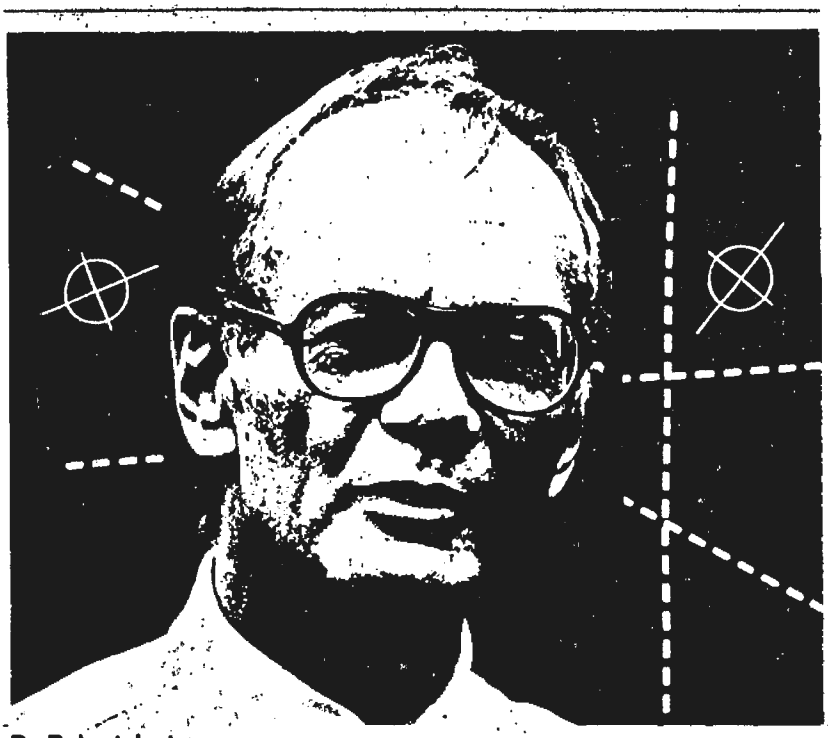
Q: Can the Soviets overwhelm our defense if we build it?

A: The Soviets have threatened to do this, but their threat is empty. The Soviets spent a half a trillion dollars on the missile force they now have. To overwhelm our 90 percent defense and get as many warheads through to their targets as they would have if we had no defense, they would have to beef up their arsenal to 10 times its present size. That means spending 10 times a half a trillion dollars, or $5 trillion.

The Soviet Union would be very hard-pressed to spend another $5 trillion on missiles in the next five to 10 years, on top of its present military outlays.

Ambassador [Paul] Nitze has emphasized the importance of the cost ratio "at the margin," i.e., how many dollars the Soviets have to spend on countering our defense for every dollar we spend on adding to it. These marginal cost ratios are also in our favor.

Studies at Los Alamos and elsewhere show that to counter our defense, the Soviets must spend $3 for



Dr. Robert Jastrow

Dr. Robert Jastrow, founder of NASA's Goddard Institute for Space Studies and author of How to Make Nuclear Weapons Obsolete, *prepared the pamphlet,* SDI: The Star Wars Project, *(© The George Marshall Institute), from which this article is excerpted.*

every dollar we spend on building it. For some advanced kinds of defenses the ratios are even higher: 10 to one or more in favor of our defense.

Q: How much will it cost?

A: For the basic two-layer defense using "smart bullets," the cost is $60 billion spread over about five years, or $12 billion a year. This defense could be available in the early 1990s. For the advanced three- or four-layer defense that might become available in the late 1990s, the cost is roughly $200 billion spread over 10 years, or $20 billion a year. The figures of $1 trillion or more tossed around by Soviet spokesmen and domestic opponents of SDI are off the wall.

For comparison, note that we are spending more than $40 billion a year on nuclear weapons of destruction designed to keep the Soviets out of our backyard by the threat of retaliation.

Q: How do you know it will work and will cost that much?

A: We won't be certain until we are farther along in the research, but all the calculations and experiments thus far are very encouraging.

The "smart bullet" has been tested in flight against a Minuteman warhead and vaporized the warhead.

High-powered lasers are coming along faster than anyone expected. Livermore has tested a laser at a peak power of one billion watts with an average power of 100 million watts in sight. This is well above the level of 20 million watts considered necessary for a useful laser defense.

