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the Soviet propaganda campaign against the US Strategic Defense Initiative

U.S. ARMS CONTROL AND DISARMAMENT AGENCY

ПРАВДА

...ан Центрального Комитета КПСС

...612) ● Воскресенье, 27 марта 1983 года ● Цена 4 коп.

Ответы Ю. В. Андропова на вопросы корреспондента «Правды»

Эту дружную, работящую семью — трудовую династию Соловьевых — хорошо знают в коллективе московского завода «Эмитрон». Глава семьи — старший мастер Лев Александрович работает здесь с 1941 года, а его жена Вера Алексеевна — контролер — с 1949 года. Общий трудовой стаж семьи на «Эмитроне», где Соловьевы представлены еще тремя инженерами и слесарем — 134 года.

На снимке: секретарь парткома Е. Чикин (справа) только что вручил А. Соловьеву почетное удостоверение ветерана труда.

Фото М. Спурнной.

С полей весенних

В короткие сроки

Двумя сменами

ЗА РУБЕЖОМ

Посвящено Карлу Марксу

К приезду в Советский Сою...

Хавьер Перес де Куэлья...

Генеральный секретарь Организации Объединенных Наций

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

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the Soviet propaganda campaign against the US Strategic Defense Initiative

Foreword

In the spring of 1983, shortly after President Reagan proposed that the United States actively begin to explore the feasibility of advanced technologies to defend against offensive nuclear missiles, the Soviet Union embarked on an extensive propaganda campaign criticizing the President's proposal.

Over the past three years, the Soviet Union has devoted considerable energies to its campaign against the U.S. Strategic Defense Initiative. Statements from high officials, interviews with Soviet spokesmen on Western broadcast media, newspaper articles, press releases, pamphlets, petitions from front organizations and state-controlled Soviet scientific groups have flooded the West. Soviet officials have charged, among other things, that the program is part of a U.S. effort to acquire a "first-strike" capability against the USSR, that it could result in the production of new offensive weapons, that it will upset the military balance and make further arms control agreements impossible, that it will escalate the arms race, and even that it violates existing arms treaties. Soviet writers and spokesmen have also echoed charges, leveled originally by Western critics of the Strategic Defense Initiative, that the program is technologically infeasible and too costly.

Notably, these protests and arguments against the U.S. strategic defense program come from Soviet sources at a time when the USSR itself is vigorously engaged in its own strategic defense programs and while the Soviet Union continues to violate the agreement covering ballistic missile defenses—the 1972 ABM Treaty.

As suggested by the long-standing Soviet commitment to strategic defense systems as well as by the current level of Soviet criticisms of SDI, the Soviets have no doubts about the value of defensive systems. On the contrary, every indication is that the Soviet Union values highly its current ballistic missile defense system and is enthusiastically pursuing new technologies.

The aim of the Soviet anti-SDI campaign is strategic and political: its purpose is to stimulate opposition to SDI in the United States and other Allied countries, inhibiting Western research and development into defenses – even as the Soviet Union forges ahead with its own ABM programs, including research and development in advanced ballistic missile defense technologies. The evident Soviet goal is to forestall any comparable Western defense effort and, if possible, to ensure for the long term a unilateral Soviet advantage in strategic defense systems and technologies. Obviously, a continued Soviet advantage in defenses, combined with the ongoing Soviet offensive nuclear buildup, would severely undermine the East-West balance which has kept the peace.

Honest and informed debate is always valuable; differences of opinion on major policy issues are inevitable in democracies. But few would argue that democratic debate is enhanced or furthered by the injection of obfuscation and duplicity from the outside. Such, unfortunately, has been the character of the Soviet statements on the Strategic Defense Initiative.

Without exception, all the various Soviet charges concerning SDI are spurious. They are based either on a fundamental misrepresentation of the nature of strategic defense research now underway in the United States and Allied countries, or on a wholly inaccurate picture of the realities of the current strategic balance.

One of the most interesting findings of the study is that the vast majority of criticisms raised by the Soviets in the current campaign against the Strategic Defense Initiative are virtually identical to arguments invoked only a few years ago in the Soviet campaign against NATO's decision to deploy new intermediate-range missiles in response to the Soviet SS-20 – despite the obvious differences between the programs at issue then and now.

Arms control negotiations provide the opportunity for dialogue on differences between the Soviet Union and the United States. Discussion at Geneva continues on the subject of strategic defenses. We wish to press forward in this dialogue. Indeed, if effective defenses against offensive nuclear missiles prove feasible, we seek a jointly managed transition to greater reliance on such systems. We favor defenses that would heighten the security and reduce the threat on both sides. But an indispensable first step to a serious exploration of these future prospects will be a candid acknowledgement by the Soviet Union that it has long been engaged in strategic defense research of the kind being carried on in the U.S. SDI program.

Regrettably, the Soviets have to date chosen to deny their own program.

In the meantime, it is crucial that the citizens of the democracies keep clear eyes in assessing their security needs. It is essential, above all, that we recognize the distinction between honest argument and mere propaganda. It is hoped that this publication will contribute to clarification of the issues and better-informed debate.

Kenneth L. Adelman

Introduction: The Idea of a Defense

On March 23, 1983, in an address to the American people, President Reagan proposed that the United States embark on a new program to examine whether it would be possible to devise systems that could effectively "intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies." Within a year the President's proposal had resulted in the creation of the Strategic Defense Initiative program.

The rationale for new research into defensive systems was threefold.

First, the President expressed the strong view that it was important to raise now the long-term question of whether the deterrence of nuclear war must remain forever dependent on the threat of devastating offensive retaliation. Clearly, there is no ready alternative to the present deterrent regime. The President noted that the idea of mounting an effective defense against nuclear missiles represents "a formidable technical task, one that may not be accomplished before the end of this century." Yet he added that "current technology has attained a level of sophistication where it is reasonable for us to begin this effort." Indeed, the technologies relevant to ballistic missile defense have progressed at such a remarkable pace since the signing of the ABM Treaty in 1972 that new, defensive options are highly promising. Such research into new technologies was anticipated in the negotiations and the text of the ABM Treaty. The U.S. SDI program complies fully with the ABM Treaty.

Second, the United States has been and continues to be concerned by the threat posed to stability by the massive growth of the Soviet Union's offensive nuclear arsenal. When the United States and the Soviet Union signed the ABM Treaty in 1972, Americans expected that the stringent limits on defenses against ballistic missiles would make it possible to negotiate significant reductions in strategic offensive nuclear arms. Our expectations have not been met.

Of particular concern to the United States is the growth during the past decade in the accuracy and power of the Soviet land-based "heavy" missile force, which has posed an increasing threat to our land-based retaliatory force and, in this manner, to the stability of deterrence itself. To forego the opportunities embodied in new defensive research would be to leave unattended the growing problem of U.S. vulnerability.

Finally, the Soviet Union has long been engaged in both upgrading and expanding its existing ABM system around Moscow, and in high-technology strategic defense research of the kind embodied in SDI. In other ABM activities, the Soviet Union has violated and is in potential violation of key provisions of the ABM Treaty. The aggregate of those activities suggests that the USSR may be preparing an ABM defense of its national territory, which the Treaty prohibits.

In several areas of defensive technology research, Soviet efforts have been ahead of the United States. In particular, when measured in terms of manpower, capital, and facilities, Soviet research into the more advanced and exotic ballistic missile defense technologies, such as high energy lasers, exceeds anything undertaken in the U.S. To fail to respond to these Soviet efforts would be to put the security of the United States and its Allies in jeopardy. While effective defenses on both sides may greatly enhance the stability of deterrence, deployment of defensive systems by the Soviet Union alone would pose an unprecedented threat to our safety. SDI is a necessary response to the combination of Soviet efforts in offense and defense.

The U.S. View of Strategic Defense

The Strategic Defense Initiative is a cooperative venture involving the mutual interests and common hopes and values of free and sovereign nations. The United States is proceeding with the Strategic Defense Initiative in the firm belief that it will strengthen the bonds between ourselves and our Allies and friends. The President emphasized this commitment in his March 23, 1983 address:

> As we pursue our goal of defensive technologies, we recognize that our Allies rely upon our strategic offensive power to deter attacks against them. Their vital interests and ours are inextricably linked—their safety and ours are one. And no change in technology can or will alter that reality. We must and we shall continue to honor our commitments.

The United States remains unambiguously committed to deterrence. To cite President Reagan again: "As we proceed, we must remain constant in preserving the nuclear deterrent and maintaining a solid capability for flexible response." We should be clear about an essential point: SDI is a research program designed to determine scientifically and

strategically whether a defensive alternative is possible, not a blind commitment to pursue defensive systems regardless of their merits or feasibility.

If effective defensive systems prove feasible, the United States is committed to using the arms control process to facilitate a jointly managed transition to greater reliance on strategic defense by both the Soviet Union and the United States. Indeed, we have begun to discuss this subject now in the talks on defense and space systems now underway in Geneva. The United States' position is clear: it is not for the purpose of aggression, but rather for the purpose of strengthening deterrence by denying the potential rewards of aggression that we are pursuing defensive research. At every opportunity, we have emphasized this point to the Soviet Union. "We seek," as President Reagan affirmed, "neither military superiority nor political advantage. Our only purpose—one all people share—is to search for ways to reduce the danger of nuclear war."

The Western Debate and the Soviet Union

Like virtually every major new undertaking in the realm of public policy, the Strategic Defense Initiative has evoked a vigorous and spirited debate within the democracies of America, Europe, and Asia. This, as always, is a healthy sign. To disagree on major initiatives of public policy is the birthright of all citizens; controversy, honestly pursued, is one of the forces that keeps democracies vital and strong.

But as is always the case with debates conducted in open societies, there is free participation from the outside as well. One major participant in the Western debate on strategic defenses has been the Soviet Union.

Two distinctions are important in this regard: first, the distinction between honest negotiations among governments and diversionary tactics or obfuscation; second, the distinction between honest argument in domestic policy debate and propaganda. In both cases, even as they welcome the former, open societies must be particularly on guard against the latter.

The United States has consistently emphasized to the Soviet Union its wish for an honest dialogue on our possible differences over the defensive programs we are both pursuing, in order to see how cooperation between the two sides might be enhanced. Thus far, however, the Soviet Union has prevented such a dialogue by refusing even to acknowledge that it is engaged in researching advanced strategic defense technologies. The Soviet position cannot be taken seriously. Indeed, it must be understood for what it is — a cynical tactic to avoid accountability and to gain a unilateral advantage over the United States.

Similarly, while debate on strategic defenses is healthy in democracies — and indeed vital to promoting public understanding of the issues at stake — the Soviet public contribution to the current Western debate has been wholly propagandistic in character. This should not be surprising, as the Soviet Union sees its interests to be in fundamental conflict with the citizens of democracies.

It is to a detailed analysis of the Soviet campaign against SDI that this study now turns.

Basic Themes of the Soviet Campaign

The basic themes of the Soviet public campaign against SDI were established within weeks of President Reagan's March 23 address. The first major Soviet statements on the subject came in a published interview with the General Secretary of the Communist Party, Yuri Andropov, in *Pravda* on March 27, 1983, a few days after President Reagan's speech. The first part of a later *Pravda* article revisited familiar charges against NATO's response to Soviet deployment of SS-20 missiles in Europe and

Asia; the second part focused upon the newer subject of SDI. In a brief statement, Andropov laid down what became the Communist Party line on SDI – first, that SDI was not defensive but rather part of a U.S. effort to acquire a nuclear first-strike capability, and second, that SDI would damage prospects for arms control and "open the floodgates of a runaway arms race."

To these observations were later added two other major claims, which were incorporated into the Soviet propaganda campaign only after they had been stressed in some commentaries in the U.S. These were, first, that SDI would prove technically infeasible or impractical and would be subject to easy countermeasures; and second, that the costs of a defensive system would be prohibitive.

Old Themes

It is worth noting that the basic themes of the Soviet attack on SDI are neither new nor unique to SDI. On the contrary, nearly all the major themes or arguments marshalled by the Soviets against SDI were also used in the Soviet campaign against NATO's decision to deploy Pershing II and ground-launched cruise missiles in response to Soviet SS-20 deployments, if negotiated agreements failed to obviate U.S. deployments. In fact, in recent years virtually every new U.S. weapons system in the nuclear field has been attacked by the Soviets on the grounds that the United States was seeking a "first-strike capability" and that the U.S. program would "spur another round in the arms race." In Soviet propaganda new American weapons systems are portrayed routinely as part of a "U.S. effort to achieve military superiority over the Soviet Union."

Chart 1 compares the arguments now cited by Soviet sources against the Strategic Defense Initiative with those that were used in the propaganda campaign against NATO's INF deployments.

Chart 1 - Continuity in Soviet Propaganda Themes

Theme	Used against SDI (3/83-Present)	Used against NATO's INF Decision (79-83)
The program is part of a U.S. effort to acquire a "first-strike" capability against the USSR.	X	X
SDI technology would be used for offensive weapons.	X	
The program is part of a U.S. effort to achieve military superiority against USSR.	X	X
A military balance currently exists, which the U.S. program will upset.	X	X
The U.S. program will prompt "a new round in the arms race"/ force the Soviets to take countermeasures.	X	X
The U.S. program will increase the likelihood of confrontation or conflict.	X	X
The U.S. program will complicate or make impossible arms control negotiations on such systems.	X	X
The U.S. program violates an arms control agreement(s).	X	X
The U.S. intends the program to be a means for "limiting" nuclear war to Europe, leaving U.S. territory a sanctuary.	X	X
The U.S. program would "militarize space".	X	
The U.S.program is technically infeasible.	X	
The U.S. program is too costly.	X	

There are some differences in emphasis between the anti-SDI and anti-INF campaigns. Notably, the general charge that a U.S. program violates an arms control agreement has been given much more play in the campaign against SDI, which the Soviets falsely claim violates the 1972 ABM Treaty.

An exception to this pattern of thematic continuity are arguments Soviet propagandists have absorbed from Western discussion of SDI – namely, that it is not technically feasible because countermeasures are available and that it would be too costly. Two other charges new to the the anti-SDI campaign obviously would have made no sense in the context of the INF controversy – the claim that

SDI technologies will yield offensive rather than defensive weaponry and the argument the U.S. "seeks to militarize space." The notion that SDI technology would be used for offensive weapons is really a variation on the old theme that the U.S. is seeking a "first-strike" capability; the idea, meanwhile, that the U.S. is seeking to "militarize space" has actually been a standard Soviet theme since the late 1950s, when the Soviet Union first sought to divert attention from its own extensive military space programs.

For all its repetitiveness, however, the Soviet propaganda campaign against SDI is conducted with some sophisticated approaches.

For example, the Soviets have begun to make frequent use of an arms-control term, "stability," which is widely employed in the West but which, in the past, has played no important role in Soviet statements or thinking about the strategic nuclear balance. To portray themselves as resisting U.S. efforts to upset stability through the SDI requires a high degree of Soviet disingenuousness, given ongoing Soviet strategic offensive and defensive programs.

"Hero and Villain" Approach

The Soviets would have the world believe that they are playing a heroic role, seeking to achieve disarmament and to "end the nuclear arms race," while the United States is the principal, dangerous obstacle to arms control and to reducing international tension.

In their statements about the potentially dire consequences of U.S. research, the Soviets sometimes use quite ominous rhetoric. On April 19, 1983, Andropov warned that SDI "is capable of bringing the world closer to the nuclear precipice." Similarly, the introductory page of the Soviet propaganda pamphlet, *Star Wars: Delusions and Dangers,* issued in July 1985, is laced with portentous terms: "danger," "threat," "annihilated," "dangerous," and "destructiveness." The apparent hope is that such language will play upon Western fears of war and of increased tensions. As in the early days of NATO, the Soviets characteristically seek to persuade Western publics that their own governments' actions in response to Soviet power and conduct are provocative, and that the Soviets are the aggrieved party.

Tactics

As in their propaganda campaign against NATO's INF decision, the Soviets have sent numerous spokesmen to lobby for their views at various forums in NATO countries. By carefully staging a few rare opportunities for "news" from Moscow (where access by the Western media is sharply limited and controlled) they have gotten front-page coverage in the Western press highlighting their propaganda themes. Also the Soviets have recently paid for prominently displayed advertisements in Western newspapers. Such advertisements are often used to republish *Pravda* editorials that the Soviets wish to direct to larger audiences in the West.

The Soviets have also employed one of their oldest front organizations in the campaign: the World Peace Council (WPC)* which actually has a contingent of KGB officers assigned to it. On January 24-28, 1985, the WPC's "International Liaison Forum of Peace Forces" sponsored a meeting in Vienna, Austria. The meeting, which attracted more than 400 delegates, adopted resolutions urging a halt to the development of "space weapons" and the "militarization of space." At a WPC Presidium session in Moscow, similar denunciations were voiced. In early 1985, the WPC issued a pamphlet with the provocative title, "The U.S. Space Offensive: Road to Nuclear Annihilation," repeating the party line about SDI. In March 1985, the WPC "Presidential Committee," meeting in Moscow, issued a "No To 'Star Wars' (Appeal Against Washington's Space Madness)" which followed closely the language of the Andropov "interview" in *Pravda* two years earlier.

Awareness of the diminished credibility of the older and more transparent front organizations like the WPC has prompted the Soviets to create new fronts and new satellite groups of old fronts, which are now employed in their campaign against SDI. One such organization is the Generals for Peace and Disarmament (GPD), a group of eight retired NATO senior officers. This front, established in 1980 as part of the Soviet efforts against NATO's planned INF deployment, has recently added SDI to the list of NATO and U.S. programs it regularly denounces. Its members have traveled widely to convey their message. The GPD has been professionally choreographed in an attempt to disguise its origins and ties to Soviet front efforts.**

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*The WPC was founded in 1949 as the World Committee for Partisans for Peace and adopted its present title in 1950. The WPC was based in Paris until 1951 when the French Government expelled it for "fifth column activities."The WPC moved to Prague and then to Vienna in 1954, where it remained until banned in 1957 for "activities directed against the Austrian state." However, it continued to operate in Vienna as the "International Institute for Peace" until it moved to its present location in Helsinki in 1968.

**See "Soviet Active Measures: the World Peace Council", Foreign Affairs Note, Department of State, April 1985, pp. 6-7.

A newer development is the use of prominent Soviet scientists to argue against SDI. Ironically, many of these scientists have been and continue to be heavily involved in Soviet ballistic missile defense research, even as they denounce parallel U.S. efforts. On April 9, 1983, the Soviet news agency TASS related in English the full text of the Soviet scientists' "Appeal to All Scientists of the World," which declared the practical infeasibility of SDI. This appeal, published in *The New York Times*, denounced the SDI program. In fact, a number of the signatories of this letter have played key roles in Soviet programs researching both traditional and advanced ballistic missile defense technologies. Among these are Mr. Y. P. Velikhov, the Deputy Director of the Kurchatov Atomic Energy Institute, and a central figure in Soviet laser and particle-beam weapon efforts; Mr. N.G. Basov and Mr. A.M. Prokhorov, both of whom are scientific advisers to laser weapon programs; and Mr. Avduyevskiy, who is responsible for a number of research projects on the military uses of space, including a space-based laser weapon. Other signatories have devoted their careers to developing strategic offensive weapons and other military systems.

Themes of the Soviet Propaganda Campaign

The major themes used by the Soviets in their propaganda against the Strategic Defense Initiative are analyzed in the pages that follow. For the reader's convenience, brief criticisms and responses to each Soviet theme are numbered and printed in boldface type. Detailed explanations of the criticisms follow. The format is designed for quickness and ease of reference – also to render the technical issues of the debate easier to understand. Because the Soviet themes themselves are intertwined, the reader may find in some cases that the detailed information supplied in response to two different Soviet themes overlaps.

SOVIET PROPAGANDA THEME:

SDI is part of an effort to acquire a "first-strike" capability.

> The US President recently announced the start of the development of a large-scale, highly effective ABM (anti-ballistic missile) defense. But these measures will in reality be not defensive but offensive, aimed at securing for the United States a first nuclear strike potential.
>
> – Defense Minister Dmitriy Ustinov, speech in East Germany, *Krasnaya Zvezda*, Apr. 7, 1983

> What can these weapons do? Of course, they can be an element of a first strike; and as such, this type of weapon can present a very real threat which bolsters the capability to carry out a first strike.
>
> – Academician Yevgeniy Velikhov, Vice President of the USSR Academy of Sciences, Moscow Television Service, 25 May 1985.

Several points need to be made about this theme:

1. Strategic defense systems would work to enhance stability and deterrence by making a "first strike" more difficult to achieve. SDI is not designed to replace deterrence but rather to improve and strengthen it. Deterrence requires that a potential adversary be convinced that the problems, risks, and costs of aggression outweigh the gains he might hope to achieve. A popular view of deterrence is that it must take the form of a threat of devastating nuclear retaliation. But deterrence can also take the form of directly denying the military objectives of an attacker. An effective strategic defensive system need not be perfect to complicate greatly an aggressor's first-strike planning and counteract the temptation to launch an attack.

2. U.S. strategic forces are not configured for or capable of a "first strike," and the United States has consistently rejected such a strategy. Consistent with its longstanding policy, the United States has structured a retaliatory force unsuited for a first-strike strategy. Notably, the U.S. has large numbers of bombers and SLBMS which are either not fast enough or not accurate enough to destroy Soviet missiles in their silos. Such a force would make no sense as part of an aggressive first-strike strategy. The Soviet Union, however, has more than twice as many prompt counterforce warheads as there are strategic military targets in the U.S.

This huge asymmetry in counterforce capability is the overriding cause of a dangerous instability in the current strategic situation, which the President has sought to mitigate through the strategic modernization program and the current Nuclear and Space Talks in Geneva, and over the long term through investigation of defensive technologies for a better basis for deterrence. Deployment of the hard-target-capable MX and Trident II SLBM will reduce the Soviet lead in prompt counterforce capability, but will not match the Soviets in this area. Indeed, the U.S. does not seek to match the enormous prompt counterforce potential of the USSR, but seeks rather to offset the Soviet advantage, and blunt its impact by improving the survivability and reliability of our forces (including command, control, and communication).

3. It is Soviet — and not U.S. — doctrine and deployments which have evolved with the aim of developing a "first-strike" strategy. The execution of a "first-strike" attack presupposes possession of nuclear weapons sufficiently numerous, powerful, accurate, and swift to destroy a large portion of the opponent's force in a first strike and still retain a large reserve force. These are exactly the traits of the weapons that the Soviet Union has chosen to emphasize in its strategic nuclear force.*

Heavy, accurate Inter-Continental Ballistic Missiles (ICBMs) are ideally suited for prompt counterforce missions. The Soviets have 308 SS-18 "heavy" ICBMs and the US none. These are the most powerful, rapid and threatening nuclear weapons and the best suited for carrying out a first strike.

The Soviet SS-18 force alone is capable of destroying almost the entire land-based portion of the U.S. retaliatory force, leaving approximately 2,000 SS-19 warheads to attack remaining land-based military targets. In addition, Soviet Submarine-Launched Ballistic Missiles (SLBMs) would contribute to a large residual strategic force after the initial attack. The 308 SS-18 ICBMs deployed by the USSR, each credited with 10 warheads, have more destructive potential than the entire combined force of all U.S. ICBMs and SLBMs.

Moreover, Soviet military doctrine, profoundly influenced by the initial success of the Nazi blitzkrieg inflicted against the USSR in World War II, places a premium on achieving surprise, seizing the initiative, and concentrating its use of offensive firepower ("shock").

4. The Soviet Union asserts that only one side — the U.S. — would develop strategic defenses. That assumption is belied by the long-standing Soviet strategic defense programs (detailed in a State/Defense publication of Oct. 1985). President Reagan, in his October 24, 1985 speech before the UN General Assembly, made clear that the U.S. envisions defense against ballistic missiles for both sides:

> We do not ask that the Soviet leaders, whose country has suffered so much from war, leave their people defenseless against foreign attack. Why then do they insist that we remain undefended? Who is threatened if Western research, and Soviet research that is itself well-advanced, should develop a nonnuclear system - which would threaten not human beings but only ballistic missiles? Surely the world will sleep more secure ... when the sword of Damocles that has hung over our planet for too many decades is lifted *by western and Russian scientists* working to shield their cities and citizens.... [emphasis added]

The US has stressed publicly, as well as to the Soviets in Geneva, that should new defensive technologies prove feasible, we seek a jointly managed transition to greater reliance on defensive systems. In the meantime, we are pursuing a dialogue on the offense-defense relationship as a possible basis for such a transition.

5. A host of U.S. systems — even the Space Shuttle — have been attacked over the years by Soviet propagandists as contributing to an alleged "first-strike" capability. The fact is that Soviet commentators can be counted on to call almost any new U.S. nuclear weapon program a "first-strike" system. The term has been applied indiscriminately to the U.S. longer-range INF missiles for NATO (both the Pershing II ballistic missile and ground-launched cruise missile), the MX missile, the "stealth" bomber, and the B-1 bomber, as well as to the Space Shuttle.

SOVIET PROPAGANDA THEME:

SDI research would lead to development of "space strike arms" designed to hit earth targets from space.

> They ["space strike arms"] may be used not only to knock out ballistic missiles after the latter

*See "Soviet Strategic Force Developments," Testimony Before a Joint Session of the Subcommittee on Strategic and Theater Nuclear Forces of the Senate Armed Services Committee and the Defense Subcommittee of the Senate Committee on Appropriations, June 26, 1985, by Robert M. Gates and Lawrence K. Gershwin, CIA.

are launched, but also to deliver a strike from outer space at earth, air, and sea targets. Such targets may be missiles at launch sites, command, control and communication centers, various enterprises, power stations, aircraft in airfields, and many other stationary as well as moving targets.

—Soviet pamphlet, *Star Wars: Delusions and Dangers,* (Military Publishing House, Moscow, 1985), p.27.

The above is a variation on the theme that SDI is aimed at achieving a "first-strike" capability.

There are two points to be made here:

1. The defensive nature of the SDI program is demonstrated most clearly by the fact that most of the technologies under investigation are not capable of penetrating the earth's atmosphere and cannot be used to strike terrestrial targets. And while some technologies could in theory penetrate the atmosphere, they would not be militarily effective in such a role.

The approaches being examined in SDI hold much promise that the technical requirements necessary for an effective defense against ballistic missiles is possible. The same is not true of the technical requirements necessary for the effective offensive uses of those same approaches. It would be far easier to counter such weapons than it would be to use them to attack quickly and effectively a large number of hardened and protected military assets on the ground.

2. To demonstrate the defensive nature of the technologies being explored in SDI, the United States has proposed an "open laboratories" initiative. Under this initiative inspection teams from the U.S. and the U.S.S.R. would visit facilities in both countries where strategic defense research is being undertaken to determine firsthand the defensive nature of the research.

SOVIET PROPAGANDA THEME:

SDI represents a U.S. attempt to achieve strategic superiority and upset the existing military balance.

In fact, Washington's new strategy is another attempt to disrupt the strategic military parity between the USSR and the United States . . .

—Colonel M. Ponomarev, article in *Krasnaya Zvezda,* 10 April 1983.

The Pentagon is now rushing into space. What for? Once again to attempt to achieve military superiority over the USSR, through space this time.

—Defense Minister S. L. Sokolov, Interview in *Krasnaya Zvezda,* 8 May 1985.

1. According to Soviet propaganda, U.S. military programs always "upset" the balance, while Soviet military programs always "maintain" the balance. For example, in recent years, the Soviets have claimed that both the MX and NATO's INF missile deployments would upset the balance as part of a U.S. effort to acquire military superiority over the USSR. This charge was leveled despite the existence at the time of Soviet monopolies in both types of weaponry. By the end of the 1970s, the Soviet Union possessed over 600 ICBMs of comparable or greater power than the MX. The pattern with regard to INF missiles was equally clear. In 1982, for example, when the Soviet advantage in such missiles' warheads had grown to 1,200 to zero, Defense Minister Ustinov declared that there was "approximate parity."

Soviet propaganda seeks to have it both ways. The Soviets claim that the strategic balance is resilient to massive Soviet build-ups (such as the over 800 Soviet fourth-generation ICBMs deployed after SALT I), yet extremely sensitive to any new U.S. programs (such as plans to deploy 100 MX ICBMs or to pursue an SDI research program).

2. The actual trend in the strategic balance over the past 14 years has been in the opposite direction—toward Soviet superiority. The deterioration of the strategic balance since the signing of SALT I in 1972 was one of the major factors behind President Reagan's decision to pursue the Strategic Defense Initiative. SALT I and the ABM Treaty did not, as was hoped in the West, slow the momentum of Soviet strategic offensive programs. The number of Soviet strategic warheads and bombs has quadrupled since SALT I was signed. Moreover, the Soviet capability to destroy hard targets has increased more than tenfold.

In 1981 the U.S. embarked on a strategic modernization program to reverse a long period of relative decline. This modernization program was designed to preserve deterrence and, at the same time, to provide the incentives necessary for the Soviet Union to join the U.S. in negotiating significant reductions in the nuclear arsenals of both sides.

3. The Soviet Union is actively pursuing its own strategic defense research. SDI in part merely responds to a pre-existing Soviet effort. Soviet propagandists would have the world believe the U.S. program would leave the Soviet Union defenseless. The Soviets' persistent denial

that they are engaged in advanced defense technologies research is calculated to advance the myth that the U.S. seeks superiority and is undermining the "balance" through SDI.

4. Because of Soviet efforts to consolidate "prompt counterforce" capability, the recent trend in the strategic balance has been toward greater instability. SDI is necessary to offset this trend. The question arises: what would be the effect on the strategic balance (especially five or ten years from now) if the U.S. did not pursue the SDI research program and the Soviet Union continued its long-established pursuit of both conventional ballistic missile defense and advanced technologies for strategic defense? Given the current Soviet strategic defense effort, which goes well beyond research in some cases, SDI is necessary, at a minimum, as a hedge. But beyond that, SDI holds out the promise of a more stable, defense-reliant strategic balance.

SOVIET PROPAGANDA THEME:

SDI will generate a new round in the arms race.

> [The deployment of a U.S. strategic defense] would actually open the floodgates of a runaway arms race of all types of strategic arms, both offensive and defensive.
>
> —General Secretary Yuri Andropov, answer to correspondent's questions in *Pravda*, 27 March 1983
>
> The development and introduction of defense against nuclear missile weapons . . . whips up the arms race even more . . . .
>
> —Georgiy A. Arbatov, Director of USA and Canada Institute of the USSR Academy of Sciences, 12 December 1984
>
> . . . the truth is that the space-based antimissile system which is being created by the United States programs an arms race in all salients and leads to the undermining of international security.
>
> —Soviet Defense Minister S. L. Sokolov 5 May 1985

These claims are based not only on a wholly misleading picture of Soviet conduct over the past two decades but on a fundamental misunderstanding of the criteria which the United States is committed to apply in evaluating the results of SDI research.

1. Efforts to reverse the Soviet buildup have proved unsuccessful. While we have shown restraint, the Soviets raced ahead. At the signing of the ABM Treaty in 1972, many in the West hoped that the treaty would break what was thought to be an "action-reaction" arms race cycle and prevent a new cycle of reactive responses resulting from defensive deployments. The U.S. eliminated its ballistic missile defense capability and drastically reduced air defenses after signing the ABM Treaty, while the pace of Soviet ABM research and development increased.

As U.S. spending on strategic offensive forces declined in the years immediately following SALT I in 1972, the Soviets deployed at a high rate a whole series of new strategic offensive systems. In 1979, Secretary of Defense Harold Brown summarized the phenomenon this way: "When we build, they build; when we stop building, they nevertheless continue to build."

2. Over the past decade and a half, the major initiator of new weapons programs has been the Soviet Union. Soviet spokesmen seek to give the impression that major strategic weapons developments are exclusively of U.S. origin and that the Soviet Union merely reacts to U.S. actions. This notion does not square with recent history, as the evolution of the strategic balance after SALT I shows. The data plainly show that the Soviet Union has run a one-sided race.

For example, the U.S. initiated development of the MX missile after SALT I. Initial deployment is scheduled to begin in late 1986. The Soviets characterize the MX as a spur to the "arms race". In fact, since the U.S. deployed its most modern type of ICBM, the Minuteman III, the Soviet Union has deployed at least four new types of ICBMs (the SS-17, SS-18, SS-19, and SS-25), including 360 SS-19s roughly comparable in size to the MX, each with six warheads, and 308 of the much larger SS-18, each credited with ten warheads. Moreover, the Soviets have already begun deployment of one new type of ICBM, the SS-25, and will soon begin deployment of another new type, the SS-X-24. (Only one "new type" is permitted under SALT, and therefore the SS-25 violates the SALT II Treaty of 1979.) This means five new Soviet ICBMs compared to one – the MX – for the U.S. And yet the Soviets repeatedly assert that the MX (the development of which was stretched out in the 1970s and the deployment force goal for which has been reduced from 200 to 100 missiles) will "prompt another round in the arms race."*

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*An instructive example of the Soviets' use of standardized propaganda charges regardless of the actual circumstances was the Soviet accusation in mid-1977 that President Carter's cancellation of the planned production of 241 B-1 bombers was an escalation of the arms race and would complicate arms con-

3. Because of the cost-effectiveness criterion, strategic defenses once deployed, would tend to inhibit further expansions of offensive weapons. Within the SDI research program, the U.S. will judge defenses to be desirable only if they are militarily effective, survivable, and cost-effective at the margin. The cost-effectiveness criterion will ensure that any deployed defensive system would create powerful disincentives against responding with additional offensive arms. A key issue in evaluating options generated by SDI research concerns the degree to which certain types of defensive systems, by their nature, encourage an adversary to try simply to overwhelm them with additional offensive capability while other systems can discourage such a counter effort. The U.S. seeks defensive options which would provide clear disincentives to attempts to counter them with additional offensive arms. This criterion is couched in terms of cost effectiveness; however, it is much more than an economic concept.

SOVIET PROPAGANDA THEME:

SDI is part of US efforts to "militarize space."

> . . . the idea of developing ABM systems conceals an intention to shift the arms race to outer space and threaten mankind from there.
>
> —A. Tolkunov, "Space Fraud," *Pravda*, May 10, 1983

> The program for creating a large-scale, echeloned ABM system using space-based elements, . . . is also aimed at transferring the arms race into space . . . . the plans that the United States is implementing for the militarization of space via the creation of various kinds of antisatellite weapons.
>
> —A. Sitnikov, "For A Clear Sky," *Pravda*, July 5, 1984

1. The Soviet Union took the initiative in "militarizing" space in the 1950s by deploying the first ICBMs which would travel through space when launched. In the 1960s, the Soviet Union conducted unannounced orbital tests of, and subsequently developed, a fractional orbital bombardment system designed to launch weapons from space.

In the late 1960s, the Soviets developed and tested an anti-satellite weapon. Since then, the Soviets have tested this ASAT in space a considerable number of times. Faced with a demonstrated Soviet capability to threaten the survivability of some vital U.S. satellites, the U.S. in 1977 began a research and development program aimed at acquiring an ASAT capability. To date, however, the Soviet Union is the only nation with an operational ASAT weapon deployed.

At about the same time the Soviets began to suggest that the U.S. was "militarizing space," a 1982 study by the Congressional Research Service noted:

> In defense of its developing ASAT system the Soviets took the offensive, accusing the United States of militarizing space, an old propaganda canard dating back early in the Space Age and in an air of offended innocence portraying the Soviet Union as the victim not the perpetrator. . . . Thus, the United States was portrayed as the violator of peace in outer space, the Soviets as the enforcer of peace.

Meanwhile, the Space Shuttle became the principal focus of the Soviet propaganda charge that the U.S. was seeking to militarize space. In April 1982 the Soviet news agency TASS charged that military missions of the shuttle posed "a special danger to mankind" and suggested that the Shuttle would be used "as a space bomber with nuclear weapons on board." In July 1981, the Soviets claimed "the shuttle provides a basis for a new ASAT system."

2. In contrast to the heavily civilian-oriented U.S. program, the Soviet space program has long been predominantly military in nature. In 1984 the Soviet Union conducted about 100 space launches, some 80 of which were purely military in nature. In the same year, by comparison, the U.S. conducted a total of just eleven space missions. All Soviet space launches are conducted by their Strategic Rocket Forces—the same military branch charged with maintaining and commanding the Soviet land-based nuclear arsenal. There is no Soviet equivalent to NASA, America's civilian space agency. The majority of Soviet military satellites have been launched from Plesetsk Missile and Space Test Center, the same site at which nuclear missiles are tested. (The Soviets did not even acknowledge the existence of Plesetsk as a launch site until 1983, by which time they had – since 1966 – launched over 800 spacecraft from that site.)

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trol negotiations because, the Soviets argued, the US was pursuing air-launched cruise missiles. (Those missiles were for penetrating air defenses the Soviets refused to include in arms control agreements.) Thus even a major unilateral cutback by the US was portrayed by the Soviets as a spur to the arms race and an obstacle to reaching an arms control agreement. (See TASS commentary in English, July 1, 1977 and *Pravda* weekly revew, "International Week," July 3, 1977.)

SOVIET PROPAGANDA THEME:

SDI violates or undermines the ABM Treaty of 1972.

> . . . in concluding the treaty on the limitation of ABM systems in 1972 the USSR and the United States reached accord on banning the development of systems for the antimissile defense of the territory of each of the two countries and also the creation of the bases for such defense . . . It is precisely this fundamental provision of the ABM treaty that US Administration figures are currently undermining.
>
> —Editorial, *Pravda,* 23 March 1984

> The United States' so-called 'research' in the field of the development of ABM defense with space-based elements is leading to the creation of a situation in which the entire system of international law . . . might be jeopardized. . . .
>
> —Editorial, *Izvestiya,* 25 January, 1985

> The United States has been malevolently undermining the Treaty on the Limitation of ABM Systems for a long time now.
>
> —Marshall S. Akhromeyev, Chief of the USSR Armed Forces General Staff and First Deputy Defense Minister, article in *Pravda,* 4 June 1985

It has been a common technique of Soviet propaganda over the years to accuse adversary powers falsely of precisely the misdeeds and violations in which the Soviet Union happens itself to be engaged. Such is the case with the groundless allegations that SDI violates the ABM Treaty.

1. SDI is strictly within the limits of the ABM Treaty. Indeed, the U.S. program is proceeding under guidelines more restrictive than the treaty provisions themselves. The ABM Treaty contains constraints governing the development, testing, and deployment of ABM systems and components. Research is not constrained in any way. To understand why this is, it is useful to review briefly the history of the treaty's negotiation.

The lack of constraints on research in the ABM Treaty resulted from two factors. First, both the United States and the Soviet Union recognized that it would be impossible to devise effective or verifiable limits or bans on research. (In fact, the Soviet side insisted during negotiations that research could not be limited.)

Additionally, it was clear in negotiations that neither side considered it desirable to limit research. The treaty was also designed by both sides to permit adaptation to future circumstances. This was particularly important given that the treaty was to be of unlimited duration. Specific provisions were incorporated into the treaty to allow for its modification.

The language of the ABM Treaty clearly indicates that the possibility of new technologies was foreseen. That future types of permitted ABM systems and components were contemplated is obvious from the language of Article II, which defines ABM systems as "currently consisting of" ABM interceptor missiles, launchers, and radars. Furthermore, the language of "Agreed Statement D" in the treaty acknowledges the possibility that new ABM systems based "on other physical principles" might be created in the future and provides for consultations with a view to possible amendment of the treaty contraints on such systems prior to their deployment.

The SDI program is being conducted in a manner fully consistent with all U.S. treaty obligations. The President has directed that the program be formulated in a fully compliant manner. A U.S. review last year led to the judgment by the President that a reading of the ABM Treaty that would allow the development and testing of systems based on other physical principles, regardless of basing mode, is fully justified.

The SDI program was originally structured in a manner that was designed to permit it to achieve critical research objectives while remaining consistent with the more narrow interpretation of the ABM Treaty which the U.S. was observing. This being the case, in October 1985, while reserving the right to conduct the SDI program under the legitimate broader interpretation at some future time, the President deemed it unnecessary to restructure the SDI program towards the limits of the ABM Treaty which the U.S. could observe. Consistent with that determination, the Administration applies the more restrictive treaty interpretation as a matter of policy, although we are not legally required to do so, in evaluating the experiments in the SDI program.

The Soviets are of course fully aware of this fact, and interestingly enough, before SDI came on the scene, they openly 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."

2. Ironically, it is the Soviet Union, and not the United States, which is clearly acting in violation of the ABM Treaty, as well as other major

arms agreements. A number of Soviet ABM-related activities since 1972 have been inconsistent with or in outright violation of the ABM Treaty. Most notably, the construction of a large phased-array ballistic missile tracking radar near Krasnoyarsk in central Siberia violates the ABM Treaty's provisions concerning siting, orientation and capability of such radars. The Krasnoyarsk radar violation goes to the heart of the ABM Treaty. During the ABM Treaty negotiations large phased-array radars like that under construction at Krasnoyarsk were recognized as the critical, long lead-time element of a nation-wide ABM defense, which the Treaty was designed to prohibit. (For a more detailed discussion of these and other Soviet violations of existing arms agreements, see the Arms Control and Disarmament Agency's pamphlet *Soviet Noncompliance,* March, 1986)

SOVIET PROPAGANDA THEME:

SDI undermines the basis for arms control efforts, including reductions in strategic offensive systems.

> I think it will absolutely derail the whole process of arms control. It will become simply impossible.
>
> —Dr. Georgi Arbatov, Member of Supreme Soviet, and Director of the Institute of the United States and Canada, interview on Radio Moscow, April 13, 1983.

> Announcing its programs of the space weapons build-up, Washington is actually undermining the whole process of the limitation and reduction of armaments. . . .
>
> —Vladimir Bogachev, TASS political commentator, April 28, 1984.

> The United States . . . continues to push its 'Star Wars' program . . . If the United States continues in the same dangerous direction there is no hope for real progress in arms control.
>
> —Radio Moscow, world service in English, commentary by Aleksandr Druzhinin, January 6, 1986.

1. As is the case with a number of other Soviet propaganda themes, the reverse is the truth. The historical record demonstrates that the Soviets have agreed to real arms control only when it was clear the West had the political will to preserve the military balance, usually by initiating new programs. For example, in the case of SALT I, only after the Johnson administration in early 1968 requested Congressional approval of funding for production and deployment for the ABM system did the Soviets agree to U.S. proposals to begin arms control negotiations on strategic nuclear forces. (The first session of SALT I began in Helsinki in November 1969, having been postponed after the Soviets invaded Czechoslovakia in August, 1968.)

In other words, contrary to the point usually made by Soviet propagandists, the prospects for arms control were actually enhanced by the U.S. having in 1969-1972 a vigorous ABM program. The Soviet decision to return in early 1985 to arms control negotiations with the U.S. – unilaterally suspended by the Soviets in late 1983 – apparently was largely in response to announcement of the U.S. Strategic Defense Initiative and our determination to implement programs to restore a balance in strategic and intermediate range forces.

2. The threat that arms talks would prove impossible if the U.S. were to continue with programs under contemplation has proved empty in the past. In the case of INF negotiations, prior to NATO's December 1979 INF decision, the Soviet Union was unwilling to consider arms limits relating specifically to their SS-20 missiles and said they would not negotiate on longer range INF missiles. It was only after that decision, and after the Soviets became convinced that NATO was fully committed to implementing it, that the Soviets finally agreed in mid-1980 to negotiations without the unacceptable precondition that NATO first abandon its planned deployment. Yet before NATO made its decision, the Soviets argued that the NATO decision would make talks impossible – and later, after that threat failed to be borne out, that actual deployment would make talks impossible. These threats came in such statements as those by then Foreign Minister Gromyko, and President Brezhnev.

> Question: Do you consider that talks will be possible in the event that a decision on supplementing arms is adopted at the forthcoming NATO session? Answer: The present position of the NATO countries, including the FRG, as it now appears, destroys the basis for talks. We have also told the government of the FRG about this.
>
> —Foreign Minister Gromyko, press conference, Bonn, November 23, 1979.

> The present position of NATO countries makes talks on this problem impossible. We formally told the U.S. government about all this a number of days ago.
>
> —President Brezhnev, interview in *Pravda,* January 13, 1980.

As NATO neared initial longer-range INF missile deployment in late 1983, the Soviets used arguments such as this as a pretext for walking out of INF talks in Geneva in November 1983, insisting – as they did throughout 1984 – that the new U.S. missiles must be withdrawn as a precondition for renewing arms control talks. This precondition – as part of the general propaganda theme that US programs destroy the basis for arms control talks – was dropped in January 1985, when the Soviets agreed in Geneva to renew arms control negotiations that include INF systems.

3. Real reductions in offensive nuclear weapons should be easier to achieve in the presence of strategic defense systems than they are at present. The Soviets claim that U.S. abandonment of SDI will open the door to deep reductions. But the U.S. has been seeking such reductions in the offensive arsenals of both sides since 1972, and particularly during the last four years, with no effect. Far from standing in the way of offensive reductions, SDI is very likely to provide a positive incentive for both sides to reduce their strategic nuclear arsenals, for three reasons.

First, if SDI technologies can produce a defense that is cost-effective at the margin, which is more than a purely economic consideration, it would provide an incentive not to "react" to defensive deployments with more offensive deployments. The SDI research program is in part designed to determine if such cost effectiveness can be achieved. The United States will not develop or deploy defenses against ballistic missiles unless they meet this criterion.