There is amazing progress in building big mirrors cheaply, and also "rubber mirrors" that change shape to correct for air turbulence.

Transmission of a laser beam from the Earth to space was successfully tested in a recent shuttle flight.

Research on railguns, used for launching "smart bullets" at very high speeds, is making rapid progress.

Much of this research has major scientific and commercial spin-offs.

Q: Can't the Soviets foil our defenses with decoys and other countermeasures?

A: The defenses we are designing will be probing Soviet decoys in many different ways with lasers, radars and heat-sensitive instruments. The Soviets can try to fool these instruments with decoys, but the decoys will have to be very elaborate to work.

For example, we can tell a decoy from a warhead by tapping both with a weak pulse of laser energy and then observing how they recoil. The decoy, being light and flimsy, will recoil from the tap more readily than the heavy warhead.

If the Soviets made their decoys heavy enough to fool us in this test, they would weigh nearly as much as the warheads. But if the decoys weigh nearly as much as the warheads, the Soviets cannot release large numbers of them during their attack, and they will be of little value to them.

Q: Aren't satellites very vulnerable? Can't the Soviets shoot down our laser satellites more easily than we can shoot down their missiles?

A: The opposite is true. Satellites can be made relatively invulnerable; missiles cannot.

The reason is that a satellite in orbit is weightless and we can plaster as much armor and shielding on it as we wish. For the same reason, a satellite can also carry heavy guns for its own defense — lasers, smart bullets, or particle beams.

If the Soviets try to shield their SS-18 from our lasers by coating the skin with one inch of protective material, the payload of the missile will be reduced by four tons. But four tons is the weight of all 10 warheads on the Soviet SS-18s. Protected this way, they could not carry warheads.

That would make these terrible weapons impotent and obsolete.

We hope to carry out a carefully phased, simultaneous deployment of fully effective defenses on both sides, leading to a world in which the nuclear weapon is useless.

Q: Isn't the computer program for SDI impossibly complicated?

A: The software for SDI will require about 10 million lines of code. However, this has already been surpassed in length and complexity by the AT&T program which controls the nation's telephone network. That has 50 million lines of code. Also, the number of interconnections between "nodes", i.e., nerve centers, in the AT&T program is 14,000, whereas the number of interconnections in the SDI program is estimated to be about 4,500.

Q: How can you test the SDI program fully, short of trying it in battle?

A: The one aspect of SDI that can be tested fully is the software. When signals are fed into the front end of the program, they look exactly the same to it regardless of whether they have been produced by a Soviet missile leaving its silo or by a piece of equipment that generates signals imitating the real battle. In fact, this equipment can create realistic "battles" that test the program more fully than a real attack.

It can hurl more "missiles," warheads" and "decoys" at us than the Soviets could ever build. And it can "launch" them more quickly than the Soviets could ever launch their missiles in an actual attack.

Well-developed techniques exist for testing programs that deal with emergencies too dangerous to allow them to happen for test purposes. These techniques were used in testing the AT&T program. When the AT&T program was put into operation, it worked immediately although it had never been tested completely "in battle."

Q: What about the fast-burn booster? Some critics of SDI say it could be a low-cost and highly effective Soviet countermeasure.

A: It took the Soviets about 15 years to build their present missile force. Fast-burn missiles — which burn out and release their warheads in less than a minute — are a much harder engineering problem. Experts on missile development agree that this very advanced kind of missile will not be available to the Soviets before the 21st century.

Cost is also a very serious problem for the Soviets in considering this countermeasure. Statements by Union of Concerned Scientists spokesmen that the Soviets could build a fast-burn Midgetman for $10 million each are not in accord with the facts. The real cost will be $200 million each, according to official Air Force figures for the cost of the Midgetman.

So, if the Soviets replaced their arsenal of approximately 8,000 warheads with fast-burn Midgetmen, it would cost them $1.6 trillion.

Even spread over several years, this would be a very massive military burden for the Soviet Union, on top of its already massive military outlays.

Finally, the defenses recommended by the Fletcher panel on missile defense are designed to handle fast-burn missiles. So even if the Soviets go to the trouble and expense of scrapping their entire arsenal to replace it with first-burn ICBMs, at a cost of more than a trillion dollars, it will avail them nothing.