Second, by having the capability to disrupt the execution of a nuclear attack, defenses against ballistic missiles would confront the potential attacker with great uncertainty as to the potential success of the attack. Continued investment in nuclear ballistic missiles would become considerably less attractive from a military perspective because an attacker would not be able to count on achieving specific military objectives by using offensive nuclear ballistic missiles.

Finally, SDI could mitigate the inherent risks of reducing nuclear arsenals to low levels. Under present conditions, very deep reductions, while attractive, would entail the risk that one side or the other might deploy a clandestine nuclear force that would give it tremendous advantages if used or even simply revealed during a crisis. This risk is much greater for the United States than for the Soviet Union, because of the closed nature of Soviet society and the fact that the Soviets have a record of violating many of the arms control agreements which they have signed. Effective defenses provide a hedge against a clandestinely deployed force and thus more confidence in the wisdom of drastically reducing or even eventually eliminating nuclear forces.

In short, SDI provides both a prudent hedge against existing and future unilateral Soviet force improvements and presents an opportunity to the Soviets to move jointly to a more stable world with progressively lower levels of nuclear weapons.

4. Even as Soviet spokesmen claim that U.S. SDI research undermines arms control efforts, the Soviet Union continues to press forward, clandestinely, with the same kind of research. Given that Soviet violation of their obligations under many existing arms control treaties undermines the entire arms control process, the claim is as hypocritical as it is false.

SOVIET PROPAGANDA THEME:

SDI undermines stability and increases the likelihood of nuclear conflict.

> I concretely refer to Washington's announced plans of developing a large-scale and highly effective anti-ballistic missile defense . . . the new American military concept . . . is only capable of bringing the world closer to the nuclear precipice.
>
> —General Secretary Yuri Andropov, interview on April 19, 1983 with West German magazine *Der Spiegel*
>
> But realization of SDI would overturn all existing ideas on the balance of forces and even on the possibilities of reducing nuclear arms. The strategic balance would truly become strategic chaos. . . . Realization of the 'star wars' program engenders and would engender in the future destabilization at every stage of its implementation.
>
> —L. Semeyko, "A Course Aimed at Destabilization," *Izvestia*, January 30, 1986

1. By the Soviet definition of "stability," virtually every U.S. program is "destabilizing," whatever its characteristics. It is important to recognize that the Soviet interpretation of "stability" differs markedly from that which prevails in American discussions of these problems. The United States views stability as a mutual condition; that is, stability exists when neither nation can gain an advantage by initiating a large-scale nuclear conflict. The Soviets most commonly define stability as a condition of unilateral advantage for Soviet forces. The concept of mutuality which pervades American thinking about the strategic

balance is largely absent from the Soviet outlook. Within the Soviet understanding, U.S. programs are "destabilizing" regardless of their specific characteristics – essentially by definition. Similarly, in the world depicted by Soviet propaganda, U.S. programs, essentially by definition, always make nuclear war more likely.

2. Measured against the proper technical criteria of stability, defensive systems would actually have a strong stabilizing effect, by making a successful first strike more difficult. The logical flaw with the Soviet argument is that it assumes a world with both vulnerable defenses and highly vulnerable offenses, despite the fact that survivability is one of our key criteria for deciding the feasibility of strategic defensive systems, and that the mere presence of defenses of some level of effectiveness would substantially reduce retaliatory force vulnerability.

The purpose of the SDI program is to find a means to destroy attacking ballistic missiles before they could reach any of their potential targets. The SDI therefore places its emphasis on options which provide the basis for eliminating the general threat posed to the United States and our allies by ballistic missiles. If a future President elects to move toward a general defense against ballistic missiles, such a system would certainly also increase the survivability of our retaliatory forces. The goal of our research, is not, and cannot be, simply to protect our retaliatory forces from attack.

Perhaps because their own strategic doctrine has so long emphasized the advantages of defenses, the Soviets have a difficult time making a logical case that defenses are harmful. In the end their arguments tend to collapse before a simple observation: an effective defense would discourage attack. The uncertainties and obstacles facing a potential attacker increase in the presence of an opposing defense. Without effective defenses, it is much easier for an attacker to plan a first strike.

3. Concern about stability has played an integral role in U.S. thinking about SDI from the outset. From the beginning, the U.S. has recognized the importance of maintaining stability during a transition to a more defense-reliant balance, and has emphasized that defensive systems will not be deployed unless they are survivable. Requiring that defenses meet the criterion of survivability would greatly reduce the incentive for an adversary to strike first. Moreover, should defensive technologies prove feasible, the U.S. has stated that it would hope to bring about a "jointly managed approach designed to maintain, at all times, control over the mix of offensive and defensive systems of both sides and thereby increase the confidence of all nations in the effectiveness and stability of the evolving strategic balance."*

SOVIET PROPAGANDA THEME:

SDI would increase the chances of "instantaneous" war.

> Space strike weapons based on new physical principles (laser and particle beam weapons) will be ready for use at short notice and will be almost instantly activated. In fact, they are designed for automatic triggering without human involvement. That is what makes them especially dangerous. While at present, with the existing weapon systems, there may still be some time available to evaluate the situation and avert the irreparable, a war with the use of space strike weapons may erupt instantaneously.
>
> – Soviet pamphlet, *Star Wars: Delusions and Dangers* (Military Publishing House, Moscow, July, 1985), p. 9.

1. In fact, strategic defenses would tend to have the opposite effect — increasing the available decision time in the event of an accidental launch of offensive weapons. In this way SDI could actually alleviate the "first-strike" risk caused by the existence of Soviet heavy missiles. It is ironic that the Soviets cry foul over a system designed precisely to avoid a catastrophe and to do so by countering the greatest potential sources of instability – fast-flying, "heavy" Soviet MIRVed ICBMs. As Secretary Shultz has stated.**

> Weapons like large, fixed, land-based ICBMs with multiple warheads, capable of destroying missile silos . . . are the most powerful strategic weapons, the most rapid, the most provocative, the most capable of carrying out a preemptive strike, the most likely to tempt a hair-trigger response in a crisis.

The fact is that the Soviets have sought and obtained an overwhelming advantage in precisely those weapons. The U.S. has long held, and its arms control positions have long reflected, that such Soviet ICBMs pose a profound threat to crisis stability. SDI is in part an attempt to search for a counter to that threat.

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* "The Strategic Defense Initiative," (Department of State, June 1985), Special Report No. 129.

**Address to the North Atlantic Assembly, meeting in San Francisco, California, October 14, 1985.

2. Numerous precautions are available to ensure that defensive and offensive systems alike remain under human control. Moreover, there are techniques that could be employed to ensure against the dangers of faulty human decision.

3. In contrast to the consequences of an accident under the present offense-offense balance, any accidental triggering of defensive systems would be a harmless event. SDI-type systems would be designed for the interception of weapons, not for mass destruction. Were a defensive action prompted by warning of a mass attack that proved to be spurious, little would occur beyond the wasting of photon energy in space and perhaps the harmless hurling through space of projectiles that would burn up upon entering the atmosphere. Little or no damage would result from an unnecessary defensive action.

4. Throughout the nuclear period, the United States has unquestionably been the chief innovator and initiator of new technological and political measures designed to ensure full human control over arsenals and to prevent accidents. Most of the important precautionary measures against accidental war now in place on both sides began as U.S. initiatives. One suspects that it is precisely because the problem of accidents has always loomed so large in American thinking about the nuclear problem that Soviet propagandists invoke this theme, however illogically or implausibly, in their attacks on SDI. The U.S. has long been intent on reducing to the minimum level possible the chances of a nuclear accident. In April 1983, the Defense Department sent to Congress a report, with President Reagan's strong endorsement, recommending additional steps to strengthen stability and reduce the risk of accident or miscalculation. The proposals included the addition to the U.S.-USSR hotline of a high-speed facsimile transmission capability (on which agreement was reached in July 1984), the establishment of a Joint Military Communications Link to supplement the hotline and existing diplomatic channels, and the establishment by the U.S. and Soviet governments of improved communications with their embassies in each other's capitals.

The United States, in short, has always placed great importance upon ensuring political control over the use of weapon systems. Nothing in the SDI program changes that fundamental emphasis. More than anything, SDI might lead to defenses that would reduce the possibility of an accidental nuclear catastrophe spurred by the presence of offensive nuclear weapons.

SOVIET PROPAGANDA THEME:

The Soviet Union will take countermeasures to SDI defenses which could defeat them with relative ease and low cost.

> As a matter of principle, there does not and cannot exist any absolute weapon. The 'absolutely reliable antimissile defense' is just a mirage. The makers of the American 'wonder weapon' are wrong when they assume that the 'Russians cannot match the United States in the standard of technical development.'. . . The efforts of one side to form an 'absolute shield' force the other side to reinforce devices for overcoming it, all the more so as the antimissile defense will naturally have its weak, vulnerable spots – in the control, command and targeting system, in the work of the computers and so forth.
>
> – Col. General Nikolay Chervov, "Defense on Attack," interview in *Bratislava Pravda,* April 29, 1983.

> If the United States were to begin militarizing outer space, upsetting the existing military strategic equilibrium, the Soviet Union would have no choice but to take countermeasures and restore the strategic parity. These measures might concern both defensive and offensive arms.
>
> – Soviet pamphlet, *Star Wars: Delusions and Dangers,* (Military Publishing House, Moscow, July 1985), p. 54.

> The Pentagon's calculations to achieve U.S. military superiority by deploying strike weapons in outer space are built on sand. The Soviet Union will find effective means to counteract the weapon systems, and the reply move will be rapid enough and less costly than the U.S. 'Star Wars' programme.
>
> – Vladimir Bogachev, Military News Analyst, TASS in English, January 6, 1986.

1. The countermeasures discussed by Soviet propagandists are being taken into account in SDI. Obviously one of the major questions at issue in any assessment of prospective strategic defense technologies will be the availability of realistic countermeasures. From its inception, SDI has been based on the assumption that a determined attacker would do whatever is realistically possible to overcome defenses. The 1983 "Fletcher Study," which produced the technology study plan for SDI, was carried out by six study teams – one of which focused solely on an attacker's prospective countermeasures and tactics. The Fletcher study's attention to likely countermeasures carried over to the actual SDI technology program, which posits a "re-

sponsive" Soviet threat.

That is, the Strategic Defense Initiative program is examining defenses which would be effective if the USSR responded to strategic defenses with a combination of various attack schemes, encompassing passive and active, lethal and nonlethal defense suppression techniques many of which currently exist or would be natural outgrowths of Soviet trends.

However, it should be recognized that there is a considerable difference between being able to imagine plausible-sounding countermeasures and being able actually to produce them. Many of the ideas suggested by Soviet propagandists, however ingenious they may sound, are from a serious technical viewpoint rather far-fetched. Fred S. Hoffman, chairman of the SDI "Future Security Strategy Study," pointed out in his March 1985 testimony before the Senate Armed Services Committee:

> Critics can produce countermeasures on paper far more easily than the Soviets could produce them in the field. In fact the critics seldom specify such "Soviet" countermeasures in ways that seriously consider their costs to the Soviet Union in resources, in the sacrifice of other military potential, or the time that it would take for the Soviets to develop them and incorporate them into their forces. The countermeasures suggested frequently are mutually incompatible.

An example of this principle at work is the report of the so-called "Working Group of the Committee of Soviet Scientists" published in April 1984. The countermeasures listed in the "Working Group" paper are copied from Western sources. None of them takes into account the complexity of defeating a multi-layer, multi-technology defense in depth. Since any given offensive countermeasure would affect chiefly one layer, attacks that could defeat one layer of defense would be ineffective against another layer. Moreover, a number of the suggested countermeasures would be mutually incompatible. It is difficult to imagine that the Soviet "Working Group" report has been accorded any serious attention whatever within the Soviet Union, except as a propaganda tool.

2. The intensity of the present Soviet strategic defense research program belies the professed Soviet faith in the efficacy of offensive countermeasures to defeat a layered, high-technology defensive system. Except in one notable implicit acknowledgement, Soviet spokesmen have been careful to deny that they are pursuing directed energy technologies for strategic defense purposes. The exception was a remark in 1984 by the Nobel laureate laser physicist, N. G. Basov. Basov declared that Moscow would have "no technological difficulty" in duplicating the U.S. SDI program. Indeed, Soviet research in high-technology defensive systems was far advanced years before SDI was announced.

Nor have Soviet propagandists been able to reconcile their argument that SDI-type defenses are infeasible/ineffective with their stress on the dire consequences of SDI—i.e., it is destabilizing, alters the strategic balance, is part of a "first-strike" capability, etc. A political cartoon in the U.S. neatly captured the Soviet contradiction. A woman watching a TV news report critical of "Star Wars" turns to her husband and asks if it won't work, why are the Russians so worried about it?

3. The real issue is whether defensive systems will be able to maintain their capability more easily than countermeasures can be created to defeat them. If the offense-defense balance can be shifted in this fashion, SDI holds out the promise of a more stable and less dangerous deterrent regime, based primarily on mutual defensive systems rather than on mutual offensive threats.

Definitive judgments of the ultimate technological feasibility of strategic defenses which meet our criteria are, at any rate, premature. It was precisely to raise and answer this question that the President launched SDI.

SOVIET PROPAGANDA THEME:

SDI will undermine the security of U.S. Allies.

> In actual fact, Washington is not very much concerned with the fate of Europeans. The advantages of deploying American space weapons are frankly argued in the United States since this would make it possible to conduct a nuclear conflict over Europe and not over the United States.
>
> —Editorial, *Izvestiya*, 25 January 1985

> [US] goals will remain the same, namely, to harness them [US allies] to the adventurist enterprise [SDI] and place the partners' scientific, intellectual, and, of course, financial resources at 'big brother's' service . . . In other words, it is a question of . . . the transformation of the allies and partners into appendages of the US military-industrial complex . . .
>
> —V. Gan, "At Other Peoples' Expense," *Pravda*, 1 May 1985

SDI could make a number of significant contributions to our Allies' security, both direct – by illuminating technologies that hold out the potential of enhanced Allied defenses – and indirect – by strengthening our sense of common security. It is partly for this reason that Soviet propaganda has been directed so heavily at Western European and Japanese audiences.

1. SDI includes exploration of defenses against shorter-range ballistic missiles, research which could aid directly in defending our Allies against nuclear, chemical, or conventional attack. In many cases, the same technologies can be applied to short and intermediate range ballistic missiles, as well as strategic missiles which pose a direct threat to our Allies and the U.S.

Effective ballistic missile defenses would have value against both the Soviet SS-20 and conventional or nuclear-armed shorter-range ballistic missiles. Effective defensive systems would thus enhance deterrence not only at the nuclear, but also at the conventional level. In addition, technologies being examined under the SDI hold promise for application to other conventional force improvements.

2. Reduced vulnerability for the United States would not weaken but strengthen in Soviet eyes the U.S. commitment to defend our Allies. A key to the security of U.S. Allies is the Soviet belief that U.S. and Allied security remain inseparable. The more capable the U.S. is of defending against a Soviet nuclear attack, the less basis there could be for a misguided Soviet calculation that the U.S. would hesitate to come to the defense of its Allies. The presence of U.S. defenses would make even clearer to the Soviets that U.S. and Allied security is indivisible.

3. U.S. and Allied governments have a common understanding of the need to preserve and strengthen NATO and our other Alliances. U.S. Allies have supported SDI because they understand the military context in which SDI was established. That common understanding was reflected in the statement issued following President Reagan's meeting with Prime Minister Thatcher in December 1984, to the effect that:

> First, the U.S. and Western aim was not to achieve superiority but to maintain the balance, taking account of Soviet developments;
>
> Second, that SDI-related deployment would, in view of treaty obligations, have to be a matter for negotiations;
>
> Third, the overall aim is to enhance, and not to undermine, deterrence; and,
>
> Fourth, East-West negotiations should aim to achieve security with reduced levels of offensive systems on both sides.

This common understanding is expressed as well in the principles suggested in January 1985 by Chancellor Kohl of the Federal Republic of Germany that:

- The existing NATO strategy of flexible response must remain fully valid for the Alliance as long as there is no more effective alternative for preventing war; and,
- The Alliance's political and strategic unity must be safeguarded. There must be no zones of different degrees of security in the alliance, and Europe's security must not be decoupled from that of North America.

Since the President's March 1983 speech the U.S. has held extensive discussions with its Allies on SDI. We have invited them to take part in SDI research, and some have already signed agreements to do so. Finally, the United States has pledged that in the event of a future decision to develop and deploy defensive systems – a decision in which consultation with our Allies would play an integral part – both Allied and U.S. security would be enhanced.

4. Many of the Soviet arguments regarding SDI and our Allies amount to little more than transparent efforts at intimidation. The Soviets invoked essentially the same (as it proved, entirely empty) threats and warnings in their campaign against NATO's INF deployment during the years 1979-83. The irony, of course, is that it is not SDI or NATO's INF missiles that threaten our Allies, but rather Soviet weapons aimed at them. But by the peculiar logic of Soviet propaganda, the West is always supposed to be threatened by nothing so much as its own efforts to secure its defense.

Propaganda Versus Substance in the East-West Dialogue

None of this is to say that Soviet attempts to manipulate automatically translate into success. On the contrary, during the controversy over intermediate-range nuclear forces in Europe, not only did the Soviets fail to block the scheduled NATO response to their SS-20 missiles, but their disingenuous tactics proved in the end, even from their own point of view, to be counterproductive. Likewise today, the self-serving aims of Soviet statements and arguments against SDI are widely recognized.

The arms-control bargaining table, and not the headlines of Western newspapers, remains the appropriate forum for discussing genuine East-West differences regarding the strategic balance. It must be actions, not words, by which the world will judge the seriousness of each side's concern about stability.

Nonetheless, the Soviet Union can be expected to continue disseminating propaganda against SDI. From time to time the West will witness, as it has in the past, transitory changes in the style of Soviet pronouncements. Yet thus far little in the underlying substance or goals of Soviet foreign policy seems to have changed. It is on substance that we must focus.

The basic objectives of Soviet foreign policy, formed in the wake of the Second World War, to weaken and divide the West, remain by all appearances essentially unaltered. If the past is any guide, the Soviet Union will modify its conduct only when it believes Western strength and unity to be unshakeable. Only then will the Soviets shift their attention from the propaganda forum outside the negotiating room to the real negotiations occurring within.

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SDI: Progress and Promise: Remarks by President Reagan at a briefing on the Strategic Defense Initiative (SDI), August 6, 1986.

NEW YORK TIMES 15 OCTOBER 1986 Pg. 14

Experts Say Soviet Has Conducted Space Tests on Anti-Missile Weapons

By WILLIAM J. BROAD

Experts on Soviet technology said yesterday that the Soviet Union had apparently conducted weapon tests in space of the type that would be restricted by the 10-year ban on "Star Wars" testing proposed by the Russians in Iceland.

The American experts said a laser being developed as an antimissile weapon has been fired from a research station at Sary Shagan in Kazakhstan at a manned Soviet spacecraft, with Soviet astronauts wearing special goggles to protect them from the beam.

The overall Soviet program, however, is seen as crude compared to the American "Star Wars" program, known officially as the Strategic Defense Initiative.

This relative backwardness, experts say, is a primary reason why the Soviet Union wants a ban on further testing outside of laboratories. The Soviet Union, although about even with the United States in basic antimissile research, lags badly behind America in advanced technologies needed to turn lasers, particle beams and other devices into effective weapons. The key deficiencies include less powerful computers and a huge lag in the miniaturization of arms.

Pentagon View of Soviet Effort

This view is sharply at odds with that of the Pentagon, which has maintained that antimissile systems the Russians already have in place represent a real threat to the West.

The issue arose last weekend when Soviet officials proposed at the Iceland summit talks that all but laboratory research, testing and development of antimissile systems be halted for 10 years.

Dr. Simon Kassel, a senior scientist with the Rand Corporation who has written serveral reports for the Pentagon on Soviet beam weaponry, said yesterday that in Iceland, the Russians were basically trying to buy time to catch up with the West.

"It's one thing to do basic research, and have a lot of different concepts going, and another to translate it into weapons," he said in an interview. "In that they face considerable difficulties."

He continued: "Their technology base is not as rich as ours. People don't realize how bad it is. We tend to put them in the same class with us. They're not. The only reason we talk to them is that they have nuclear weapons."

Changes in Strategic Doctrine

Dr. Kassel said the Russians were frightened by the sweeping changes in strategic doctrine that lie at the heart of President Reagan's antimissile plan. "What was suggested in Iceland is that we shift the competition from building nuclear weapons, which they have mastered, to a competition in exotic technologies," he said. "They're playing for time. So far, the technological lag has been tolerable for them beause it was confined to traditional techologies that they have mastered."

He added that an example of a key technology in which the Soviet Union lags is computers, which are considered critical for a "Star Wars" system. "Their situation in the computer field is very bad," Dr. Kassel said.

In contrast to such views, the Pentagon says Russian antimissile work has a very long history and is very aggressive and threatening. "Soviet efforts in most phases of strategic defense have long been far more extensive than those of the United States," according to "Soviet Strategic Defense Programs," a publication of the Defense Department. It said the Soviet Union is conducting advanced work in lasers, particle beams and kinetic-energy weapons.

At Sary Shagan in Kazakhstan, it said, the Soviet Union has set up a large ground-based laser that today can fire at satellites and in the future could "possibly" play a role in an antimissile system. It also noted that Moscow has the world's only operational antisatellite weapon.

'Beyond Technical Research'

"Unlike the U.S.," it said, "the U.S.S.R. had now progressed in some cases beyond technical research. It already has ground-based lasers that could be used to interfere with U.S. satellites, and could have prototype space-based antisatellite laser weapons by the end of the decade."

Some experts outside the Government said the Soviet Union has already apparently conducted weapon tests in space.

"In 1982 Soviet cosmonauts were asked if they had on their goggles on as they went over Sary Shagan," said James E. Oberg, an expert on the Soviet space program who is author of "Red Star in Orbit." "The implication is that their spacecraft was a target for a ground-based laser."

Dr. Gerold Yonas, former chief scientist of the Pentagon's Strategic Defense Initiative program and now vice president of Titan Corporation in La Jolla, Calif., said that Moscow made up for backwardness in some areas of antimissile technology by sheer pragmatism.

"They get their equipment out in the field and learn by doing," he said. "In some cases they are able to deploy devices even before we do, even though we had the technology first." An example in the area of antimissile systems, he said, was the Soviet rocket-interceptor system that rings Moscow. "I don't think you can over-emphasize the importance of a warm production line in terms of operational experience," he said.

Dr. Roy D. Woodruff, a senior scientist at the Lawrence Livermore National Laboratory in California who has studied Soviet antimissile work, said the Russians had gone far beyond "laboratory" testing, as defined in Iceland.

"Sary Shagan is an enormous facility," Dr. Woodruff said. "You have to ask questions about what they're doing there. Before any agreement is signed, they're going to have to be much more open about this stuff. It's a closed society. Even with all the classified information, we still don't have a very good idea of what's going on. We don't known what the quality is. My guess is that it isn't very good. But who knows?"

Jeffrey T. Richelson, a aerospace expert at American University in Washington, D.C., said the Pentagon had a tendency to make overly bold assertions about Soviet antimissile advances. An example, he said, was the repeated Pentagon assertion that 10,000 Soviet scientists are working on antimissile weaponry. "Their estimates are often more confident than they should be" and sometimes based on "dubious methodology," he said. "Uncertain estimates are all too often taken as literal truth."

WASHINGTON POST 15 OCTOBER 1986 Pg. 1

Soviets Lobby in Europe

Envoys Hedge Answers on SDI, Missile Link

By Karen DeYoung
Washington Post Foreign Service

LONDON, Oct. 14—Soviet envoys, dispatched at the behest of Mikhail Gorbachev, fanned out across Western Europe in a diplomatic offensive today to give Moscow's interpretation of what happened during the failed summit in Reykjavik.

In London and Paris, senior Soviet diplomats met with government leaders and held press conferences today in a program that seemed a mirror image of American efforts the day before. On Wednesday, the Soviets will take their presentation to other NATO leaders in West Germany, Italy and Belgium.

But so far, the Europeans say, they are unsure of what exactly the Soviet Union wants to tell them.

Specifically, the Europeans say they want to know whether the proposal Gorbachev put on the table in Reykjavik calling for a complete elimination of all intermediate-range nuclear forces (INF) in Europe—and some in Asia—will still be the Soviet position when regular arms control negotiations resume Wednesday in Geneva.

West German Chancellor Helmut Kohl today suggested that Gorbachev had changed positions on his personal pledge not to link an early arms accord on medium-range missiles in Europe with the deadlock over President Reagan's Strategic Defense Initiative.

At each stop so far, the Soviet envoys have insisted that their goal is not to look for, or exploit, possible areas of disagreement between the Reagan administration and its Western European allies. Moscow is aware, chief Soviet arms negotiator Viktor Karpov said here tonight, that "there is a notion of solidarity within NATO."

Both Karpov, in London today and due in Bonn on Wednesday, and Deputy Foreign Minister Alexander Bessmertnykh, in Paris today for talks with French President Francois Mitterrand and due in Rome Wednesday, were described by European officials as "upbeat" and positive.

"On the one hand, the message is 'let us build on Reykjavik,' " said a British official following Karpov's 90-minute meeting this morning with Prime Minister Margaret Thatcher. That, he said, is a proposal that is likely to meet with wide European approval. "On the other hand," he noted, "they say 'this is a time for pondering the meaning' " of the Iceland meeting.

"It's a sunny visage to the outside world," he said, "but they're not being very clear on some key points yet."

For the European allies, a critical question after Reykjavik is whether the Soviets are willing to sign a separate accord curtailing or eliminating medium-range missiles before a final deal is struck on long-range nuclear weapons and space-based missile defenses.

In various forums over the past year, the Soviets had proposed cutbacks in INF, and had indicated an agreement limiting the medium-range weapons was not dependent on restrictions in testing and deployment under SDI, the Soviet condition for progress in other areas of nuclear weapons negotiations.

In Reykjavik, Gorbachev offered a package deal—

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ARMS...from Pg. 1

The compromise also includes the appropriation levels agreed to as part of the arms control compromise reached between Congress and the White House last week.

The appropriation for Mr. Reagan's advanced antimissile program is $3.2 billion, $1.6 billion below the President's $4.8 billion request. With the separate appropriation for the program in the Energy Department budget, the total is expected to be $3.5 billion, $1.8 billion below Mr. Reagan's $5.3 billion request. The compromise is about halfway between the House and Senate figures.

There was some brief talk today among some House members about cutting the appropriation further because of the Iceland summit's collapse after Mr. Reagan refused to accept Soviet proposals that he said would have killed the missile defense program. But the Democratic leadership, according to aides, decided "a deal is a deal."

The compromise also includes money for 12 of the huge intercontinental MX missiles, as the House had voted, and funds for the new small, mobile intercontinental ballistic missile known as the Midgetman.

On the T-46A, $124 million is for 12 jet trainers in 1987 and $27 million for advance procurement of planes in 1988. In addition, the bill releases $170 million appropriated in 1986 for the planes but withheld by the Air Force.

Air Force Told to Use Money

The proposal includes language that instructs the Air Force, which is opposed to the plane, to spend all the funds on the T-46A or lose the appropriation.

The fight to save the T-46A has been one of the toughest battles of the year, pitting supporters of the plane against Bob Dole, Republican of Kansas, the Senate majority leader, who had urged the Air Force to cancel the Fairchild contract.

Mr. Dole has been maneuvering to get the contract for the new generation of Air Force trainers shifted to the Cessna Corporation of Wichita, Kan. Cessna built the current trainer, the T-37.

Representative Thomas J. Downey, Democrat of Suffolk County, said he was delighted with the approval of the money. But he added, "Not until the Air Force acts are we going to be sure the T-46A is off the runway."

The first step in keeping the T-46A alive came in the separate military programs bill. In a compromise there, the House and the Senate, which adamantly opposed the plane, agreed to a competition between the T-46A, the T-37 and any other competitor. This agreement was designed to leave the door open for the two Appropriations Committees, which were more favorably disposed toward the plane, to appropriate the money for the plan. The appropriation bill does not include money for a competition.

NEW YORK TIMES
15 OCT 1986
Pg. 1

5 RUSSIANS IN U.N. ARE OUSTED BY U.S.

By ELAINE SCIOLINO
Special to The New York Times

UNITED NATIONS, N.Y., Oct. 14 — The State Department announced today that the remaining Soviet diplomats ordered expelled by the Reagan Administration must leave the United States by Sunday.

According to an official at the United States Mission to the United Nations, 5 of the 25 diplomats originally named are still here but they are expected to depart by tomorrow.

A leading Soviet official, asked if his country would carry out an earlier threat to retaliate against the United States for the expulsions, said. "The retaliation will be made." He did not elaborate further.

With the departure of the remaining Russians, the Soviet Union will be in full compliance with an American order that 25 diplomats attached to the Soviet Mission leave the country. The Administration has identified the 25 as members of the K.G.B., the Soviet intelligence agency, and the G.R.U., the Soviet military intelligence agency.

It was not immediately clear why the Russians had abandoned their efforts to contest the order.

United Nations lawyers had ruled that the expulsion order was illegal and said disagreements over the size of a mission should be negotiated between the two sides. Secretary General Javier Pérez de Cuéllar has called on the United States to offer proof on a case-by-case basis that the 25 Russians were engaged in improper activities.

The Russians could have tried to fight the American expulsion order by asking the United Nations to convene a three-member arbitration panel to settle the dispute.

Soviet compliance with the expulsion order should not be viewed as a gesture of cooperation with the United States in the aftermath of the Iceland summit, one Reagan Administration official said. Rather, he said, it indicates an unwillingness to risk exposing some diplomats who may be carrying out illegal activities and follows a traditional pattern of Soviet behavior.

"This is hardly evidence of the Soviets willingness to coopertate with us," said the official. "For years, whenever we have fingered an East European as being naughty, they may complain but they send him home."

Soviet officials have refused to admit publicly that they will comply with the order, and their motives remain unclear.

Extended to Oct. 19

"We have informed the Soviets that our order that 25 Soviet U.N. personnel must leave the U.S. stands," Pete Martinez, a State Department spokesman, said in Washington. "The Soviets have said that they will comply with our request but asked for an extension to Oct. 19 so that those five remaining could depart on the next scheduled Aeroflot flight.

"As a gesture of good will, we granted their request."

According to a spokesman at the United States mission, "The Soviets have told us that by tomorrow morning, they will all be gone."

At a news conference today, Deputy Soviet Foreign Minister Vladimir F. Petrovsky repeated charges that the expulsion order was "unlawful," adding that the two sides had not agreed on how to resolve the issue in Iceland.

Asked afterward whether the Russians would carry out a threat to retaliate made by Soviet Foreign Minister Eduard A. Shevardnadze, Mr. Petrovsky replied, "Surely, surely. It's quite clear. So the retaliation will be made."

There was considerable confusion today about how many of the Russians on the original list of 25 were still in the United States. Until today, it was presumed that 11 remained, but one American official said today that six Russians on the list left.

According to Administration officials, these 11 include Valery I. Savchenko, listed as a counselor and said to be the K.G.B. station chief, and Vladislav B. Skvortsov, a senior counselor said to be the G.R.U. station chief. Others said to be K.G.B. agents are: Gennadi P. Tarasov, a Middle East specialist and adviser in the Security Council; Vladimir I. Pustovolov, an attaché; Sergei M. Mezentsev, a first secretary; Valery I. Ahikeyev, a counselor; Viktor V. Sbirunov, a first secretary; Leonardas A. Janavicius, a second secretary; Gennadi F. Voitenkov, an attaché, and Aleksandr N. Ushakov, a first secretary. Gennadi M. Ryabkov, a first secretary, is said to be a G.R.U. agent.

The names of the 14 others were not made public.

SOVIETS...from Pg. 5

progress in all nuclear areas—in exchange for restrictions on SDI. Following Reagan's refusal, there is uncertainty among the NATO allies as to whether the new INF part of the proposal can now be "de-linked" again from SDI and negotiated separately. Even if there is no linkage, will the Soviet position on INF be the old one of substantial cuts, or the new one set forth in Reykjavik of complete elimination?

The answer, according to Karpov and Bessmertnykh today, appeared to be both yes and no.

In Paris, Bessmertnykh told reporters that "the Geneva talks will definitely go on. But they will not be serving the same soup as that prepared" by Karpov and his U.S. counterpart at the talks, Max Kampelman. "They will start from where we left off in Reykjavik," he said.

Asked about linkage with SDI, however, Bessmertnykh was somewhat ambiguous. "It's a package," he said, although "as a general principle, we do not depart from the proposal that INF can be tackled as a separate item."

Karpov said at a news conference here that "there can be a separate solution to medium-range weapons in Europe, without any limits." The Soviet position in Reykjavik, he said, "was our position, is our position and will be our position."

Asked directly what the Soviet position would be in Geneva, however, Karpov said "we need some time to make our assessments of the results of the Reykjavik discussions . . . The United States too should ponder upon the results. I do not jump to conclusions."

According to officials here, the dialogue was much the same during the meeting between Karpov and Thatcher. Thatcher, Reagan's closest NATO ally, was "as forthright as you might imagine," one said. "It was a lively session" in which Thatcher asked for clarification.

The British have preliminarily concluded, he said, that "either there is genuine confusion in the Soviet camp, in the heat of the battle, or they want to have it both ways."

Regardless of this assessment of his argument, Karpov appeared to have garnered widespread media coverage here, timing his press conference to meet the deadlines of Britain's major evening television news programs.

Soviet officials at all levels—including Foreign Minister Eduard Shevardnadze during his visit last summer—have been noticeably more open and congenial under Gorbachev, and Karpov today continued that trend by adopting traditional custom of British officials on their exit from meetings with Thatcher at her home and office at No. 10 Downing St. He stopped outside the door and held an impromptu briefing for reporters waiting outside, thus making the midday television news programs as well.

Washington Post correspondent Michael Dobbs contributed to this report from Paris.

WALL STREET JOURNAL
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"WORLD-WIDE"

The Israeli government delayed the scheduled "rotation" of jobs by Prime Minister Peres and Foreign Minister Shamir. The postponement, for at least 24 hours, was caused by a dispute between the Likud and Labor parties over political appointees. Peres and Shamir couldn't resolve the differences during an emergency meeting.

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." It is no wonder that many Americans are confused about the President's proposal and think the U.S. currently has a defense against missiles!

- An Associated press-Media General poll released in August found that 60 percent of Americans felt that the U.S. had either a good or an excellent defense against a Soviet missile attack.

- In fact, the U.S. is utterly defenseless against Soviet rockets.

Americans Want Enhanced Security

When the American people are asked to evaluate concepts, rather than the labels such as "Star Wars," they support SDI. Evidence:

Two days after the President's return from Iceland, polls taken by major news organizations showed the public supports President Reagan's refusal to surrender his Strategic Defense Initiative.

-- A New York Times/CBS News poll shows 68 percent support.
-- Nearly 60 percent polled by the Washington Post/ABC News poll said Reagan should retain his commitment to SDI.
-- According to the Wall Street Journal/NBC News poll, only 15 percent of the American people think SDI is a bad idea.

Penn + Schoen Associates (9/27/86)

Question: SDI is a research program to develop a system to destroy incoming nuclear missiles before they reach their targets. Do you favor or oppose the U.S. going ahead with the research and development phases of SDI?

Favor -- 81% Oppose -- 13%

Question: If such a system could be developed, would you favor or oppose using it in the United States?

Favor -- 78% Oppose -- 13%

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?

Favor -- 49% Oppose -- 44%

Heritage Foundation/Sindlinger & Co. Poll (5/27/85)

89 percent of the American people would support a Strategic Defense program if it would make a Soviet Missile attack less likely.

SDI -- Enhance Peace/Safer World

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?

Make world safer -- 50% Make world less safe -- 32%

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

Question: 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. Others say that SDI, is a bad idea because it will upset the balance of power, accelerate the arms race, and increase the risk of war. Is SDI research a good idea or a bad idea?

Good idea -- 62% Bad idea -- 31%

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?

Yes -- 62% No -- 23%

SDI -- Arms Reduction

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

Question: 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.

Agree -- 52% Disagree -- 44%

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

Question: 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?

Increase -- 47% Decrease -- 32%

HIGH FRONTIER

1010 Vermont Avenue, N.W. • Suite 1000 • Washington, D.C. 20005 • (202) 737-4979

Lt. Gen. Daniel O. Graham
USA (Ret.)
Director

October 15, 1986

Dear Colleague:

We have just witnessed a wise and courageous act by our President. He turned down an oppportunity to achieve "progress in arms control" which would have entailed leaving us defenseless for another 10-15 years. That was wise because SDI is the only reason that the Soviets are bargaining at all. It was courageous because he had to know the magnitude of the flak he would take from media.

It is now up to us, and specifically to High Frontier and the Coalition for SDI, to offset the thunderous attack on the President from the Left. I need your help to do what must be done.

What must be done?

We must get the word to the public in general that President Reagan, not "some future president" can make the decision to deploy SDI You will note that almost every anti-Reagan critic insists that SDI is decades away, may or may not "work," and would cost a trillion dollars.

We have just completed a study which shows that we can, in less than 7 1/2 years, get three layers of defense built (two ground-based, one space-based) that will provide excellent (not perfect, of course) defense of our people and our military assets -- all at a cost under 30 billion. You may hear it referred to as SD-Cubed (SD3, Strategic Defense Development and Deployment.) High Frontier did this with the cooperation of several aerospace companies who were willing to get their necks out to back us.

We must get out of the Washington area where the press is so jaded and biased that we can't compete with the antis. We must put the pro-SD3 show on the road. We will set up seminars in every major metropolitan area to get the word out. I'll be calling on our CNP ally organizations to help and the rest of you to provide financial support.

I won't pretend that I know exactly what this will cost. Roughly, it will take about $10,000 per seminar and we will schedule 30 cities beginning now and running through 1987. That's about $300,000. To me it seems little compared to the stakes involved.

Can I count on you to help?

Regards,

Daniel O. Graham
Lt. General USA (Ret.)

Washington Outlook

EDITED BY STEPHEN H. WILDSTROM

NOW THE RIGHT IS TAKING POTSHOTS AT STAR WARS

President Reagan's Star Wars program is running into criticism from a surprising quarter. Some of the diehard conservative boosters of the Strategic Defense Initiative are warning the President that the entire program may be doomed unless he defers his dream of a missile-proof umbrella in space and concentrates instead on making a limited, mainly ground-based system operational as soon as possible.

Backers sense that SDI's time is fast running out. An increasingly skeptical Congress has slashed the President's fiscal 1987 funding request of $5.3 billion by about one-third. And Reagan, who is far more committed to the program than any likely successor will be, has little more than two years left in office.

THE GOP'S QUAYLE

A group of conservatives, led by Senator Dan Quayle (R-Ind.), is trying to force Reagan's hand. The group succeeded in writing a provision into the Senate version of the 1987 defense authorization bill. The provision would require the Pentagon to report on the SDI technologies that could be developed or deployed in a time range of 5 to 10 years. "The Administration has a big problem with SDI," remarks Quayle, "and we blame it on the direction the program is taking."

Quayle, whose support within the Defense Dept. is growing, wants to focus SDI research on those relatively simple technologies needed to protect key military installations in the U. S. and Europe from Soviet nuclear or conventional attack. Some examples: interceptor missiles and high-velocity antimissile projectiles. Supporters argue that such a limited antimissile system could be partially deployed by the early 1990s without violating the terms of the 1972 treaty governing deployment of antiballistic missiles.

FASTER ACTION. Some hardliners go even further. A group led by Representatives James A. Courter (R-N. J.) and Jack F. Kemp (R-N. Y.) believes that the Administration could speed the development of the Star Wars system while maintaining its broad scope. In a letter to Reagan, these critics—who include hydrogen-bomb pioneer Edward Teller and former Secretary of State Alexander Haig—argue that spending 10 years studying the feasibility of an exotic space-based defense system "is not politically sustainable."

Instead, they want the Administration to work on a system that could be made operational by the end of the decade. And, Courter and his allies argue, the system could be used to protect population centers as well as military targets.

This assault by some of Star Wars' biggest fans leaves Reagan in a quandary. With SDI under mounting attack by liberals and moderates in Congress, the Administration needs all the supporters it can muster. But the President is not prepared to give up his hopes of a space-based system that could render Soviet missiles virtually impotent in an attack on the U. S. or Europe.

WEAKER POSITION? SDI foes see the squabbling on the right as a vindication of their position. "Everyone on the conservative side is pointing fingers on who lost SDI," chortles a Democratic Senate aide. A system limited to defending military installations rather than protecting civilian population centers would be an even more tempting political target, this staffer says, because the public "wouldn't buy the notion of protecting second lieutenants in North Dakota."

The Administration also is reluctant to dilute the value of Star Wars as a lever in arms negotiations with Soviet leader Mikhail S. Gorbachev. The Reaganites believe their insistence on pushing ahead with full-blown SDI technology is a major factor in the Soviets' increasing willingness to engage in serious arms-control talks. An abrupt change in the Administration's approach to Star Wars might weaken the U. S. bargaining position.

But the presumed ability to scare the Russians with SDI depends on winning continued congressional funding for the program. And with the Administration's approach under attack from both its friends and its political opponents, the Soviets are likely to be more confused than frightened.

By Dave Griffiths

CAPITAL WRAPUP

THE FED

The White House plans to take its time filling the Federal Reserve Board vacancy created by the resignation of Governor Emmett J. Rice. With Congress about to adjourn, the Administration has no hope of getting an appointee cleared this year anyway, and officials see no need to name a new board member before the end of the year. The wait also could be prolonged because President Reagan is under pressure to appoint a minority member. Rice was the only black on the Fed. The appointment won't make a significant difference in Fed politics. Rice has been a staunch backer of Chairman Paul A. Volcker's cautious policies, but the pro-growth Reagan appointees already hold a clear majority.

RAILROADS

Santa Fe Industries Inc.'s efforts to reverse an Interstate Commerce Commission ruling appear to have backfired. After the ICC barred a merger between Santa Fe and Southern Pacific Corp., more than 500 letters from shippers, employees, and politicians pleading the railroad's case descended on the commission. But ICC sources report that the lobbying has annoyed members to the point where commissioners once inclined to reconsider the decision now plan to vote to sustain it.

POLITICS

Things seem to be looking up for the Democrats in Colorado. In the tight race to succeed retiring Democratic Senator Gary Hart, a new *Denver Post* poll shows that Democratic Representative Timothy E. Wirth has pulled ahead of Representative Ken Kramer, 46% to 42%. Earlier polls gave Kramer a slight lead. In the gubernatorial race, the *Post* poll has Democrat Roy Romer, who had been down by 12 points, running a bit ahead of state Senator Ted Strickland. Colorado Democrats say fears about the state's energy- and mining-dominated economy are bringing voters over to their side.

GOEBEL/INDIANAPOLIS STAR

THE WALL STREET JOURNA

MAY 19, 1986

The U.S. Can Build a Pinpoint Strategic Defense Now

By Martin Anderson

Americans are among the most insured people in the world. We have medical insurance, auto-accident insurance, fire insurance, earthquake insurance, burglary insurance, libel insurance, and even life insurance. We are insured up to our chins against almost any calamity that could befall us, except one—accidental annihilation by a nuclear missile.

We all know that the massive and increasing nuclear-missile arsenals of the world have created the small but real possibility that there could be an unauthorized or an accidental launch of a nuclear missile. Adding to that risk is the growing concern that a ruthless radical of the Qadhafi variety will manage someday soon to get his hands on a nuclear bomb and a missile capable of delivering the bomb to a faraway target.

As the risk of a deliberately planned all-out nuclear war between the two superpowers has receded, we have almost totally disregarded the growing risk of a small nuclear attack on the U.S. Neglect of this danger is unconscionable. The consequences of even one nuclear warhead striking a heavily populated area of this country would be catastrophic. The loss of life would be appalling.

That we choose to live so dangerously is baffling. It is baffling because we could build a limited missile defense today, at low cost, in full accord with the current ABM treaty, that would insure against such a tragedy.

The U.S. Army has already demonstrated conclusively that we have the technology—on our scientific shelves—to build an interceptor missile that can stop and destroy an incoming nuclear missile high above the earth's surface. On June 10, 1984, the Army fired an old Minuteman missile toward a target 4,000 miles away. Once the incoming missile was detected, a new interceptor was launched, a 70-foot engineering marvel, cobbled up from old missile parts and topped with an ultrasecret, state-of-the-art sensing device. The interceptor flew flawlessly and homed in on the incoming Minuteman at a distance of more than 100 miles above the earth. In the brittle cold and near vacuum of outer space, the interceptor collided with the Minuteman missile at a speed of more than 20,000 miles per hour.

What happened was a collision of such power and intensity that both missiles were literally pulverized. We all have a pretty good idea of what happens when two automobiles, each traveling 60 miles per hour, hit head on. The interceptor missile hits its target at least 165 times harder.