Q: Isn't it a bad idea to put weapons in space?

A: These devices — the smart bullet, the laser and particle beam — are defensive. They only go into action if the Soviets launch an attack to destroy us. It is much better ro rely on them for protection than on the threat of using weapons of mass destruction.

Q: Will our defense involve nuclear weapons in space?

A: The smart bullets planned for early deployment are non-nuclear. All the lasers under study are also non-nuclear with one exception — the X-ray laser, mainly a hedge against a Soviet breakthrough in this area. We know that the Soviets are working very hard on the X-ray laser.

Q: If our defense destroys Soviet nuclear warheads, won't that cause nuclear explosions in space?

A. No, because it is very difficult to make a nuclear weapon explode.

If the bombs are "salvage-fused" to explode on approach of an intruder, there will still be no clouds of radioactive dust and no damage on the ground, provided the interception occurs above 50,000 feet.

Since our defense will prevent most bombs from exploding, it also greatly diminishes the "nuclear winter" effect.

The Union of Concerned Scientists has been irresponsible in placing newspaper ads and TV commercials which imply that SDI means fighting a nuclear war in space. This aspect of the UCS campaign directly suppports Soviet propaganda against SDI.

Q: Some people say SDI will bring the world closer to nuclear war. Won't the Soviets feel threatened by SDI and launch a pre-emptive attack?

A: In the near term, they won't attack for the same reason they don't attack the United States today, namely, because we have a strong submarine deterrent.

In the long term, our government has announced that it will try to negotiate a parallel deployment of defenses with the Soviets so that neither side gains a military superiority through these defenses, and neither side can feel threatened. This is a cardinal point of our negotiating position in Geneva — perhaps the most important point of all.

Q: If SDI works against ballistic missiles, aren't we still vulnerable to cruise missiles?

A: A laser defense fixed to handle thousands of ballistic missile warheads and tens of thousands of decoys, traveling at 10,000 miles an hour, will have little trouble tracking and destroying cruise missiles lumbering along at the speed of a commercial airliner.

Q: How about missiles launched from submarines?

A: A defense that protects against the greatest Soviet threat — their land-based missiles — will be even more effective against submarine-launched missiles.

First, only a fraction of the satellites in our defensive screen will be over the Soviet Union at any given time; the rest will be mostly over the world's oceans, watching for signs of missiles launched from Soviet submarines.

Second, a submarine cannot launch all its missiles at once; they have to be staggered, which makes it much easier for our defense because we can pick them off one by one.

Third, as soon as the submarine fires one missile, we know where it is and can probably destroy it before it launches the rest.

Fourth, submarine-launched missiles generally travel slower than ICBMs, which makes them easier to track and destroy.

Q: Will our defense work against the SS-20, and other short- and medium-range missiles that threaten Western Europe?

A: For several reasons, SS-20s and other medium- and short-range missiles pointed at Europe are easier to defend against than intercontinental missiles, contrary to statements emanating from some American scientists and Western European spokesmen.

First, and perhaps most important, because of their shorter range, they spend a larger part of their trajectory in the atmosphere. This makes it much easier for our defense to discriminate the warheads from the decoys. [The decoys, being lightweight, are retarded more by air resistance.]

Second, they fly more slowly, which makes them easier to track and destroy.

Third, they are smaller missiles with a smaller payload, and therefore carry fewer warheads and decoys, which again, makes the defense against them easier.

Q: What about missiles launched on low trajectories from submarines near U.S. shores? Wouldn't these Soviet missiles reach their targets — say Washington — too quickly for our defenses to work against them?

A: Our utility to track and destroy these "flat trajectory" missiles will not be impaired by their short flight times.

First of all, like the SS-20s, they fly lower and slower than ICBMs, which makes them easier to track and easier to intercept.

Second, our surveillance satellites detect them within seconds after launch, and our laser beams catch up to them in a hundredth of a second or less. As a consequence, it doesn't matter appreciably to our defense whether the flight time is five minutes or 20 minutes.

Q: Does SDI violate the ABM Treaty?

A: SDI is a research program whose stated goal is research on ABM defenses. However, the ABM Treaty does not limit goals. It only limits certain activities.

We may bump up against the treaty in three or four years — if, for example, we begin to test space-based components. But for the next several years there is no conflict between SDI and the ABM Treaty. The Soviet Star Wars program will also bump up against the ABM Treaty soon. Some experts say it has already done so.

Q: Why do we need SDI if nuclear deterrence has worked up to now?

A: Deterrence by the threat of retaliation has been effective, but there are signs of erosion of the U.S. position in this regard. Our ballistic-missile submarines are the principal U.S. deterrent at the present time, but their invulnerability is compromised by research into methods of detecting submerged submarines, as well as such developments as the recent Walker spy case. At some point in the 1990s we may find ourselves in a very dangerous position as a result.

The Reagan strategic modernization program has been valuable — especially in restoring the B-1B bomber — which unlike the B-52, has a fair chance of penetrating Soviet air defenses — but an even stronger deterrent would be a combination of an effective force of nuclear retaliation and a defense that prevents the Soviet Union from destroying the bulk of that retaliatory force in a surprise blow.

Q: At what point will the United States be able to scale down its offensive capability?

A: Our position is to maintain our present offensive capability threat for 10 years while we pursue Star Wars research and move toward deployment of a limited defense system. Then, in concert with the Soviets, we hope to carry out a carefully phased, simultaneous deployment of fully effective defenses on both sides, leading to a world in which the nuclear weapon is useless and its disappearance can be expected.

Q: Would SDI trigger an arms race in space?

A: The Soviets are already racing ahead on missile defense as fast as they can.

Q: Wouldn't Star Wars make a fine bargaining chip at Genevea, since the Soviets want so much to get rid of it?

A: We cannot offer Star Wars as a bargaining chip, because if we do, the Soviets are likely to have an effective defense against American missiles in the 1990s, while the U.S. has no defense against Soviet missiles.

Faced with the prospect in the 1990s of a world in which the Soviets have a massive first-strike arsenal of more than 10,000 accurate warheads, and also have an effective defense against any American retaliatory blow, we must proceed with our Star Wars research or place America in a very vulnerable position.

The Washington Times

President skeptical on Soviet arms offer

By Jeremiah O'Leary
THE WASHINGTON TIMES

President Reagan is viewing the recent Soviet arms control proposal as a promising development that could mark the beginning of real progress, but the offer has six major problems that must be addressed, a senior administration official said yesterday.

The official, who spoke on condition he not be identified, said the problems are:

- U.S. concern that the Soviet capability to launch a first strike at the United States would be strengthened substantially.
- The Soviet proposal is highly unequal and would ensure that the U.S.S.R. would retain

NEWS ANALYSIS

major advantages in the numbers of nuclear weapons, delivery vehicles and ballistic missile throw-weight.

- The proposal would prevent key areas of needed U.S. modernization while the Soviets could carry through to completion the modernization they started 10 years ago.
- The Soviet offer seems designed to fulfill the long-standing Soviet goal of totally removing the U.S. nuclear deterrent from allies in Europe and Asia while not inhibiting Soviet forces which threaten those allies.
- Key elements of the Soviet offer would not be verifiable in light of the Soviet record of non-compliance with existing arms control agreements.
- The Soviets have not dropped their precondition that reduction of offensive arsenals must be linked to stopping American research on the space-based Strategic Defense Initiative.

The official said the precondition on SDI presents a serious obstacle to the negotiations in Geneva and must be dropped. He said the need for offensive weapon reductions is self-evident and there are ample incentives on both sides to trade off and reduce offensive capabilities.

There also is a clear need for defensive research and testing which both the United States and the Soviet Union are pursuing, he said.

The six major problems described yesterday by the official mark the administration's most detailed evaluation of a Soviet proposal offered by Soviet leader Mikhail Gorbachev.

The Soviets in general have proposed mutual reductions of 50 percent in offensive weaponry along with termination of the U.S. "star wars" research program. But the senior official pointed out that the present ratio of warheads to targets shows the Soviets with an advantage of 6-1.

The Soviet proposal, he said would leave the Soviets with 3,600 warheads against 300 for the United States. If there were an agreement to ban modernization of existing forces, it could bar all new U.S. systems while not counting the Soviet systems as new.

He said the scale of the U.S. deployment of Pershing and cruise missiles in Europe is lopsided compared with the Soviet weapons of a similar intermediate-range type. It is not reasonable for the Soviets to threaten Europe but to stipulate that Europe not defend itself, he said.