And that was the old interceptor missile. By early 1986, the Army had completed plans for a better one. It's called ERIS, which stands for Exoatmospheric Reentry-vehicle Interceptor Subsystem. The new interceptor missile is extremely accurate, carries no explosives in its nose cone, and is only 20 inches in diameter and less than 14 feet long. Utilizing our existing radar system, with some upgrading, we could build a complete limited missile defense system (with 100 missiles) for about $150 million a year, or a total cost of $1.5 billion spread over 10 years. If we started today, the first missiles would be standing guard, ready to fire, in the early 1990s.

Under terms of the ABM treaty, both the U.S. and the Soviet Union have the right to deploy as many as 100 interceptor missiles at designated launch sites. The Soviet treaty site is near Moscow; ours is at Grand Forks, N.D., next to the Canadian border. The Soviet ABM missiles are in place, the only operational missile defense system in the world. We started to build such a system in the late 1960s, but stopped and tore it all down in 1975. So we have a nice building site ready and waiting.

The area of earth that can be effectively protected by an interceptor missile is called its "footprint." The size of the protection footprint is determined by how soon we can detect an incoming nuclear missile and the speed of the interceptor missile. Because of the "footprint" phenomenon, the Soviet missile defense site near Moscow actually can provide a limited defense for a large part of the Soviet Union.

The footprint of an interceptor missile based in Grand Forks, N.D., also would be enormous. It would cover the entire continental U.S., all of Mexico and most of Canada. A single site could provide a limited defense against nuclear missiles for virtually all of North America.

Just one interceptor missile could destroy an accidentally launched nuclear missile. One hundred interceptor missiles could effectively insure us against virtually anything but an all-out nuclear attack by the Soviet Union. And, in addition to protecting us from an errant ICBM, this new system also could protect us from an errant missile launched from a Soviet submarine lurking off our coast.

Last February, President Reagan talked of "pushing forward our highly promising Strategic Defense Initiative—a security shield that may one day protect us and our allies from nuclear attack, whether launched by deliberate calculation, freak accident, or the isolated impulse of a madman." And then he asked, "Isn't it better to use our talents and technology to build systems that destroy missiles, not people?"

Most people would answer yes. Missile defense is clearly morally superior to the doctrine of mutually assured destruction. But shouldn't we also ask why we don't now build and deploy what we know we can build, why we don't deploy live interceptor missiles while we press ahead with the futuristic research of SDI?

Or perhaps we should put it this way: What will we say to the people living in an American city who, someday in the future, learn that in 15 or 20 minutes they will be annihilated by a nuclear bomb and ask for help? Will we be able to say "no problem," and quickly fire some interceptor missiles, or will we have to say "sorry" and then live with the knowledge of what we could have done?

The full-scale Strategic Defense Initiative has been the subject of intense debate about its scientific feasibility and its complex implications for military strategy. A missile insurance system is not subject to scientific debate. We have already successfully tested a prototype. A missile insurance system does not complicate military strategy. It simply protects us from accidental annihilation.

We should begin immediately to build, and then deploy, the best interceptor missiles we can create. They could turn out to be the most important insurance program the American people ever had.

Mr. Anderson is a senior fellow at the Hoover Institution at Stanford University. He was President Reagan's assistant for policy development from 1981 to 1982.

NEW YORK TIMES 17 OCTOBER 1986 Pg.D2.

Economic Scene | Leonard Silk

A Price Tag On 'Star Wars'

DURHAM, N.C.

THE potential economic costs of building a space-based missile defense system are playing a critical role in the evolution of the arms negotiations between the United States and the Soviet Union.

After the weekend talks with President Reagan in Iceland, Mikhail S. Gorbachev, the Soviet leader, said in a broadcast that the Americans were making "two serious mistakes." The first, he said, was tactical: a belief that the Soviet Union would "reconcile itself to the rebirth, or the attempt of the rebirth, of the American military dictatorship." The second mistake, he said, was strategic: "The United States wants to economically tire the Soviet Union, to exhaust the Soviet Union economically, by encouraging the arms race."

He accused the Americans of wanting to undermine Soviet plans "in the sphere of social life" and to create "dissatisfaction among the people with their leadership." And he accused Washington of being unwilling to spend time "analyzing in a serious way what is happening in our country — the reforms, the changes that are happening," and of indulging in "wishful thinking" — presumably that the Soviet economy would buckle if pressed hard enough by an American military buildup.

Is this accusation warranted? A Pentagon spokesman, Comdr. William Prucha, said in a telephone interview yesterday that no American leader had ever said, like Nikita S. Khrushchev, "We will bury you." But he acknowledged that the economic pressure that would be put on Moscow by the American military buildup and Strategic Defense Initiative, or "Star Wars," was a big factor in bringing the Russians to the bargaining table.

He quoted from a joint study by the Central Intelligence Agency and the Defense Intelligence Agency stating that Mr. Gorbachev's plans for accelerating the growth of the Soviet economy call for "massive replacement of obsolete plant and equipment and an emphasis on high-technology industries." This would require record growth in the machinery and metal-working sector.

Within a few years, the report said, competition between the military and the civilian economy for scarce resources, such as high-quality steel, microprocessors and skilled labor, would intensify. "The real test" for Soviet economic and military programs will come in two or three years, the report concluded, with renewed demands for expansion and the need to renovate the defense industries and to build "new generations of weapons." All this helps explain the Soviet stress on arms control.

On the American side, there are also mounting pressures on the military as a result of strains on the Federal budget and the huge budget deficit. In the first of two lectures, "Blundering Into Disaster," here at Duke University, Robert S. McNamara, the former Defense Secretary and president of the World Bank, said yesterday that, while it is difficult to estimate the cost of a space-based missile program that is only in the conceptual stage, "enough is known to indicate the magnitude of the project." Former Defense Secretaries James Schlesinger and Harold Brown, he said, have each estimated the cost of a full-scale effort to defend the American population at $1 trillion.

Mr. McNamara added that, whatever the cost of testing and deploying a giant space-based system, that enormous expenditure would not constitute a final price tag. "We would, for the rest of time, have to constantly upgrade and augment the 'Star Wars' system in response to the demands of the arms competition and the new technologies," he said. This, he added, would require an annual expenditure of between $100 billion and $200 billion.

"Thus, to deploy 'Star Wars,' " Mr. McNamara said, "would force us to divert massive amounts of money from conventional defense and from domestic programs over a period of years extending well beyond the end of this century."

Asserting that neither side could figure out how both to reduce offensive forces and permit defensive deployment, Mr. McNamara declared, "It can be said without qualification: We cannot have both 'Star Wars' and arms control."

Yet he praised President Reagan for his "imagination and courage" in proposing to move ahead toward drastic reductions in nuclear weapons.

This week Mr. Reagan accused "liberals" of trying to "chop up" the Strategic Defense Initiative. Nevertheless, a concordat between liberals and conservatives may be emerging on the critical importance of arms control and the need to scale back and limit "Star Wars" to a research program for now, to avoid losing the chance for progress with the Russians on arms reduction.

The prospective costs and risks of building and deploying the Strategic Defense Initiative and the nagging uncertainties about its feasibility and cost-effectiveness appear to be forcing a deep-going reappraisal of the program within the Administration — and a focus, on both the Soviet and American sides, on the urgency of arms control.

SAN DIEGO UNION 10 OCTOBER 1986

450 chinks in U.S. armor

Almost unnoticed in the flurry over the Reykjavik summit was a decisive American retreat in the superpower spy war. Indeed, the growing threat to U.S. national security posed by Soviet espionage has been largely swept under the rug by the Reagan administration, in the view of the Senate Select Committee on Intelligence. The panel concludes in a new report that damage from recent Soviet spy cases is "far greater than anyone in the U.S. government has acknowledged publicly."

Moscow's latest victory came amid the package deal which triggered the release of journalist Nicholas Daniloff from the Soviet Union. Among the Soviet demands agreed to by Secretary of State George Shultz was the relaxation of a presidential order expelling 25 KGB agents operating from the Soviet mission to the United Nations.

All of the spies were to have left the country by Oct. 1, but 11 were granted a reprieve by the White House. Among those allowed to stay were the KGB station chief in New York City, Valery I. Savchenko, and his counterpart from the GRU, the Soviet military intelligence agency, Vladislov B. Skvortsov. Another Soviet intelligence officer not on the State Department's list of 25 is Vladimir Kolesnikov. He is assistant to U.N. Secretary General Javier Perez de Cuellar. The assistant's post is traditionally reserved for a Russian and has been held by various KGB agents for more than a decade.

One of the byproducts of increased Soviet-American cooperation during the 1970s was an exponential increase in the number of Soviet officials, many of them espionage agents, admitted to this country. For example, a new Soviet consulate was opened in San Francisco and staffed in part with KGB operatives whose mission is to steal high-tech secrets from the nearby Silicon Valley.

The intelligence committee estimates that some 450 Soviet representatives in this country are, in fact, spies. This shocking figure is of grave consequence to American security, but one that high-level officials in Washington are generally content to tolerate.

By far the largest beneficiary of the KGB's American spy network is the Soviet military, which is celebrated for its copycat versions of U.S. aircraft, missiles and other weapons. Even the Soviet space shuttle now under development is a replica of the American spacecraft.

The danger presented by this hemorrhage of U.S. secrets is illustrated by the intelligence committee's assessment that the West's lead in advanced technology has shrunk "from 10-12 years a decade ago to about half that today." Meantime, the Kremlin has saved tens of billions of rubles in research and development costs by pirating Western technology.

Unless Washington is prepared to capitulate to Moscow in this deadly serious superpower spy war, the American counterintelligence program must be strengthened dramatically to check the "expanding hostile intelligence operations" documented by the Senate panel.

As an essential first step, the number of Soviets permitted to operate in an official capacity in this country must be drastically reduced to match the number of American officials admitted to the Soviet Union.

This straightforward remedy was proposed earlier by Mr. Reagan but abandoned in the rush to Reykjavik. If the President is to honor his obligation to safeguard the nation's security, Soviet spying is a threat that demands his immediate attention.

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Special
Report
No. 129

The Strategic Defense Initiative

June 1985

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

In his speech of March 23, 1983, President Reagan presented his vision of a future in which nations could live secure in the knowledge that their national security did not rest upon the threat of nuclear retaliation but rather on the ability to defend against potential attacks. The Strategic Defense Initiative (SDI) research program is designed to determine whether and, if so, how advanced defensive technologies could contribute to the realization of this vision.

The Strategic Context

The U.S. SDI research program is wholly compatible with the Anti-Ballistic Missile (ABM) Treaty, is comparable to research permitted by the ABM Treaty which the Soviets have been conducting for many years, and is a prudent hedge against Soviet breakout from ABM Treaty limitations through the deployment of a territorial ballistic missile defense. These important facts deserve emphasis. However, the basic intent behind the Strategic Defense Initiative is best explained and understood in terms of the strategic environment we face for the balance of this century and into the next.

The Challenges We Face. Our nation and those nations allied with us face a number of challenges to our security. Each of these challenges imposes its own demands and presents its own opportunities. Preserving peace and freedom is, and always will be, our fundamental goal. The essential purpose of our military forces, and our nuclear forces in particular, is to deter aggression and coercion based upon the threat of military aggression. The deterrence provided by U.S. and allied military forces has permitted us to enjoy peace and freedom. However, the nature of the military threat has changed and will continue to change in very fundamental ways in the next decade. Unless we adapt our response, deterrence will become much less stable and our susceptibility to coercion will increase dramatically.

Our Assumptions About Deterrence. For the past 20 years, we have based our assumptions on how deterrence can best be assured on the basic idea that if each side were able to maintain the ability to threaten retaliation against any attack and thereby impose on an aggressor costs that were clearly out of balance with any potential gains, this would suffice to prevent conflict. Our idea of what our forces had to hold at risk to deter aggression has changed over time. Nevertheless, our basic reliance on nuclear retaliation provided by offensive nuclear forces, as the essential means of deterring aggression, has not changed over this period.

This basic idea—that if each side maintained roughly equal forces and equal capability to retaliate against attack, stability and deterrence would be maintained—also served as the foundation for the U.S. approach to the strategic arms limitation talks (SALT) process of the 1970s. At the time that process began, the United States con-

cluded that deterrence based on the capability of offensive retaliatory forces was not only sensible but necessary, since we believed at the time that neither side could develop the technology for defensive systems which could effectively deter the other side.

Today, however, the situation is fundamentally different. Scientific developments and several emerging technologies now do offer the possibility of defenses that did not exist and could hardly have been conceived earlier. The state of the art of defense has now progressed to the point where it is reasonable to investigate whether new technologies can yield options, especially non-nuclear options, which could permit us to turn to defense not only to enhance deterrence but to allow us to move to a more secure and more stable long-term basis for deterrence.

Of equal importance, the Soviet Union has failed to show the type of restraint, in both strategic offensive and defensive forces, that was hoped for when the SALT process began. The trends in the development of Soviet strategic offensive and defensive forces, as well as the growing pattern of Soviet deception and of noncompliance with existing agreements, if permitted to continue unchecked over the long term, will undermine the essential military balance and the mutuality of vulnerability on which deterrence theory has rested.

Soviet Offensive Improvements. The Soviet Union remains the principal threat to our security and that of our allies. As a part of its wide-ranging effort further to increase its military capabilities, the Soviet Union's improvement of its ballistic missile force, providing increased prompt, hard-target kill capability, has increasingly threatened the survivability of forces we have deployed to deter aggression. It has posed an especially immediate challenge to our land-based retaliatory forces and to the leadership structure that commands them. It equally threatens many critical fixed installations in the United States and in allied nations that support the nuclear retaliatory and conventional forces which provide our collective ability to deter conflict and aggression.

Improvement of Soviet Active Defenses. At the same time, the Soviet Union has continued to pursue strategic advantage through the development and improvement of active defenses. These active defenses provide the Soviet Union a steadily increasing capability to counter U.S. retaliatory forces and those of our allies, especially if our forces were to be degraded by a Soviet first strike. Even today, Soviet active defenses are extensive. For example, the Soviet Union possesses the world's only currently deployed antiballistic missile system, deployed to protect Moscow. The Soviet Union is currently improving all elements of this system. It also has the world's only deployed antisatellite (ASAT) capability. It has an extensive air defense network, and it is aggressively improving the quality of its radars, interceptor aircraft, and surface-to-air missiles. It also has a very extensive network of ballistic missile early warning radars. All of these elements provide them an area of relative advantage in strategic defense today and, with logical evolutionary improvement, could provide the foundation of decisive advantage in the future.

Improvement in Soviet Passive Defenses. The Soviet Union is also spending significant resources on passive defensive measures aimed at improving the survivability of its own forces, military command structure, and national leadership. These efforts range from providing rail and road mobility for its latest generation of ICBMs [intercontinental ballistic missiles] to extensive hardening of various critical installations.

Soviet Research and Development on Advanced Defenses. For over two decades, the Soviet Union has pursued a wide range of strategic defensive efforts, integrating both active and passive elements. The resulting trends have shown steady improvement and expansion of Soviet defensive capability. Furthermore, current patterns of Soviet research and development, including a longstanding and intensive research program in many of the same basic technological areas which our SDI program will address, indicate that these trends will continue apace for the foreseeable future. If unanswered, continued Soviet defensive improvements will further erode the effectiveness of our own existing deterrent, based as it is now almost exclusively on the threat of nuclear retaliation by offensive forces. Therefore, this longstanding Soviet program of defensive improvements, in itself, poses a challenge to deterrence which we must address.

Soviet Noncompliance and Verification. Finally, the problem of Soviet noncompliance with arms control agreements in both the offensive and defensive areas, including the ABM Treaty, is a cause of very serious concern. Soviet activity in constructing either new phased-array radar near Krasnoyarsk, in central Siberia, has very immediate and ominous consequences. When operational, this radar, due to its location, will increase the Soviet Union's capability to deploy a territorial ballistic missile defense. Recognizing that such radars would make such a contribution, the ABM Treaty expressly banned the construction of such radars at such locations as one of the primary mechanisms for ensuring the effectiveness of the treaty. The Soviet Union's activity with respect to this radar is in direct violation of the ABM Treaty.

Against the backdrop of this Soviet pattern of noncompliance with existing arms control agreements, the Soviet Union is also taking other actions which affect our ability to verify Soviet compliance. Some Soviet actions, like their increased use of encryption during testing, are directly aimed at degrading our ability to monitor treaty compliance. Other Soviet actions, too, contribute to the problems we face in monitoring Soviet compliance. For example, Soviet increases in the number of their mobile ballistic missiles, especially those armed with multiple, independently-targetable reentry vehicles, and other mobile systems, will make verification less and less certain. If we fail to respond to these trends, we could reach a point in the foreseeable future where we would have little confidence in our assessment of the state of the military balance or imbalance, with all that implies for our ability to control escalation during crises.

Responding to the Challenge

In response to this long-term pattern of Soviet offensive and defensive improvements, the United States is compelled to take certain actions designed both to maintain security and stability in the near term and to ensure these conditions in the future. We must act in three main areas.

Retaliatory Force Modernization. First, we must modernize our offensive nuclear retaliatory forces. This is necessary to reestablish and maintain the offensive balance in the near term and to create the strategic conditions that will permit us to pursue complementary actions in the areas of arms reduction negotiations and defensive research. For our part, in 1981 we embarked on our strategic modernization program aimed at reversing a long period of decline. This modernization program was specifically designed to preserve stable deterrence and, at the same time, to provide the incentives necessary to cause the Soviet Union to

join us in negotiating significant reductions in the nuclear arsenals of both sides.

In addition to the U.S. strategic modernization program, NATO is modernizing its longer range intermediate-range nuclear forces (LRINF). Our British and French allies also have underway important programs to improve their own national strategic nuclear retaliatory forces. The U.S. SDI research program does not negate the necessity of these U.S. and allied programs. Rather, the SDI research program depends upon our collective and national modernization efforts to maintain peace and freedom today as we explore options for future decision on how we might enhance security and stability over the longer term.

New Deterrent Options. However, over the long run, the trends set in motion by the pattern of Soviet activity, and the Soviets' persistence in that pattern of activity, suggest that continued long-term dependence on offensive forces may not provide a stable basis for deterrence. In fact, should these trends be permitted to continue and the Soviet investment in both offensive and defensive capability proceed unrestrained and unanswered, the resultant condition could destroy the theoretical and empirical foundation on which deterrence has rested for a generation.

Therefore, we must now also take steps to provide future options for ensuring deterrence and stability over the long term, and we must do so in a way that allows us both to negate the destabilizing growth of Soviet offensive forces and to channel longstanding Soviet propensities for defenses toward more stabilizing and mutually beneficial ends. The Strategic Defense Initiative is specifically aimed toward these goals. In the near term, the SDI program also responds directly to the ongoing and extensive Soviet antiballistic missile effort, including the existing Soviet deployments permitted under the ABM Treaty. The SDI research program provides a necessary and powerful deterrent to any near-term Soviet decision to expand rapidly its antiballistic missile capability beyond that contemplated by the ABM Treaty. This, in itself, is a critical task. However, the overriding, long-term importance of SDI is that it offers the possibility of reversing the dangerous military trends cited above by moving to a better, more stable basis for deterrence and by providing new and compelling incentives to the Soviet Union for seriously negotiating reductions in existing offensive nuclear arsenals.

The Soviet Union recognizes the potential of advanced defense concepts—especially those involving boost, postboost, and mid-course defenses—to change the strategic situation. In our investigation of the potential these systems offer, we do not seek superiority or to establish a unilateral advantage. However, if the promise of SDI technologies is proven, the destabilizing Soviet advantage can be redressed. And, in the process, deterrence will be strengthened significantly and placed on a foundation made more stable by reducing the role of ballistic missile weapons and by placing greater reliance on defenses which threaten no one.

Negotiation and Diplomacy. During the next 10 years, the U.S. objective is a radical reduction in the power of existing and planned offensive nuclear arms, as well as the stabilization of the relationship between nuclear offensive and defensive arms, whether on earth or in space. We are even 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. A world free of the threat of military aggression and free of nuclear arms is an ultimate objective to which we, the Soviet Union, and all other nations can agree.

To support these goals, we will continue to pursue vigorously the negotiation of equitable and verifiable agreements leading to significant reductions of existing nuclear arsenals. As we do so, we will continue to exercise flexibility concerning the mechanisms used to achieve reductions but will judge these mechanisms on their ability to enhance the security of the United States and our allies, to strengthen strategic stability, and to reduce the risk of war.

At the same time, the SDI research program is and will be conducted in full compliance with the ABM Treaty. If the research yields positive results, we will consult with our allies about the potential next steps. We would then consult and negotiate, as appropriate, with the Soviet Union, pursuant to the terms of the ABM Treaty, which provide for such consultations, on how deterrence might be strengthened through the phased introduction of defensive systems into the force structures of both sides. This commitment does not mean that we would give the Soviets a veto over the outcome anymore than the Soviets have a veto over our current strategic and intermediate-range programs. Our commitment in this regard reflects our recognition that, if our research yields appropriate results, we should seek to move forward in a stable way. We have already begun the process of bilateral discussion in Geneva needed to lay the foundation for the stable integration of advanced defenses into the forces of both sides at such time as the state of the art and other considerations may make it desirable to do so.

The Soviet Union's View of SDI

As noted above, the U.S.S.R. has long had a vigorous research, development, and deployment program in defensive systems of all kinds. In fact, over the last two decades the Soviet Union has invested as much overall in its strategic defenses as it has in its massive strategic offensive buildup. As a result, today it enjoys certain important advantages in the area of active and passive defenses. The Soviet Union will certainly attempt to protect this massive, long-term investment.

Allied Views Concerning SDI

Our allies understand the military context in which the Strategic Defense Initiative was established and support the SDI research program. Our common understanding was reflected in the statement issued following President Reagan's meeting with Prime Minister Thatcher in December, to the effect that:

First, the U.S. and Western aim was not to achieve superiority but to maintain the balance, taking account of Soviet developments;

Second, that SDI-related deployment would, in view of treaty obligations, have to be a matter for negotiations;

Third, the overall aim is to enhance, and not to undermine, deterrence; and,

Fourth, East-West negotiations should aim to achieve security with reduced levels of offensive systems on both sides.

This common understanding is also reflected in other statements since then—for example, the principles suggested recently by the Federal Republic of Germany that:

- The existing NATO strategy of flexible response must remain fully valid for the alliance as long as there is no more effective alternative for preventing war; and,
- The alliance's political and strategic unity must be safeguarded. There must be no zones of different degrees of security in the alliance, and Europe's security must not be decoupled from that of North America.

SDI Key Points

Following are a dozen key points that capture the direction and scope of the program:

1. The aim of SDI is not to seek superiority but to maintain the strategic balance and thereby assure stable deterrence.

A central theme in Soviet propaganda is the charge that SDI is designed to secure military superiority for the United States. Put in the proper context of the strategic challenge that we and our allies face, our true goals become obvious and clear. Superiority is certainly not our purpose. Nor is the SDI program offensive in nature. The SDI program is a research program aimed at seeking better ways to ensure U.S. and allied security, using the increased contribution of defenses—defenses that threaten no one.