However, the official said the Soviet proposal is a place to start and the United States will spend all the time that is needed at Geneva to attempt to achieve greater stability between the superpowers.

The Soviet position still has not been fully revealed, the official said, and the partial disclosures have caused widespread uninformed conjecture.

Even so, he said, the president finds the counter offer to be a promising development and said it proved that Mr. Reagan's firmness has started to pay off.

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THE STRATEGIC DEFENSE INITIATIVE (SDI)

- In March 1983, President Reagan challenged the American scientific community to determine if there are promising technologies that one day could be used to defend against attacking missiles and eventually render nuclear weapons impotent and obsolete.

- For a generation, the U.S. and her allies have been defenseless against a deliberate nuclear attack, accidental firings, or attacks by terrorists or rogue regimes.

- The U.S. presently deters nuclear attack by threatening retaliation. SDI offers a safer and more moral alternative: employing technology to protect people instead of threatening their annihilation.

- SDI is not a bargaining chip. Our research will be pursued as a vital component of the overall U.S. national security effort.

The Challenge and the Critics

- SDI is a research program, pure and simple. SDI is not a deployment plan.

- Like the challenge of Apollo, SDI is a revolutionary program that merits a full-scale national effort. New visions of the future naturally attract skeptics. Take a page from history:

> Heavier-than-air flying machines are impossible.
> --- British physicist Lord Kelvin, 1895

More recently:

> ...the President's 'Buck Rogers' missile defense scheme...cannot work....
> --- Walter Mondale, 1984

- SDI is a broad-based, exploratory program that taps the finest scientific minds to investigate a range of defensive options for America's future security. This research will lead toward an informed decision on defensive options in the early 1990s.

SDI Funding Must be Sustained and Comprehensive

- If fully funded, SDI will cost approximately $26 billion in the five fiscal years 1985-1989. By comparison, Social Security payments of $26 billion occur every two months.

- Some in Congress would cripple SDI with short-sighted budget cuts, forcing the scope of SDI research to shrink. This would have serious harmful effects on SDI progress.
  - -- Promising research areas would be abandoned, causing the termination of already funded contracts.
  - -- Early 1990s timetable for a decision on the project's technological feasibility would be postponed.
- Indeed, sustained research to date has already produced technical advances:
  - -- June 1984 -- a non-nuclear interceptor destroyed an unarmed warhead in mid-course.
  - -- Fall 1985 -- SDI scientists successfully compensated for atmospheric distortion of a laser beam pointed toward a rocket in flight.
  - -- June 1986 -- a self-guided missile intercepted a target moving at three times the speed of sound.
- All this has been achieved with sound financial management through SDI Office centralized planning and control. This is a program <u>that works</u>.

<u>SDI: Prudent Response to Existing Soviet Missile Defenses</u>

- The Soviet Union has an extensive effort to develop new strategic defense technologies. Recent Soviet developments include:
  - -- Significantly upgrading the world's only deployed Anti-Ballistic Missile defense system, which protects Greater Moscow.
  - -- Constructing a large missile tracking radar in Siberia, in violation of the 1972 ABM Treaty. This radar closes the <u>only</u> gap in Soviet missile detection coverage.
  - -- Deploying the world's only operational weapon for destroying satellites.
- Taken together, these plus other developments in Soviet missile defense, as well as the continuing Soviet offensive buildup, threaten our deterrent, which continues to be based solely on retaliatory forces.
- Why are the Soviets eager for the U.S. to negotiate SDI away? Answer: The Soviets recognize America's principal advantage: a free and creative society which can employ superior technology for enhanced security.

PUBLIC SUPPORT FOR SDI

The media and political opponents of SDI have found it convenient to present SDI in caricature, as the "so-called 'Star Wars' proposal." When the American people are asked to evaluate concepts, rather than the labels, they support SDI. Evidence:

ABC News (1/4/85 - 1/6/85)

Question: Do you favor or oppose developing such defensive weapons (which use lasers and particle beams to shoot down enemy missiles), or what? Responses:

Favor	49%
Oppose	44

Gallup Organization (1/25/85 - 1/28/85)

Question: Would you like to see the United States go ahead with the development of such a system (Star Wars) or space-based defense against nuclear attack, or not? Responses:

Yes, develop	52%
No, don't develop	38

SDI -- Enhance Peace/Safer World

Decision/Making/Information (2/8/86 - 2/9/86)

Question: Some people say that research on a defense against nuclear-armed missiles, such as SDI, is a good idea because it will help deter a Soviet attack, increase the chance of reaching an arms control agreement, and reduce the risk of war. Other people say that research on a defense against nuclear-armed missiles, such as SDI, is a bad idea because it will upset the balance of power between the U.S. and the U.S.S.R., accelerate the arms race, and increase the risk of war. Which statement is closer to your own opinion -- that research on a defense against nuclear armed missiles is a good idea or a bad idea? Responses:

Good idea	62%
Bad idea	31

Gallup Organization (1/25/85 - 1/28/85)

Question: In your opinion, would developing this system (Star Wars or space-based defense against nuclear attack) make the world safer from nuclear destruction or less safe? Responses:

Make world safer	50%
Make world less safe	32
No difference	11

SDI--Technical Feasibility

CBS News/New York Times (1/2/85 - 1/4/85)

Question: Ronald Reagan has proposed developing a defensive nuclear system in space that would destroy incoming missiles before they reach the United States, a system some people call Star Wars. Do you think such a system could work? Responses:

Yes	62%
No	23
Don't know/No answer	15

SDI--Arms Reduction

Louis Harris and Associates (3/2/85 - 3/5/85)

Question: President Reagan has proposed that the U.S. (United States) move ahead to develop a new defense system in outer space and on the ground. He described the possibilities of building laser-beam and particle-beam systems and stations in space and on the ground that could shoot down incoming nuclear missiles. Agree or disagree...Once the Russians knew we were successfully building a new anti-nuclear defense system, they would be much more willing to agree to a treaty that would halt the nuclear arms race. Responses:

Agree	52%
Disagree	44
Not sure	4

Gallup Organization (1/25/85 - 1/28/85)

Question: In your opinion, would the United States' developing this system Star Wars, a space-based defense against nuclear attack, increase or decrease the likelihood of reaching a nuclear arms agreement with the Soviet Union? Responses:

Increase	47%
Decrease	32
No difference	13

Paul H. Nitze

Current
Policy
No. 810

The Promise of SDI

United States Department of State
Bureau of Public Affairs
Washington, D.C.

Following is an address by Ambassador Paul H. Nitze, Special Adviser to the President and the Secretary of State on Arms Control Matters, before the American Defense Preparedness Association, Washington, D.C., March 18, 1986.

Only 3 years into the SDI [Strategic Defense Initiative] research program, you have already made impressive advances in your investigations of the technologies that might be useful for strategic defense against ballistic missile attack. Tonight at the Strategic Defense Technical Achievements Awards Dinner, we recognize the technical ingenuity and contributions of research teams and individuals alike who are playing a key role in that innovative research effort. Based on the efforts of its scientific-technical community, the United States has good reason to believe that SDI technologies hold the promise for feasible, survivable, and cost-effective defenses. Should this promise become a reality, the United States will look to defenses to provide a safer and more reliable means of assuring deterrence and global security into the 21st century.

Technology innovation, such as recognized here tonight, reflects the free, open, and competitive American spirit. The achievement of excellence in science and technology, the arts, and in government service has long characterized our efforts as a people. The combined effect of the merits of our foreign policy, as outlined last week by President Reagan in his report to the Congress, and of our technology has made us a leader in the effort to create and sustain a just and secure world order. The work that we are recognizing tonight is one of the foundation stones of that leadership role in the world. The fundamental distinction between our work in the area of strategic defense research and similar work in the Soviet Union, for example, is found both in our historically constructive role in seeking peace and supporting representative institutions throughout the world and in the defensive nature of our military posture and security arrangements.

The Need for SDI

Our need for the SDI research program can be summarized by recalling the origins of the program. The President's March 1983 speech expressed his strongly held belief that we should reexamine the basis of our deterrent posture to see if we could deter aggression through a greater reliance on defense rather than so heavily on the threat of devastating nuclear retaliation. This belief reflects both our disappointment in the deterioration of the strategic balance since the signing of the SALT I [strategic arms limitations talks] agreements and our hope that new defensive technologies can mitigate adverse developments in the area of strategic offensive weaponry.