2. Research will last for some years. We intend to adhere strictly to ABM Treaty limitations and will insist that the Soviets do so as well.

We are conducting a broad-based research program in full compliance with the ABM Treaty and with no decision made to proceed beyond research. The SDI research program is a complex one that must be carried out on a broad front of technologies. It is not a program where all resource considerations are secondary to a schedule. Instead, it is a responsible, organized research program that is aggressively seeking cost-effective approaches for defending the United States and our allies against the threat of nuclear-armed and conventionally armed ballistic missiles of all ranges. We expect that the research will proceed so that initial development decisions could be made in the early 1990s.

3. We do not have any preconceived notions about the defensive options the research may generate. We will not proceed to development and deployment unless the research indicates that defenses meet strict criteria.

The United States is pursuing the broadly based SDI research program in an objective manner. We have no preconceived notions about the outcome of the research program. We do not anticipate that we will be in a position to approach any decision to proceed with development or deployment based on the results of this research for a number of years.

We have identified key criteria that will be applied to the results of this research whenever they become available. Some options which could provide interim capabilities may be available earlier than others, and prudent planning demands that we maintain options against a range of contingencies. However, the primary thrust of the SDI research program is not to focus on generating options for the earliest development/deployment decision but options which best meet our identified criteria.

4. Within the SDI research program, we will judge defenses to be desirable only if they are survivable and cost effective at the margin.

Two areas of concern expressed about SDI are that deployment of defensive systems would harm crisis stability and that it would fuel a runaway proliferation of Soviet offensive arms. We have identified specific criteria to address these fears appropriately and directly.

Our survivability criterion responds to the first concern. If a defensive system were not adequately survivable, an adversary could very well have an incentive in a crisis to strike first at vulnerable elements of the defense. Application of this criterion will ensure that such a vulnerable system would not be deployed and, consequently, that the Soviets would have no incentive or prospect of overwhelming it.

Our cost-effectiveness criterion will ensure that any deployed defensive system would create a powerful incentive not to respond with additional offensive arms, since those arms would cost more than the additional defensive capability needed to defeat them. This is much more than an economic argument, although it is couched in economic terms. We intend to consider, in our evaluation of options generated by SDI research, the degree to which certain types of defensive systems, by their nature, encourage an adversary to try simply to overwhelm them with additional offensive capability while other systems can discourage such a counter effort. We seek defensive options which provide clear disincentives to attempts to counter them with additional offensive forces.

In addition, we are pressing to reduce offensive nuclear arms through the negotiation of equitable and verifiable agreements. This effort includes reductions in the number of warheads on ballistic missiles to equal levels significantly lower than exist today.

5. It is too early in our research program to speculate on the kinds of defensive systems—whether ground-based or space-based and with what capabilities—that might prove feasible and desirable to develop and deploy.

Discussion of the various technologies under study is certainly needed to give concreteness to the understanding of the research program. However, speculation about various types of defensive systems that might be deployed is inappropriate at this time. The SDI is a broad-based research program investigating many technologies. We currently see real merit in the potential of advanced technologies providing for a layered defense, with the possibility of negating a ballistic missile at various points after launch. We feel that the possibility of a layered defense both enhances confidence in the overall system and compounds the problem of a potential aggressor in trying to defeat such a defense. However, the paths to such a defense are numerous.

Along the same lines, some have asked about the role of nuclear-related research in the context of our ultimate goal of non-nuclear defenses. While our current research program certainly emphasizes non-nuclear technologies, we will continue to explore the promising concepts which use nuclear energy to power devices which could destroy ballistic missiles at great distances. Further, it is useful to study these concepts to determine the feasibility and effectiveness of similar defensive systems that an adversary may develop for use against future U.S. surveillance and defensive or offensive systems.

6. The purpose of the defensive options we seek is clear—to find a means to destroy attacking ballistic missiles before they can reach any of their potential targets.

We ultimately seek a future in which nations can live in peace and freedom, secure in the knowledge that their national security does not rest upon the threat of nuclear retaliation. Therefore, the SDI research program will place its emphasis on options which provide the basis for eliminating the general threat posed by ballistic missiles. Thus, the goal of our research is not, and cannot be, simply to protect our retaliatory forces from attack.

If a future president elects to move toward a general defense against ballistic missiles, the technological options that we explore will certainly also increase the survivability of our retaliatory forces. This will require a stable concept and process to manage the transition to the future we seek. The

concept and process must be based upon a realistic treatment of not only U.S. but Soviet forces and out-year programs.

7. U.S. and allied security remains indivisible. The SDI program is designed to enhance allied security as well as U.S. security. We will continue to work closely with our allies to ensure that, as our research progresses, allied views are carefully considered.

This has been a fundamental part of U.S. policy since the inception of the Strategic Defense Initiative. We have made a serious commitment to consult, and such consultations will precede any steps taken relative to the SDI research program which may affect our allies.

8. If and when our research criteria are met, and following close consultation with our allies, we intend to consult and negotiate, as appropriate, with the Soviets pursuant to the terms of the ABM Treaty, which provide for such consultations, on how deterrence could be enhanced through a greater reliance by both sides on new defensive systems. This commitment should in no way be interpreted as according the Soviets a veto over possible future defensive deployments. And, in fact, we have already been trying to initiate a discussion of the offense-defense relationship and stability in the defense and space talks underway in Geneva to lay the foundation to support such future possible consultations.

If, at some future time, the United States, in close consultation with its allies, decides to proceed with deployment of defensive systems, we intend to utilize mechanisms for U.S.-Soviet consultations provided for in the ABM Treaty. Through such mechanisms, and taking full account of the Soviet Union's own expansive defensive system research program, we will seek to proceed in a stable fashion with the Soviet Union.

9. It is our intention and our hope that, if new defensive technologies prove feasible, we (in close and continuing consultation with our allies) and the Soviets will jointly manage a transition to a more defense-reliant balance.

Soviet propagandists have accused the United States of reneging on commitments to prevent an arms race in space. This is clearly not true. What we envision is not an arms race; rather, it is just the opposite—a jointly managed approach designed to maintain, at all times, control over the mix of offensive and defensive systems of both sides and 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 achieve 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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Strategic Defense Initiative

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United States Department of State
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Following is an address by Robert C. McFarlane, Assistant to the President for National Security Affairs, before the Overseas Writers Association, Washington, D.C., March 7, 1985.

No issue is of greater importance to mankind today than strategic stability. A world awaits, with asperity, the reconvening of nuclear arms control negotiations on March 12. The Soviet Union has returned to the bargaining table, and we welcome them back. Ahead of us stretches a difficult path. The United States seeks equitable and verifiable agreements which significantly reduce the size of both U.S. and Soviet nuclear arsenals. We hope the Soviet Union will join us in a constructive search for necessary solutions to our differences.

A Historical Perspective

These differences are profound. To see this best, it is useful to take a historical perspective. We live in a world of change. As in social and scientific areas, the strategic picture too has changed greatly since the early 1970s when the ABM [Anti-Ballistic Missile] Treaty was signed. Certain hopes and assumptions underlying that treaty, and the accompanying SALT I [strategic arms limitation talks] Interim Agreement, have been altered substantially.

One of these underlying assumptions was that the two agreements would lead to real reductions in offensive nuclear systems. That didn't happen. In negotiations, the Soviet Union has consistently refused to accept meaningful and verifiable reductions in offensive nuclear arsenals. SALT II did no more than set caps on already high levels of strategic arms. It is clear now that the Soviet Union never intended to settle for the rough equivalence of offensive strategic forces foreshadowed in the SALT I agreements.

Since SALT I was signed, the Soviet Union has deployed eight new strategic ballistic missiles, five new ballistic missile submarine classes, and a new strategic bomber. In comparison, the United States has fielded only one new missile system, one submarine class, and has delayed deployment of the B–1 bomber. This buildup by the Soviet Union has altered the balance between opposing forces so necessary to maintaining stable deterrence. We are very concerned about the qualities of new Soviet ballistic missile systems. In time of crisis, these weapons are the most destabilizing; they are swift, carry a big payload, are mobile, and are accurate. It is becoming increasingly apparent that the Soviet Union is acquiring a survivable, first-strike capability which will be far less easy to deter.

The second assumption was that there would be mutual restraints on strategic defense. This was based on the hope that the Soviets would come to accept, in doctrine and in practice, that this mutual vulnerability to each other's offensive nuclear forces was in our common interest. This innocent expectation did not materialize either. While the United States stopped deployment of

strategic defenses, the Soviet Union continued to develop and deploy successive generations of antiballistic missiles, tracking radars, interceptor aircraft, and surface-to-air missiles. In fact, spending on strategic defense has been equal to or greater than that on strategic offense. They have deployed around Moscow the world's only ballistic missile defensive system. Soviet research and development of more advanced technologies, including sophisticated directed energy weapons, proceeded throughout the 1970s into the mid-1980s at a pace far in excess of our own efforts. Furthermore, along with already deployed phased-array radars, construction continues on one in central Siberia apparently capable of battle management, in clear violation of the ABM Treaty. They have constructed numerous hardened leadership bunkers and continue expansion of their extensive network of civil defense. Altogether, these efforts increase the possibility of sudden Soviet abandonment of the ABM Treaty and rapid nationwide expansion of their antiballistic defenses.

We could say that a third assumption, not surprisingly, was an expectation in the West that these and other arms control agreements would be fully observed. Here, too, we have been disappointed. The Soviet record on compliance overall is, at best, disappointing. And it is particularly disturbing in the strategic area, where they have committed serious violations of both offensive and defensive agreements. Although we have pursued resolution of these violations with the Soviet Union in diplomatic channels, we have received little satisfaction to date.

There is one more change I would like to mention. The assumptions made by the American negotiators in 1972 also had a technological premise. It was not feasible then to develop an effective defense against ballistic missiles. But technology does not stand still. Just as we have observed the qualitative advance in strategic offensive arms, new breakthroughs in the past few years offer the promise that a militarily sound and cost-effective defense may be possible.

The Pattern Since 1972

The pattern since 1972 is clear and disturbing. Soviet actions have disproved our assumptions and thwarted real arms reductions. The balances between offensive forces, which have for years maintained deterrence between the nuclear powers, are being upset by the Soviet Union. Restraint on our part since SALT I in the deployment of offensive strategic weapons has gone unmatched by the Soviets. Instead, they have continued to increase the size, mobility, and accuracy of their offensive nuclear arsenals.

No less alarming, in both size and scope, is their investment in strategic defense over the last 20 years. As they develop antiballistic missiles capable of being moved and widely deployed in relatively little time, we must ask, for what purpose? When they harden an expanding system of command and control, we must ask the question, why? As they shield their leadership, harden their missile silos, and spend vast sums on civil defense, we must ask, to what end? The West simply has not posed a growing threat that would warrant such Soviet actions. But faced with Soviet unwillingness to date to agree to mutual, verifiable reductions in offensive arsenals, the West has no choice. We have to examine restoring the balance and alternative means for preserving a stable deterrence. We face three interrelated options in our efforts to restore and maintain the balance.

First, we can attempt, through negotiations, to get the Soviets to reduce offensive systems to equal levels. This will be our priority task in Geneva. But, if the past is any guide, our job will be difficult. We are prepared to be open, flexible, and constructive and will work diligently with the Soviet Union to negotiate effective, verifiable arms reductions. Remember, though, it will take two to make these negotiations work.

Second, we can try to reverse the trends by simply attempting to match the Soviet activity and maintain an offensive nuclear balance. In the short run, we certainly have to restore and maintain that balance until other options are available. Our strategic modernization program and NATO's LRINF [longer range intermediate-range nuclear forces] missile modernization programs do this.

Finally, we can devote our energies to see if there is a better way to provide for the security of both the United States and our allies by strengthening deterrence through greater reliance on defensive systems—systems that threaten no one.

We will pursue all three options in the necessary and appropriate ways.

- We will press on in pursuit of equitable and verifiable arms reductions. But this must be a two-way street, and it will take time.
- We will maintain the nuclear balance until other alternatives are available. Peacekeeper and the NATO LRINF modernization program are essential in this regard.
- Finally, we must explore the growing potential of the new defensive technologies.

The Need to Explore Strategic Defenses

Let me concentrate on the need to explore strategic defenses, and give you three concrete arguments why we have made the Strategic Defense Initiative (SDI) a central point of our defense programs.

The first argument revolves around deterrence. We have ignored one basic fact about a world in which there are no defenses. Without defenses, it is extremely easy for an attacker to plan his first strike. Once an attacker launches his ICBM [intercontinental ballistic missile], he knows, within a certain range, just what damage he will do because there is nothing to interfere with his attack. He can plan and calculate just what forces he needs to destroy the forces on the other side. If he has the money and the inclination, he can then buy those forces. It is basically an engineering problem. Well, the Soviets have done their calculations, and they have had the time and money to buy their forces.

But when you introduce defenses, even defenses that are less than perfect, the problem is entirely different. An attacker will not be able to launch a missile and destroy a target. He has no real idea of whether his attack plan will work or, if he succeeds partially, which targets he will miss because he cannot know how good our defenses will be. The defender will also be uncertain. But he is not deciding whether to attack. With defenses, suddenly what was an engineering problem becomes a much tougher, more expensive military problem. Even defenses that are imperfect strengthen deterrence because they create enormous headaches and uncertainties for anyone contemplating an attack. That is a good thing to do.

The second point involves saving lives. Very bluntly, we can deter an attack by defeating that attack or by threatening to kill enemy civilians in retaliation. There is no question in my mind that it is far better to be able to defeat the attack and thus deter it from occurring in the first place. SDI, for the

reasons I have just discussed, can help us make that judgment; without defenses, we must continue to rely on retaliation in order to deter a nuclear attack.

Many of those who oppose SDI advocate reliance on assured destruction in order to keep the peace. Let me point out something about assured destruction. There has been much discussion about nuclear winter recently. While there are many uncertainties, one thing is clear. Nuclear winter is most likely to be caused by the smoke and dust from burning cities that have been attacked by nuclear weapons. Everything in our Administration's strategic weapons policy, including SDI, is designed to move us away from that kind of attack. Those who disagree with us and who continue to support the discredited policy of assured destruction must face the following fact: the kind of war that could occur if their policies were adopted is precisely the kind of war most likely to cause nuclear winter.

Finally, I would like to address a problem less massive but perhaps more urgent than deterring a Soviet attack. Our efforts to prevent nuclear proliferation have had a good deal of success. Certainly there are fewer countries today with nuclear weapons than anyone would have predicted 20 years ago. But many countries continue to seek nuclear weapons. We know that many of them also seek ballistic missile technology. We will not reduce our nonproliferation work. But I believe it is an act of simple prudence to investigate defenses that could defeat limited nuclear attacks or accidental nuclear attacks.

The Strategic Defense Initiative

For these reasons, President Reagan has asked this nation to undertake a program of vigorous research, the Strategic Defense Initiative. It will focus on advanced defensive technologies with the aim of finding ways to provide a better basis for deterring aggression, strengthening stability, and increasing the security of the United States and our allies. Our efforts will be in full compliance with the ABM Treaty.

In practical terms, a strategic defensive option must be cost effective. That is, it must be cheaper and easier to add defensive capability than offensive capability. Otherwise, there would be incentive to expand the offensive arms we seek to reduce. In addition, any defensive system must be survivable in the face of attack or else it could invite an effort to overwhelm it regardless of cost. The goal of strategic stability demands such high performance standards.

In our relations with other nations, strategic defensive options must satisfy not only our own security concerns but also those of our allies and the Soviet Union. The United States is actively consulting our allies to respond to their concerns and questions regarding SDI. Since this is a research program, their thoughts are essential as we examine the capabilities and set performance criteria for the defensive technology. Further, no step away from an offensive deterrent structure which has so effectively kept the peace in Europe can or will ignore the voice of our allies. Our own national survival depends on our allies' security from attack and safety from all wars.

In the new negotiations in Geneva and in other talks, we hope to develop with the Soviet Union mutual understanding of each other's security concerns. The United States does not seek superiority. This is difficult for the Soviet Union to comprehend since they judge us by their own ambitions. But, the facts of history are clear in this regard. No nation in history has acted so responsibly while possessing so superior a position in weaponry as the United States after World War II, when we were the only nation with nuclear arms. We are ready, if the technology proves feasible and cost effective, to consider integration of defensive systems into the mix of forces of both sides. This would be in the context of a cooperative, balanced, and verifiable environment that reflects a balance of offensive and defensive forces in ways that reduce existing nuclear arsenals while enhancing security and stability. If our research proves the feasibility of the concepts, a negotiated transition period of many years with assurance of stability and security throughout will be essential.

Finally, there are at least four myths about SDI which I wish to dispel.

- The first myth is that the United States is attempting to "militarize space." This is a Soviet propaganda line, and it is grievously misleading. Activities in space generally fall into three categories: commercial, scientific, and military. Orbiting overhead are over 800 Soviet satellites, compared to some 400 satellites of the West. That is a ratio of 2 to 1, and unlike in the West, the vast majority of Soviet satellites are military. These military satellites travel overhead in a space the Soviets threaten with the only antisatellite weapons now in existence. Further, it was the Soviet Union which first developed, in 1957, the ICBMs which travel through space and which now carry far more warheads in total than U.S. systems. What space is there left which the Soviet Union has not already militarized? Space has long been used for military purposes. When the Soviet Union speaks of "preventing the militarization of space" and of an ASAT [antisatellite weapon] moratorium, they are being extremely disingenuous by ignoring 15 years of their determined effort in this domain.
- The next myth is that the United States is upsetting an agreed philosophy of "mutual assured destruction," upon which strategic stability allegedly rests. I hope I have exploded that myth already today by describing the destabilizing march of the Soviet strategic buildup and the ever-expanding shielding of their forces and leadership from "assured destruction." A U.S.-Soviet comparison of the investment in so-called passive defense of the shielding of populations and economic base from nuclear attack is simply not possible. So large is the Soviet effort and so minimal is our own that the ratio approaches absurdity. Their civil defense preparations are enormous. Our own small efforts show we in the West have great difficulty even conceiving of life after a nuclear war.
- Third, the Soviet Union contends that SDI will be destabilizing. Their stated apprehension over the demise of a stable deterrent is ironic. The United States is heavily involved in diplomatic and private consultations as it ponders the accelerating developments in strategic defense which hold promise for strengthening deterrence in the future. As I stated earlier, strategic defensive options must also strengthen stability, or they will not be considered. The Soviet Union, on the other hand, continues to develop and deploy a new generation of strategic offensive ballistic missiles and expand their already considerable defensive capabilities. They have consulted with no one and feel they should answer to no one, as they further upset a stable balance in pursuit of their own internal needs.
- The last myth is that the Strategic Defense Initiative will complicate the arms control process. The truth is that it was the Strategic Defense Initiative, combined with the demonstrated resolve of the Western allies to modernize their strategic deterrent, which brought the

Soviet Union back to the negotiating table. There is mounting evidence that defensive technologies offer real hope of reducing the need for offensive nuclear arsenals in the future. To engage in talks aimed at controlling arms without discussing what may prove to be the best tool to aid the effort is to trivialize the whole process. President Reagan is committed to serious and substantive progress in reducing the size of existing nuclear arsenals and enhancing security and stability. His acceptance of the moral challenge to explore all means available to achieve this end is essential.

To close, let me say once again that the Strategic Defense Initiative is a prudent and moral response to continuing Soviet actions which threaten world stability and security. SDI is a research program wholly within the limits of the ABM Treaty. This research is designed to explore the feasibility of strategic defense, given new technologies now available to the defense community. SDI seeks answers to those questions that peaceful nations must ask. If we are to keep the balance which guarantees peace, we can do no less. ■

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The ABM Treaty and the SDI Program

United States Department of State
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Washington, D.C.

Following are statements by Ambassador Paul H. Nitze, Special Adviser to the President and Secretary of State on Arms Control Matters, and Abraham D. Sofaer, Legal Adviser, before the Subcommittee on Arms Control, International Security, and Science of the House Foreign Affairs Committee, Washington, D.C., October 22, 1985.

AMBASSADOR NITZE

When the President initiated the SDI [Strategic Defense Initiative] research program, he ordered that it be conducted in full compliance with our legal treaty obligations: he directed, from its inception, that the SDI program be planned accordingly; there is no intention to deviate from that commitment.

The SDI is a research program. It is investigating the feasibility of new defensive technologies, both earth- and space-based—no more, no less. The fundamental purpose of the SDI program is to determine whether and, if so, how it can contribute to the realization of a situation in which nations can live secure in the knowledge that their security increasingly rests on the ability to defend against potential attacks, thus to deter by denial rather than merely by the threat of mutually devastating nuclear retaliation.

More than 13 years have elapsed since the ABM [Anti-Ballistic Missile] Treaty was negotiated. A number of mutually inconsistent statements as to its proper interpretation have been made over this time period. In view of the importance of the current issue, a review of the basic facts was mandatory. Not only the Defense Department lawyers but also Judge Sofaer, Legal Adviser of the State Department, and his staff have recently conducted such a review on the ABM Treaty, its agreed statements, and associated negotiating record in full detail.

The reexamination of the treaty's text, the agreed statements and common understandings accompanying it, the negotiating record, and official statements made since 1972 shows that they have been variously interpreted as to what kinds of development and testing, as well as what kinds of research, are permitted, particularly with respect to future systems and components based on what are called in the treaty "other physical principles."

Because of the great potential contribution that deployment of systems flowing from SDI could make to our security, because of apparent Soviet treaty interpretations different from ours, and because of our interest in a rigorous implementation of the ABM Treaty by both sides, we have devoted much attention to the question of how to interpret the treaty. It is our view, based on our recent analysis of the treaty text and all of the accompanying records, that a broader interpretation of our authority than that which we have applied to restrict our SDI research program is fully justified. This is, however, a moot point. Our SDI research program has been structured and, for solid reasons, will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations. We believe that the SDI program can adequately answer those pertinent questions regarding new defensive technologies originally posed by the President while strictly adhering to this more restrictive interpretation.

There can be no double standard as to the way we interpret our treaty obligations vis-a-vis the interpretation the Soviets apply to those same treaty obligations. To do otherwise would outline a formula for potential disaster to our national security interests. In sharp contrast to Soviet behavior, our conservative and principled restraint with respect to our own SDI program demonstrates, by our deeds, our sincerity toward commitments—commitments to our Congress, to our allies, and to our respective publics.

MR. SOFAER

This is my first appearance before your committee. I am honored by your invitation to discuss the meaning of the Anti-Ballistic Missile Treaty with respect to so-called future ABM systems or components, including some contemplated as part of the Strategic Defense Initiative.