The United States had proceeded from the assumption that the limitation of defenses in the ABM [Anti-Ballistic Missile] Treaty would be the basis for a continuation of negotiations which would lead to significantly reduced offensive weaponry. The theory was simple: if both sides had survivable retaliatory nuclear forces at about the same level of capability and both sides were otherwise defenseless against the nuclear capability of the other, then neither side would have an incentive to strike first, regardless of the circumstances. If one side were to strike first, it could never hope to escape the retaliation of its adversary. Therefore, stable and significant reductions to equal levels of capability would improve the security of both sides.

Instead, the Soviets showed little readiness to agree to measures which would result in meaningful limits or cuts in offensive nuclear forces possible during SALT II. Within the framework of SALT I and SALT II, the Soviets deployed large numbers of MIRVed [multiple independently-targetable reentry vehicle] ballistic missiles of sufficient throw-weight and accuracy to violate the basic premise of the SALT process by posing a real threat to the survivability of the entire land-based portion of U.S. retaliatory forces. The growth in Soviet nuclear capabilities in general, and in the asymmetry in counterforce capabilities in particular, are fundamentally inimical to the security of the United States and its allies.

In addition, the Soviet Union has continued a robust program of research, development, and deployment of strategic air defense and ballistic missile defense based on current technologies. Some of their work—for example, the Krasnoyarsk radar—is in violation of existing arms control obligations. They also have a vigorous research and development program for defenses against ballistic missiles based on advanced technologies.

Significantly, the Soviets have been engaged for years in research and development efforts examining laser weapons, particle-beam weapons, radio frequency weapons, and kinetic energy weapons for ground-based and space-based strategic defenses. These are some of the same technology areas that you are investigating in the SDI research program and against which the Soviet Union has mounted a massive propaganda campaign. Soviet work in these areas is clearly in applied research and development, not merely in basic research as they would have us believe. The Soviets' ground-based laser at Sary Shagan, for example, could have potential applications for both ballistic missile defense and antisatellite operations.

We should make no mistake about the fact that Soviet offensive and defensive capabilities pose real threats to the security of the West. Our work in SDI is, in large part, a reaction to the unabated growth of this threat, especially during the last 20 years. Through SDI, we seek both new capabilities and a new approach to rectify the deteriorating strategic balance.

Our agreement to the ABM Treaty was based on the understanding that defenses, at the then-existing level of technology, could be overwhelmed by additional offensive systems at less cost than would be required to add balancing defenses. New technologies are now available that could reverse our judgments about the cost-ineffectiveness of strategic defenses. The Homing Overlay Experiment symbolizes new technologies applicable to the area of strategic defenses. Fifteen years ago, an ABM interceptor required a nuclear warhead to destroy an incoming reentry vehicle. Just 2 years ago, the Homing Overlay team demonstrated the capability to destroy an incoming reentry vehicle by precision intercept and direct impact.

If SDI research proves the feasibility of survivable and cost-effective defenses, then the United States will have the opportunity to reexamine guidance for the SDI program. At that time, after consultation with our allies, we will discuss and, as appropriate, negotiate with the Soviet Union any changes in the strategic defense regime in accordance with Articles XIII and XIV of the ABM Treaty. This possibility holds the promise that the strategic balance can be stabilized again in a manner that will preserve Western security with greater confidence into the next century. In addition, the possibility of a successful SDI research phase has played an important role in bringing the Soviet negotiators back to the table in Geneva where we were, and now again are, seeking strategically meaningful reductions in offensive nuclear weapons.

SDI and the Geneva Talks

The United States is fully committed to the SDI research program, which is being carried out in full compliance with the ABM Treaty. In Geneva, at the nuclear and space talks, the United States seeks to discuss the offense-defense relationship and to explore with the Soviets how a cooperative transition toward a more defense-reliant regime could be accomplished, should defensive technologies prove feasible.

There was little substantive movement during the fourth round of negotiations in the Soviet position on defense and space. The Gorbachev proposal of January 15 included no change in their insistence that SDI be banned. The Soviets have, through this last round of negotiations, not addressed the U.S. agenda, preferring instead to advance the self-serving and unacceptable concepts of "space-strike arms" and "purposeful research." They would like to ban U.S. capabilities and research while avoiding constraints on their own weapon systems and research through definitional ploys.