The ABM Treaty is an important element of our strategic arms control structure. When the President first announced the SDI program in March 1983, he made clear that it would be conducted "consistent with our obligations [under] the ABM Treaty." This commitment has been maintained. The United States has scrupulously complied

with the treaty, notwithstanding such clear Soviet violations of it as the Krasnoyarsk radar station.

Broad vs. Restrictive Interpretation

Soviet violations of the ABM Treaty, the implementation of our SDI program, and the ongoing arms negotiations at Geneva recently caused various agencies to consider more thoroughly than ever before the appropriate interpretation of the ABM Treaty as it relates to future or "exotic" systems. By that, I mean defensive systems that serve the same functions as ABM systems and components but that use devices based on technology not understood in 1972 when the treaty was negotiated and that are capable of substituting for ABM interceptor missiles, launchers, and radars. This examination has led to the conclusion that a reading of the ABM Treaty that would allow the development and testing of such systems based on physical principles other than those understood in 1972 is wholly justified.

At the same time, however, I want to emphasize a critical point made by Secretary Shultz in his speech to the North Atlantic Assembly last week: "[O]ur SDI research program has been structured and, as the President has reaffirmed [on October 11], will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations." Secretary Shultz assured our NATO allies of "[o]ur commitment to pursue the program as currently structured, which is consistent with a restrictive interpretation of our obligations under the ABM Treaty." Accordingly, he described the debate over the two interpretations as "moot." The issue may have practical significance only when the SDI program has reached the point at which questions regarding the feasibility of strategic defense have been answered and engineering development, with a view to deployment, becomes a real option.

I was well aware when I began my work on this issue that several officials associated with the SALT I [strategic arms limitation talks] negotiations and others still in the government had advanced the view that the ABM Treaty is unambiguous in its treatment of such future systems. They argued that article V of the treaty forbids development, testing, or deployment of any future ABM systems and components other than those that are fixed land-based. They read Agreed Statement D as relevant only to fixed land-based systems and components, arguing that it permits "creation" of such systems and components when they are based on "other physical principles" but conditions their deployment on agreement between the parties on specific limitations. Other persons were contending, however, that this "restrictive" view of the ABM Treaty is based on unilateral assertions by U.S. negotiators; that the treaty is ambiguous; and that the negotiating record supports a broader view of our freedom to develop, test, and deploy future systems.

My study of the treaty led me to conclude that its language is ambiguous and can more reasonably be read to support a broader interpretation. An examination of the three provisions primarily at issue will demonstrate why this is so.

- Article II(1) defines an "ABM system" as "a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of" ABM interceptor missiles, ABM launchers, and ABM radars.
- Article V(1) provides that the parties agree "not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based."
- Agreed Statement D, a side agreement that accompanies the treaty, provides as follows:

> In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article III of the Treaty, the Parties agree that in the event ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles, ABM launchers, or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty.

The restrictive interpretation rests on the premise that article V(1) is clear on its face: it says no development, testing, or deployment of "ABM systems or components" other than those that are fixed land-based. But this language does not settle the issue of the article's applicability to future systems and components. That issue depends on the meaning of the term "ABM systems or components": is that phrase limited to systems and components based on then-current technology, or does it also include those based on future technology?

In attempting to answer this question, one must turn to the definition of "ABM system" in article II(1). Proponents of the restrictive view contend that this definition is functional: anything ever conceived that could serve the function of countering strategic missiles in flight falls within the definition. These persons argue that the three components identified in that paragraph—missiles, launchers, and radars—are merely listed as the elements that an ABM system is "currently consisting of" and that all future components of a system that satisfies the functional definition are also covered by article II(1). Only when armed with these meanings can proponents rely on article V(1) as a ban on development, testing, and deployment of all nonfixed, land-based systems or components, whether current or future.

Shortcomings of the Restrictive Interpretation

This reading of the treaty is plausible, but it is not the only reasonable reading; on the contrary, it has serious shortcomings. The premise that article II(1) defines "ABM system" in a functional manner, meant to include all future systems and components, is difficult to sustain. The provision can more reasonably be read to mean that the systems contemplated by the treaty are those that serve the functions described *and* that currently consist of the listed components. The treaty's other provisions consistently use the phrases "ABM system" and "components" in contexts that reflect that the parties were referring to systems and components based on known technology.

Article II(2), for example, further describes the "ABM system components listed in paragraph 1 of this Article," to include those that are operational, being tested, under construction, etc.—thereby indicating that the definition in article II(1) was not merely illustrative but was intended to describe the actual components covered by the treaty. To take another example, article V(2) sets limits on the types of "launchers" that may be developed, tested, or deployed—thus reflecting, in the same article as the alleged prohibition on future mobile systems and components, an exclusive concern for one of the current components listed in article II(1).

Systems and components based on future technology are not discussed anywhere in the treaty other than in Agreed Statement D. In that provision, the parties felt a need to qualify the term—systems and components created in the future—with the phrase "based on other physical principles." If "ABM system" and "components" actually meant all systems or devices that could serve ABM functions, whether based on present or future technology, the parties would not have needed to qualify these terms in Agreed Statement D. That this

qualification was added suggests that the definitions of "ABM system" and "component" in article II(1) extended only to those based on presently utilized physical principles and not on "other" ones.

The existence of Agreed Statement D poses a fundamental problem for the restrictive view. Nothing in that statement suggests that it applies only to future systems that are fixed land-based; on the contrary, it addresses all ABM systems and components that are "based on other physical principles." Moreover, the restrictive interpretation would render this provision superfluous. If article II(1) extended to all ABM systems and components, based on present as well as on future technology, then article III implicitly would have banned all future fixed land-based systems and components. Such an interpretation, by rendering a portion of a treaty superfluous, violates accepted canons of construction.

The serious difficulties of construction created by the restrictive reading are avoided if one reads articles II(1) and V(1) as referring only to ABM systems and components based on currently utilized physical principles. Read in this manner, the treaty establishes a coherent, nonredundant scheme that prohibits:

- The deployment of all fixed land-based systems and components derived from current technological principles, except as specifically permitted (article III);
- The development, testing, and deployment of all mobile systems and components derived from current technological principles (article V(1)); and
- The deployment of all forms of systems and components derived from "other" physical principles until after agreement on specific limitations (Agreed Statement D).

Other reasonable constructions of the treaty have been advanced, but I think that the arguments that I have presented serve to demonstrate the ambiguities present in the text of the ABM Treaty.

Historical Support for a Broader Interpretation

Under international law, as under U.S. domestic law, once an agreement has been found ambiguous, one must seek guidance in the circumstances surrounding the drafting of the agreement. Thus, in the present situation, once we concluded that the treaty is ambiguous, we turned to the negotiating record to see which of the possible constructions most accurately reflects the parties' intentions.

Examining the negotiating record for the ABM Treaty presented some real, albeit mundane, difficulties. No single agency has systematically collected and preserved the entire record in a readily usable form. My staff and I, therefore, obtained from various sources everything that we could find that might be relevant to the issue of future systems and components. Because we are still in the process of collecting material, I cannot tell you with certainty that I know every single step in the negotiating process. But we are far enough along that I can say with confidence that a much stronger case exists in the record for the broader interpretation of the treaty than for the restrictive interpretation.

The entire negotiating record is classified, and I, therefore, cannot reveal any detail in open session. If, after this public session, the committee chooses to go into executive session, I will be free to explain much more. I can tell you in general, however, that I personally reviewed all of the significant statements and drafts in the available negotiating history regarding future systems. I reached the firm conclusion that, although the U.S. delegates initially sought to ban development and testing of nonland-based systems or components based on future technology, the Soviets refused to go along, and no such agreement was reached. The Soviets stubbornly resisted U.S. attempts to adopt in the body of the treaty any limits on such systems or components based on future technology; their arguments rested on a professed unwillingness to deal with unknown devices or technology. The farthest the Soviets were willing to go with respect to such future systems or components was to adopt a side agreement prohibiting only the deployment of such systems and components, once created, until the parties agreed on specific limitations. The parties did not agree to ban development and testing of such systems or components, whether on land or in space.

The negotiating record also contains strong support for a reading of article II(1) that restricts the definitions of "ABM system" and "components" to those based on current physical principles. The Soviets specifically sought to prevent broad definitions of these terms, and our negotiators acceded to their wishes. Moreover, our negotiators ultimately convinced the Soviets to adopt Agreed Statement D by arguing that, without it, the treaty would leave the parties free to deploy systems or components based on other physical principles, such as lasers.

I am aware that some U.S. negotiators in the SALT I talks assert that they achieved a total ban on the development, testing, and deployment of all future mobile systems and components, including those based on other physical principles. The negotiating history contains suggestions as to why they reached their conclusions. But the record of the negotiations fails to demonstrate that they actually succeeded in achieving their objective. On the contrary, the record reflects that they failed to obtain the ban they sought and that we could never have enforced such a ban against the Soviets. Treaties, like other agreements, are enforceable only to the extent they create mutual rights and duties. In effect, because the Soviets succeeded in avoiding a broad, binding commitment regarding the development and testing of mobile systems and components based on future technology, we cannot properly be said to be bound by such a commitment.

Conclusion

I wish to close by reiterating a critical point. Notwithstanding our belief in the merits of the broader interpretation, the President has decided to pursue the SDI program as currently structured, which can be accommodated within the confines of the "restrictive" interpretation—namely, research into, but not development or testing of, systems or components based on future technology and capable of substituting for ABM interceptors, launchers, or radars.■

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SOVIET STRATEGIC DEFENSE

-- The Soviet Union has an extensive strategic defense program, including at least two decades of work on advanced technologies with potential applications to ballistic missile defense.

-- Soviet work in some areas, for example, ground-based lasers for ballistic missile defense purposes, could reach prototype stage by the late 1980s.

-- The information presented leads one to the clear conclusion that the United States is not expanding military competition into new areas and that Strategic Defense Initiative (SDI) research is a prudent course to take. SDI research is an excellent insurance policy to protect US and allied security.

-- The Administration's information on Soviet strategic defense programs does a very good job of laying out the evidence of an extremely active Soviet program in this area which has received too little attention in public discussion of the US SDI research program.

-- This work could enable the Soviets to deploy ballistic missile defense weapons using advanced technologies in space toward the end of the century, and possibly advanced ground-based systems even sooner.

-- The Soviets have been engaged in far more extensive strategic defense activities than has the United States.

-- Unlike our own SDI program, the Soviets are doing more than research, for example the Moscow anti-ballistic missile, system (which they are now upgrading), their in-depth air defense system and their construction of the Krasnoyarsk radar, which violates the ABM Treaty.

-- The Soviets have also been engaged for over two decades in research on advanced technologies with ballistic missile defense applications, including directed energy, radio frequency and kinetic energy weapons.

-- The SDI research is a prudent and necessary response to the extensive Soviet programs in the field. If this research bears fruit, its overriding importance lies in the promise it offers of a better, more stable deterrent in the future, based increasingly on non-nuclear defenses.

The President's Strategic Defense Initiative

January 1985

October 16, 1986

THE IMPORTANCE OF SDI

--The President's Strategic Defense Initiative offers our best hope of a safer world where our and our Allies' security would no longer rest on deterrence through the threat of mass annihilation.

--SDI is a research and technology development program to demonstrate by the early 1990s the feasibility of effective defenses against ballistic missiles for the U.S. and our allies. The most promising concepts involve layered defenses for targeting missiles in all phases of their flight--boost, mid-course, and terminal.

--SDI is critical to progress toward arms reduction agreements. It brought the Soviets back to the negotiating table and now acts as the necessary lever that for the first time has them talking seriously about deep reductions of the most dangerous weapons--offensive ballistic missiles.

--SDI is not only the needed lever to get the Soviets to reduce, but is also insurance underwriting arms reduction agreements by:

- o deterring the use of offensive arms;
- o removing any incentives for again building up offensive forces;
- o guaranteeing that cheating won't pay; and,
- o protecting against the potential threat of a madman obtaining ballistic missiles.

--The importance of SDI is underscored by the Soviets' long-standing and extensive strategic defense programs. These include:

- o the world's only ABM defenses, surrounding Moscow, which they are steadily improving;
- o construction of a large phased array radar near Krasnoyarsk, in violation of the ABM Treaty; and
- o research, development and testing, including for example a $1 billion annual program on lasers alone, employing some 10,000 scientists and engineers.

--We cannot let the Soviets have a monopoly on strategic defenses. Possessed by both sides, such defenses can be stabilizing. Possessed by the Soviet Union alone, effective strategic defenses would be devastating to U.S. security.

--In short, we think it far better to rely increasingly on defensive systems--that threaten no one--with sharp reductions of offensive nuclear weapons, near term elimination of ALL US and Soviet ballistic missiles, and hopefully over time the ultimate elimination of ALL nuclear weapons. SDI is the key to that future.

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THE STAR WARS SPINOFF

The controversial defense system is yielding technologies that seem sure to change the world.

By Malcolm W. Browne

THE LANDSCAPED INDUSTRIAL park that flanks San Diego's Balboa Avenue hints of well-appointed board rooms, robotic assembly lines and healthy workers bronzed by weekends on the nearby beaches. The street is only a few minutes' drive from Sea World and other tourist magnets, and to the casual visitor it seems as far removed as an American suburb could be from any hint of war or weaponry. But the peaceful mien of the neighborhood is disturbed several times a week by the blast of a stunningly powerful cannon that sends flocks of startled birds into the air and sets off burglar alarms in parked cars over a wide area.

The source of the noise is one of the world's first rail guns, a new breed of electromagnetic artillery potentially capable of piercing the most heavily armored tanks, of picking off intercontinental missiles and battle satellites, and even of hurling projectiles to distant planets.

The rail gun, built by Maxwell Laboratories Inc., and named Checmate (an acronym for Compact High Energy Capacitor Module Advanced Technology Experiment), is about the size of a large merry-go-round and stands in a hangarlike building. One recent morning, flashing red lights and insistent loudspeakers warned nonessential personnel away while technicians sealed off the test building and retreated to the safety of a control shack. As the countdown progressed, pictures and computer data flowed across monitor screens, and workers readied the lasers, X-ray flash cameras and diagnostic sensors used for assessing each shot. The whine of high-power electrical equipment rose to a scream, a supervisor nodded to a controller, and the rail gun fired, sending a shudder through the factory compound, slapping clothing against the legs of passers-by and leaving ears ringing.

Hastily donning gas masks, technicians swarmed into the smoke-filled rail-gun building to look for equipment damage and check the target. Incredibly, a metal projectile scarcely larger than a household nail had been driven into a sandwich of thick steel plates to a depth of several inches. "Nice clean shot," someone observed. "We're moving right along."

In fact, experts say, American efforts to develop an electromagnetic rail-gun launcher — a gadget conceived by weapons makers as long ago as World War I — have achieved in the last two years alone what Defense Department planners had once predicted would take a decade. And credit for the project's impressive progress goes to what may be the most costly and intensive military research program in history: the Strategic Defense Initiative. Together with hundreds of other arcane, high-technology devices, ideas and systems, the rail gun has been selected for grooming and development as part of President Reagan's controversial vision of a defense shield capable of defending the United States against a Soviet ballistic-missile attack.

The merits of the President's plan — promptly dubbed "Star Wars" by advocates and opponents alike — have become a matter of intense worldwide debate. Supporters see it as a means of ending the threat of nuclear devastation. Opponents charge that the program is an exorbitant boondoggle whose stated objective is ruled out by the limitations of technology. Worse, these critics contend, Star Wars defenses might so upset the fragile balance of forces between East and West that war might become more rather than less likely.

Yet even as the debate has raged, Star Wars re-

Malcolm W. Browne is a science reporter for The Times.

CONTINUED

search has moved ahead quickly, consuming more than $3 billion in the last year alone, and giving unprecedented momentum to a broad range of advanced scientific programs.

The exotic new materials and technologies produced or encouraged by Star Wars research promises to have particular importance for conventional warfare, fostering changes in land combat as radical as those wrought by the introduction of gunpowder in the Middle Ages. But spinoffs from the President's initiative are also finding their way into a myriad of civilian fields, including energy production, transportation, communications and medicine. Meanwhile, science itself is gaining new research tools from S.D.I. projects.

Critics of S.D.I. point out that the technological side benefits of Star Wars research could be had much more cheaply and efficiently if they were pursued directly rather than as the unintended offshoots of an extravagant military spending program. But S.D.I. proponents assert that in the absence of such a visionary scheme, it is unlikely that such research would have taken place at all. Weapons research, they say, has been a key element in technological progress throughout history, and has nearly always produced byproducts of immense value to mankind. Costly though World War II was in human suffering and destruction, for example, wartime research bequeathed a cornucopia of consolation prizes to the survivors, including plastics, synthetic textiles, antibiotics, jet aircraft and nuclear energy.

How far the President's vision of a space-based strategic defense will ultimately be carried is an open question. Spurred by concern over Federal budget deficits, Congress has already voted significant cuts in S.D.I. funds, and even the program's strongest supporters concede that enormous technical obstacles still loom ahead.

Yet, even if a continental defense is never actually deployed, the long-term impact of S.D.I. research programs promises to be enormous. In laboratories from San Diego to Boston, Star Wars is no longer a mere phrase or debating point. For better or worse, the controversial Strategic Defense Initiative is already yielding new technologies that seem destined to change the world.

AIR FORCE LIEUT. GEN. JAMES A. ABRAhamson is no stranger to monster-size Federal projects. From 1976 to 1980, he ran the Air Force program that developed the F-16 fighter. Later, he took charge of space-shuttle development for the National Aeronautics and Space Administration, a post he held until 1984.

Now, as director of the Pentagon's Strategic Defense Initiative Organization (S.D.I.O.), the 53-year-old General Abrahamson is responsible for what may turn out to be the biggest Federal research project ever. He currently oversees the distribution of about $6 billion to some 1,300 Star Wars contractors in a program whose size rivals even that of the Manhattan Project, the secret World War II program that created the atomic bomb. (The Manhattan Project, from its inception to the destruction of Hiroshima and Nagasaki, cost $2 billion in 1945 dollars, equivalent to approximately $12 billion today. The current five-year S.D.I. program, which is intended merely to assess possibilities rather than to build a working weapons system, is expected to cost up to $20 billion.)

"When I got here," General Abrahamson said recently as he shared a sandwich with a visitor to his gadget-strewn Pentagon office, "I began looking for a common denominator in all the big technology programs that had been successful — a common factor applicable to S.D.I. But I couldn't find one. For instance, both the German and British jet-propulsion programs were highly successful, but they achieved success under totally different conditions.

"Finally, I came to realize that the common denominator was to be found not in the successful programs, but in the programs that had failed or come in second best. An example was the German atomic-bomb program of World War II, a program that was so highly structured and formal that it was unable to correct itself. By contrast, the Manhattan Project was dynamic, contentious, full of scientific give-and-take, and therefore capable of speedily correcting its own errors.

"I concluded that we needed the same rough-and-tumble intellectual approach — the American approach — to S.D.I. research. I decided that it was better to achieve 90 percent of a bold solution than 100 percent of a timid solution."

The resources now dedicated to finding that "bold solution" represent an enormous national commitment. During the last year, American taxpayers have paid some $3.05 billion for S.D.I. research — nearly $13 for every man, woman and child in the country — and the administration has requested $5.3 billion more in Star Wars money for the coming year. Even if Congress succeeds in cutting this sum — both the House and Senate have voted substantial reductions — S.D.I. will still remain an important component of the national budget.

Star Wars research, moreover, gets contributions from many sources besides formal S.D.I. appropriations. The Strategic Defense Initiative Organization is less than three years old, and virtually all the projects now under its aegis began with other government agencies and organizations. Overlapping research objectives and financing persist, and much of the technology developed by the Defense Advanced Research Projects Agency, the Defense Nuclear Agency and other organizations indirectly furthers Star Wars objectives. An insider acknowledged that "Star Wars money has a way of losing its color after passing through many hands."

When the S.D.I.O. needs something to be invented or built, it pays handsomely and apportions the task to many hands. Predictably, the largest S.D.I. contracts have gone to the giants of the aerospace industry. Heading the 1986 list is the Boeing Company, with contracts totaling $131 million. Other top S.D.I. contractors include TRW Inc., $61 million; Hughes Aircraft Company, $40 million; Lockheed Missiles and Space Company, $25 million; Rockwell International Corporation, $24 million; and the Raytheon Company, $17 million. But Star Wars funds are also earmarked for a wide range of small businesses, government laboratories and agencies (including the Central Intelligence Agency), and academic institutions.

The economic impact of S.D.I. money is ubiquitous and potent. A Stamford, Conn., market research concern, Business Communications Company, has estimated that the commercialization of Star Wars technology will eventually yield private-sector sales ranging between $5 trillion and $20 trillion. The financial inducement for a company to participate in S.D.I. research is so great, in fact, that the S.D.I.O. receives 10 times as many proposals as it can pay for.

Private entrepreneurs can exploit a wide range of inventions and discoveries that grow out of government-sponsored research, and Star Wars technologies are no exception. But the commercial licensing of government processes or inventions is a complex system that sometimes imposes burdensome practical problems. A government agency may be unwilling to grant exclusive long-term rights to the use of an invention or process, for instance, thereby depriving prospective commercial licensees of a competitive edge.

The secrecy of such sensitive military projects also poses a potential problem for the transfer of technology from S.D.I. research to the private sector, but General Abrahamson minimizes its long-term importance: "Of course there are technologies in S.D.I. that are vital to our national interests and are classified top secret. However, you'd be amazed how much of our work is nonclassified or only moderately classified. Our secrecy classification system, like the proposed missile defense itself, is organized in layers, and our policy is to permit the maximum freedom of communication consistent with the national interest. That policy shouldn't pose a real problem for anyone."

"I am determined," General Abrahamson said, "that we not miss the opportunity to capitalize on the results of S.D.I. research and apply it across all facets of our economy and society."

THE COMBINATION OF A thick wallet and a gambler's quest for dramatic gains has already led S.D.I. researchers to discoveries with important implications for fields largely unrelated to strategic defense.

Perhaps the most significant of these areas is conventional warfare, where rail guns and other new "hypervelocity weapons" promise to transform the kind of continental-scale armored combat for which the Soviet and American armies have been girding themselves since World War II.

Both the Pentagon and the Kremlin believe that in future land wars, tanks and armored personnel carriers will decide the outcome of battles. Consequently, both sides press their munitions makers to design ever more lethal projectiles, and sturdier forms of armor to stop the enemy's shells, bullets and rockets.

To defeat the next generation of tough-skinned Soviet tanks, Army planners believe, an entirely new class of weapons might be needed: weapons as superior to today's powder-burning guns

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and rockets as the 15th-century harquebus was to even the best crossbow of the day. And thanks to the Strategic Defense Initiative, the electromagnetic rail gun may provide American armored vehicles with just such a weapon.