The United States cannot accept the self-serving Soviet definition of "space-strike arms," which includes ground-based systems designed to destroy objects in space and space-based systems designed to destroy targets in space or on earth. This definition calls for a subjective judgment as to the purpose for which a system has been designed. The Soviets have made it clear that they reserve to themselves alone the right to make such judgments. The U.S. position is that an agreement must address specific systems and that limits must be based on evident capabilities, not on subjective judgments of intentions.

The work in Geneva on defense and space issues cannot move forward until the Soviet definition is abandoned. Furthermore, the work on START [strategic arms reduction talks] cannot progress until the Soviets abandon the linkage they have imposed between progress in the START talks and prior U.S. agreement to a ban on "space-strike arms."

The U.S. strategic defense program is fully compatible with the ABM Treaty. The Soviet concept of "purposeful research" is an artificial distinction designed to exploit the fact that the United States openly states the goals of its research and, therefore, that it is "purposeful." The Soviet claim that their research is "fundamental" and has no purpose is not credible. The Soviets merely refuse to acknowledge what we know to be the nature and extensive scope of their own strategic defense activities.

Obstacles created by the Soviets in Geneva will not prevent the United States from continuing its SDI research. We will continue our discussions of the possibilities SDI could offer for eliminating the threat of mutual annihilation. By making our case to the Soviets and to the world, we will challenge the Soviet propaganda campaign which is designed to cast doubts on U.S. intentions. It is important to note in this regard that allied governments support the President's continued dedication to SDI research and U.S. resistance to Soviet efforts in Geneva to ban the SDI research program as a precondition to progress in the offensive nuclear talks.

The Broader Framework of Negotiations

In preparing for the summit last November, the President wished to place arms control issues in the proper perspective. SDI is a part—an important part—of the defense and space area. I have discussed the START issues and the INF [intermediate-range nuclear forces] issues at other times. Together these constitute the nuclear and space talks. But other important arms control issues were also discussed at the summit. The abolition of chemical weapons is being negotiated in the Committee on Disarmament in Geneva. The limitation of conventional arms in Europe is being negotiated at the MBFR [mutual and balanced force reductions] talks in Vienna. Confidence-building measures are being discussed in Stockholm under the aegis of the Conference on Disarmament in Europe. In addition, there are a number of issues under discussion which relate to nuclear testing and to the nuclear Non-Proliferation Treaty.

But all the arms control issues together occupied about one-fourth of the agenda at the summit. Also discussed were the full range of other bilateral issues and the important regional issues such as Afghanistan, Ethiopia, Angola, Nicaragua, and South Yemen. Furthermore, the issues of human rights and terrorism could not be and were not ignored. It was agreed that there would be another meeting between President Reagan and Mr. Gorbachev in Washington this year and in Moscow during 1987. We suggested June or July or perhaps after the election in November. The Soviets have not replied. We hope there will be a summit and that the dialogue at that level can be continued. But one thing is obvious: that is, that we cannot count on the Soviets to be willing to negotiate an agreement which takes account of our interests and not just theirs.

The lesson is clear. The United States must have a constructive and comprehensive foreign policy. The President's statement to Congress on March 14 sets forth just such a foreign policy. I strongly recommend that everyone read it. I also recommend that you read the full text of Mr. Gorbachev's report at the opening of the Soviet Party Congress on February 26. It took 6 hours to deliver; there are 45,000 words. But the more one reads of these two statements, the clearer will become the essence of what drives the Soviet Communist Party as opposed to what drives the loose coalition of free and democratic countries who are striving to maintain a world in which they are free to develop as they see fit.

Conclusion

We must be prepared to support the freedom of the United States and the interests of such a coalition either through negotiated agreements on arms limitations that truly serve a meaningful peace or, in the absence of such agreements, through our own efforts should the Soviet Union so will it. In either case, peace and deterrence will only be assured through what we do for ourselves. An important part of what we can do for ourselves is represented by your group and, in particular, by individuals such as those we are honoring here tonight.

Without the SDI research program, the best that the United States could hope for is a continuation of the current state of deterrence through primary reliance upon the threat of devastating nuclear retaliation. Asymmetrical Soviet advantages in offensive nuclear forces threaten the stability of this form of deterrence. SDI provides the United States with an opportunity to examine the feasibility of a more stable and reliable form of deterrence which would serve not only American but global security concerns as well. ■

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