In contrast to traditional rockets and shells, which are propelled by expanding gases, the acceleration achieved by a rail gun is not limited by the speed of sound; given enough energy, a rail gun can accelerate objects to speeds comparable to those of meteors. In principle, a rail gun standing on the ground could bombard targets on the moon. A rail-gun projectile might even be made to hit a target hard enough to initiate nuclear fusion — a fact noted by scientists seeking to develop fusion energy as an alternative to the fission process that is used to generate electricity in today's nuclear power plants.

Many government organizations have explored the possibilities of the rail gun. But both financing and research coordination were lacking until the Strategic Defense Initiative Organization stepped in.

Among the technologists responsible was Jon Farber, a division chief with the Defense Nuclear Agency in Alexandria, Va. Mr. Farber has devoted much of his career to the building of machines that mimic the destructive pulses of electromagnetic energy emitted by nuclear explosions. Like many kinds of Star Wars weaponry, these testing machines require gigantic pulses of power.

"I realized," Mr. Farber recalled, "that the greatest possibility for quick progress toward an anti-missile weapon lay in the rail gun, and I predicted that by working on rail guns we could accelerate all our S.D.I. programs, reducing development times by six to eight years."

Essentially, a rail gun is an electric motor, in which two metal rails running the length of the gun barrel are the main stationary elements and the projectile itself is the moving part. When a massive electric current is made to flow between the rails via an armature at the back of the projectile, the flow generates an electromagnetic force that drives the projectile forward.

One of the main problems with such a weapon is providing it with a suitable supply of electric power. Not only must the source yield a gigantic pulse of power for each shot, but it must recharge fast enough to maintain a reasonable rate of fire.

Ignoring bureaucratic boundaries, Mr. Farber broached his ideas directly to the S.D.I.O.. "To establish my bona fides, I offered to lend them a power supply of the kind we use in our simulated nuclear explosions," he said. "They agreed, and starting in March last year, the S.D.I. people agreed to share costs with us in the building of a capacitor-powered rail gun. Only nine months later we were able to fire the first demonstration shot. We blasted a little plastic cube right through a thick metal plate, and the resulting hole was impressive enough to convince even stubborn skeptics."

Since then, researchers have devoted their efforts to reducing the size of the containers needed to contain the electric power for the rail gun. Within a few years, Mr. Farber predicts, high-power capacitors charged by generators of various kinds will be small enough to fit not only into orbiting space stations, but inside tanks and other fighting vehicles.

"At present we are substantially outnumbered and outgunned by Soviet tanks, whose big guns can open fire before ours come into range," Mr. Farber said. "Rail guns could reverse that situation and change the balance of land forces in our favor."

ANOTHER KEY AREA of Star Wars development is the interface between computer science and applied physics, in which researchers are confronting the need to process extraordinary amounts of information in the shortest possible time. Future large-scale conflicts, whether in space, in the atmosphere, on the ground or at sea, are expected to unfold too quickly for even the most efficient consortium of human minds to control without massive computer assistance. A reliable, lightning-fast system for planning battles is therefore regarded as vital both to a defense against ballistic missiles and to the conduct of war on the earth's surface.

Part of the challenge lies in the realm of applied physics. Physicists are following several routes toward speeding up the microscopic switches that operate logic [illegible] components of semiconducting chips that enable computers to calculate. The opening or closing of a switch determines whether its gate is to register a zero or a one — the binary numbers used for all computations.

Contractors working for S.D.I. or related defense technology projects are working on an entirely new type of computer switch: one that operates optically rather than electronically. An optical switch would be used to transmit or block a beam of light rather than an electric current, and thus benefit from the enormous speed at which light travels. The switch itself could be actuated by light signals; matching pulses of light applied to opposite sides of the switch would open it, and mismatching pulses would close it.

A remarkable new material being developed for both optical and electronic computer switching is a synthetic crystal, gallium arsenide, and substantial S.D.I. funds have been appropriated for pushing its development. Gallium arsenide transmits electrons several times faster than does the silicon used in conventional chips, and can also function as an optical switch.

Another potential optical switch that has attracted official interest is a plastic called polydiacetylene, under development at General Telephone and Electronics Laboratories Inc., of Waltham, Mass. According to Dr. Mrinal Thakur, a senior member of G.T.E.'s technical staff, an optical switch based on polydiacetylene could handle up to one trillion operations per second; a conventional silicon switch can manage only about one-thousandth as many in the same time. Optical switches, moreover, would be highly resistant to electronic pulses from nuclear explosions that would disable ordinary chips.

Computer experts working on projects related to S.D.I. are also streamlining problem-solving hardware and procedures. One of their approaches is to break up a complex problem into many small elements that can be solved simultaneously and then be rapidly reassembled to yield the required result. This technique of "parallel processing" is a feature of such advanced machines as the Warp, a new supercomputer developed at Carnegie Mellon University, and the Connection Machine, a product of Thinking Machines Inc. According to the Defense Advanced Research Projects Agency, which paid for its development, the latter machine recently took only three minutes to complete a computation over which a powerful International Business Machines Corporation mainframe computer had had to labor for six hours.

The computers and programs S.D.I. is helping to bring into being are powerful tools whose civilian counterparts will have incalculable scientific value, experts say. These machines might be used for long-term weather forecasting, for example, and for creating reliable mathematical models of the atmosphere and the oceans. Environmentalists regard such models as essential in making accurate estimates of the effects of human activities on climate.

Several strategic defense projects seek to use the computer as an adjunct to the human brain, and the outcome of this work in such "expert systems" is applicable to conventional battlefields and civilian needs as well. Two of the latest Defense Advanced Research Projects Agency's computer projects for the Navy not only organize and assess mountains of information but also make recommendations to fleet commanders for solving specific tactical and strategic problems. The machine intelligence behind such recommendations is compounded by its designers from the knowledge of many human experts, and the computer program is capable of adding to its knowledge from its own problem-solving experiences.

Similar programs, many of which are independent of S.D.I. but have benefited from its discoveries, have begun to help physicians diagnose patients and to assist plant managers in spotting problems in production, inventories and quality control.

Computer pattern recognition is another field of great interest to S.D.I. and other defense agencies. A computer capable of recognizing and interpreting patterns can guide a missile equipped with a television eye, singling out the pattern of a target from a background of clutter.

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Missiles are not the only beneficiaries of this work. Related computing ability is at the heart of the advanced research agency's Autonomous Land Vehicle, an eight-wheeled driverless truck from which it is hoped a robot fighting vehicle will evolve. Although their capabilities are still quite limited, such robots may foreshadow not only the advent of mechanical soldiers but of surrogate servants, laborers and bodyguards — the creatures of science fiction.

IN MANY AREAS, S.D.I. funds have played an important role not in fostering new projects, but rescuing or reviving old ones. One significant example has been the Nova laser, completed last year at Lawrence Livermore National Laboratory in Livermore, Calif., at a cost of $187 million and 8 years' construction time. The world's most powerful laser, Nova is yielding experimental data that may contribute both to a beam defense against missiles and to the generation of electric power by hydrogen fusion.

Nova, which fills one of the largest buildings in Livermore's sprawling laboratory compound, was financed by the Department of Energy as a fusion power experiment. The object was to concentrate the combined beams of Nova's many lasers on a pinhead-size target, the implosion of which would initiate fusion in the target's hydrogen core.

But during the last three years, as financing for many fusion experiments has dwindled almost to the vanishing point, defense scientists began using Nova for another purpose: the production and testing of very short-wavelength beams, including X-ray lasers — a type of laser that many experts believe would be peculiarly effective against missiles.

That Nova is being kept active, for whatever purpose, is a source of satisfaction to fusion power advocates. "The present oil glut will be short-lived, and when the crunch comes the energy shortage is likely to be devastating," an engineer at the Electric Power Research Institute said. "Fusion may be our salvation, and Nova may be the route to fusion. If Star Wars keeps Nova alive, it's all to the good."

Besides lasers, beams of charged and neutral particles are under study as possible directed-energy weapons, and these, too, are expected to find civilian applications. The Department of Energy has sponsored experiments using electron beams for sterilizing food and for removing pollutants from industrial smokestack emissions, for instance. Electron beams developed for killing enemy missiles may also serve mankind by fighting cancer.

"The S.D.I.O. is very interested in a potential weapon called the free-electron laser," said Dr. James A. Ionson, a 36-year-old astrophysicist who is in charge of selecting many S.D.I.O. research projects. "And the work that has gone into it shows considerable promise for cancer therapy."

By manipulating a beam of electrons produced by a charged-particle accelerator, researchers have found they are able to "tune" the wavelength, or color, of the resulting beam. Such tuning helps scientists create beams with the short wavelengths deemed effective against missiles, and may also provide the key to a potential new cancer therapy, Dr. Ionson said.

"Electron beams can penetrate tissue to any desired depth, and the depth is determined by the energy of the beam," he said. "An electron beam has very little effect on the tissue through which it merely passes. But when it reaches its penetration depth, it releases most of its energy at that spot. Consequently, a precisely tuned electron beam could be used to hit a malignant tumor with pinpoint accuracy without damaging the surrounding tissue. The technique might be especially valuable in brain surgery."

MANY INDUSTRIES and government researchers are quite comfortable with Star Wars, but the S.D.I.O.'s relations with the nation's academic community is ambiguous. Educators have raised moral and political as well as scientific objections to the attempt to build a missile defense, and many believe it cannot succeed, however much money is pumped into the effort.

Both the Union of Concerned Scientists and the Federation of American Scientists have denounced S.D.I., and some 6,500 scientists and scientific educators have signed petitions pledging not to accept S.D.I. funds.

Still, negative opinions about the strategic merits of the President's program can often be separated from attitudes regarding the broader benefits of S.D.I.-related research. According to a survey conducted last spring by Peter D. Hart Research Associates Inc., two thirds of 549 American physicists polled expressed doubts that S.D.I. could ever defend the entire population of the nation against ballistic missiles, and 62 percent declared themselves opposed to deploying a Star Wars defense.

But despite their general opposition to the development of actual S.D.I. weapons, many American physicists saw merit in the basic research involved; the Hart poll revealed that 77 percent of physicists supported basic Star Wars laboratory research and 21 percent opposed it.

To counter the anti-Star Wars lobbying of several professional organizations, scientists favoring S.D.I. research recently organized the Science and Engineering Committee for a Secure World. Among the group's members is Dr. Martin I. Hoffert, chairman of the department of applied sciences at New York University, who describes himself as a political liberal and an opponent of nuclear arms. "When I first heard of S.D.I., I had no real interest in it," he said. "But I was interested in almost any opportunity for ridding the world of nuclear weapons, and I came to believe that S.D.I. might give us a chance."

Some two dozen major educational institutions are now receiving S.D.I. funds, among them the University of California (Los Angeles and Berkeley), the Massachusetts Institute of Technology and Johns Hopkins University. Besides these, many colleges and universities are recipients of second-hand Star Wars money transmitted through various prime contractors.

Highly qualified physicists are sometimes drawn to Star Wars projects by an inducement at least as potent as remuneration: access to the laboratories, equipment and staffs that can take on research programs far beyond the financial reach of even the richest university.

The cumulative impact of such an influx of funds and assistance on the broader course of American science will, of course, be impossible to measure for many years. But scientists and technical experts both inside and outside the strategic defense program agree that the systems, materials and devices brought into being in the name of S.D.I. will leave a profound legacy. One defense physicist (who asked to remain unidentified) put it this way:

"Some say we've made Faustian deals with the Devil, and there's an element of truth in it, if you happen to look at national defense as the Devil, which I do not. I'm being paid to work in a lab that's more exciting than a toy store. I'm given all the fancy hardware I need for my work, which has to do with very short-wavelength lasers. Do you realize what magnificent scientific tools such lasers will one day give us? We could use them to make holographic movies of the interaction of molecules in living cells, catalyzing the whole field of cancer research. X-ray or gamma-ray lasers will help us understand the nature of life at its most basic level.

"Sure, we're working on weapons, and we hope they'll be very good weapons. But the biggest payoff for many of us is the thrill of personal scientific achievement — achievement that in many cases would be impossible without Star Wars tools." ■

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The ABM Treaty and the SDI Program

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

Following are statements by Ambassador Paul H. Nitze, Special Adviser to the President and Secretary of State on Arms Control Matters, and Abraham D. Sofaer, Legal Adviser, before the Subcommittee on Arms Control, International Security, and Science of the House Foreign Affairs Committee, Washington, D.C., October 22, 1985.

AMBASSADOR NITZE

When the President initiated the SDI [Strategic Defense Initiative] research program, he ordered that it be conducted in full compliance with our legal treaty obligations; he directed, from its inception, that the SDI program be planned accordingly; there is no intention to deviate from that commitment.

The SDI is a research program. It is investigating the feasibility of new defensive technologies, both earth- and space-based—no more, no less. The fundamental purpose of the SDI program is to determine whether and, if so, how it can contribute to the realization of a situation in which nations can live secure in the knowledge that their security increasingly rests on the ability to defend against potential attacks, thus to deter by denial rather than merely by the threat of mutually devastating nuclear retaliation.

More than 13 years have elapsed since the ABM [Anti-Ballistic Missile] Treaty was negotiated. A number of mutually inconsistent statements as to its proper interpretation have been made over this time period. In view of the importance of the current issue, a review of the basic facts was mandatory. Not only the Defense Department lawyers but also Judge Sofaer, Legal Adviser of the State Department, and his staff have recently conducted such a review on the ABM Treaty, its agreed statements, and associated negotiating record in full detail.

The reexamination of the treaty's text, the agreed statements and common understandings accompanying it, the negotiating record, and official statements made since 1972 shows that they have been variously interpreted as to what kinds of development and testing, as well as what kinds of research, are permitted, particularly with respect to future systems and components based on what are called in the treaty "other physical principles."

Because of the great potential contribution that deployment of systems flowing from SDI could make to our security, because of apparent Soviet treaty interpretations different from ours, and because of our interest in a rigorous implementation of the ABM Treaty by both sides, we have devoted much attention to the question of how to interpret the treaty. It is our view, based on our recent analysis of the treaty text and all of the accompanying records, that a broader interpretation of our authority than that which we have applied to restrict our SDI research program is fully justified. This is, however, a moot point. Our SDI research program has been structured and, for solid reasons, will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations. We believe that the SDI program can adequately answer those pertinent questions regarding new defensive technologies originally posed by the President while strictly adhering to this more restrictive interpretation.

There can be no double standard as to the way we interpret our treaty obligations vis-a-vis the interpretation the Soviets apply to those same treaty obligations. To do otherwise would outline a formula for potential disaster to our national security interests. In sharp contrast to Soviet behavior, our conservative and principled restraint with respect to our own SDI program demonstrates, by our deeds, our sincerity toward commitments—commitments to our Congress, to our allies, and to our respective publics.

MR. SOFAER

This is my first appearance before your committee. I am honored by your invitation to discuss the meaning of the Anti-Ballistic Missile Treaty with respect to so-called future ABM systems or components, including some contemplated as part of the Strategic Defense Initiative.

The ABM Treaty is an important element of our strategic arms control structure. When the President first announced the SDI program in March 1983, he made clear that it would be conducted "consistent with our obligations [under] the ABM Treaty." This commitment has been maintained. The United States has scrupulously complied

with the treaty, notwithstanding such clear Soviet violations of it as the Krasnoyarsk radar station.

Broad vs. Restrictive Interpretation

Soviet violations of the ABM Treaty, the implementation of our SDI program, and the ongoing arms negotiations at Geneva recently caused various agencies to consider more thoroughly than ever before the appropriate interpretation of the ABM Treaty as it relates to future or "exotic" systems. By that, I mean defensive systems that serve the same functions as ABM systems and components but that use devices based on technology not understood in 1972 when the treaty was negotiated and that are capable of substituting for ABM interceptor missiles, launchers, and radars. This examination has led to the conclusion that a reading of the ABM Treaty that would allow the development and testing of such systems based on physical principles other than those understood in 1972 is wholly justified.

At the same time, however, I want to emphasize a critical point made by Secretary Shultz in his speech to the North Atlantic Assembly last week: "[O]ur SDI research program has been structured and, as the President has reaffirmed [on October 11], will continue to be conducted in accordance with a restrictive interpretation of the treaty's obligations." Secretary Shultz assured our NATO allies of "[o]ur commitment to pursue the program as currently structured, which is consistent with a restrictive interpretation of our obligations under the ABM Treaty." Accordingly, he described the debate over the two interpretations as "moot." The issue may have practical significance only when the SDI program has reached the point at which questions regarding the feasibility of strategic defense have been answered and engineering development, with a view to deployment, becomes a real option.

I was well aware when I began my work on this issue that several officials associated with the SALT I [strategic arms limitation talks] negotiations and others still in the government had advanced the view that the ABM Treaty is unambiguous in its treatment of such future systems. They argued that article V of the treaty forbids development, testing, or deployment of any future ABM systems and components other than those that are fixed land-based. They read Agreed Statement D as relevant only to fixed land-based systems and components, arguing that it permits "creation" of such systems and components when they are based on "other physical principles" but conditions their deployment on agreement between the parties on specific limitations. Other persons were contending, however, that this "restrictive" view of the ABM Treaty is based on unilateral assertions by U.S. negotiators; that the treaty is ambiguous; and that the negotiating record supports a broader view of our freedom to develop, test, and deploy future systems.

My study of the treaty led me to conclude that its language is ambiguous and can more reasonably be read to support a broader interpretation. An examination of the three provisions primarily at issue will demonstrate why this is so.

- Article II(1) defines an "ABM system" as "a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of" ABM interceptor missiles, ABM launchers, and ABM radars.
- Article V(1) provides that the parties agree "not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based."
- Agreed Statement D, a side agreement that accompanies the treaty, provides as follows:

> In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article III of the Treaty, the Parties agree that in the event ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles, ABM launchers, or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty.

The restrictive interpretation rests on the premise that article V(1) is clear on its face: it says no development, testing, or deployment of "ABM systems or components" other than those that are fixed land-based. But this language does not settle the issue of the article's applicability to future systems and components. That issue depends on the meaning of the term "ABM systems or components": is that phrase limited to systems and components based on then-current technology, or does it also include those based on future technology?

In attempting to answer this question, one must turn to the definition of "ABM system" in article II(1). Proponents of the restrictive view contend that this definition is functional: anything ever conceived that could serve the function of countering strategic missiles in flight falls within the definition. These persons argue that the three components identified in that paragraph—missiles, launchers, and radars—are merely listed as the elements that an ABM system is "currently consisting of" and that all future components of a system that satisfies the functional definition are also covered by article II(1). Only when armed with these meanings can proponents rely on article V(1) as a ban on development, testing, and deployment of all nonfixed, land-based systems or components, whether current or future.

Shortcomings of the Restrictive Interpretation

This reading of the treaty is plausible, but it is not the only reasonable reading; on the contrary, it has serious shortcomings. The premise that article II(1) defines "ABM system" in a functional manner, meant to include all future systems and components, is difficult to sustain. The provision can more reasonably be read to mean that the systems contemplated by the treaty are those that serve the functions described *and* that currently consist of the listed components. The treaty's other provisions consistently use the phrases "ABM system" and "components" in contexts that reflect that the parties were referring to systems and components based on known technology.

Article II(2), for example, further describes the "ABM system components listed in paragraph 1 of this Article," to include those that are operational, being tested, under construction, etc.—thereby indicating that the definition in article II(1) was not merely illustrative but was intended to describe the actual components covered by the treaty. To take another example, article V(2) sets limits on the types of "launchers" that may be developed, tested, or deployed—thus reflecting, in the same article as the alleged prohibition on future mobile systems and components, an exclusive concern for one of the current components listed in article II(1).

Systems and components based on future technology are not discussed anywhere in the treaty other than in Agreed Statement D. In that provision, the parties felt a need to qualify the term—systems and components created in the future—with the phrase "based on other physical principles." If "ABM system" and "components" actually meant all systems or devices that could serve ABM functions, whether based on present or future technology, the parties would not have needed to qualify these terms in Agreed Statement D. That this

qualification was added suggests that the definitions of "ABM system" and "component" in article II(1) extended only to those based on presently utilized physical principles and not on "other" ones.

The existence of Agreed Statement D poses a fundamental problem for the restrictive view. Nothing in that statement suggests that it applies only to future systems that are fixed land-based; on the contrary, it addresses all ABM systems and components that are "based on other physical principles." Moreover, the restrictive interpretation would render this provision superfluous. If article II(1) extended to all ABM systems and components, based on present as well as on future technology, then article III implicitly would have banned all future fixed land-based systems and components. Such an interpretation, by rendering a portion of a treaty superfluous, violates accepted canons of construction.

The serious difficulties of construction created by the restrictive reading are avoided if one reads articles II(1) and V(1) as referring only to ABM systems and components based on currently utilized physical principles. Read in this manner, the treaty establishes a coherent, nonredundant scheme that prohibits:

- The deployment of all fixed land-based systems and components derived from current technological principles, except as specifically permitted (article III);
- The development, testing, and deployment of all mobile systems and components derived from current technological principles (article V(1)); and
- The deployment of all forms of systems and components derived from "other" physical principles until after agreement on specific limitations (Agreed Statement D).

Other reasonable constructions of the treaty have been advanced, but I think that the arguments that I have presented serve to demonstrate the ambiguities present in the text of the ABM Treaty.

Historical Support for a Broader Interpretation

Under international law, as under U.S. domestic law, once an agreement has been found ambiguous, one must seek guidance in the circumstances surrounding the drafting of the agreement. Thus, in the present situation, once we concluded that the treaty is ambiguous, we turned to the negotiating record to see which of the possible constructions most accurately reflects the parties' intentions.

Examining the negotiating record for the ABM Treaty presented some real, albeit mundane, difficulties. No single agency has systematically collected and preserved the entire record in a readily usable form. My staff and I, therefore, obtained from various sources everything that we could find that might be relevant to the issue of future systems and components. Because we are still in the process of collecting material, I cannot tell you with certainty that I know every single step in the negotiating process. But we are far enough along that I can say with confidence that a much stronger case exists in the record for the broader interpretation of the treaty than for the restrictive interpretation.

The entire negotiating record is classified, and I, therefore, cannot reveal any detail in open session. If, after this public session, the committee chooses to go into executive session, I will be free to explain much more. I can tell you in general, however, that I personally reviewed all of the significant statements and drafts in the available negotiating history regarding future systems. I reached the firm conclusion that, although the U.S. delegates initially sought to ban development and testing of nonland-based systems or components based on future technology, the Soviets refused to go along, and no such agreement was reached. The Soviets stubbornly resisted U.S. attempts to adopt in the body of the treaty any limits on such systems or components based on future technology; their arguments rested on a professed unwillingness to deal with unknown devices or technology. The farthest the Soviets were willing to go with respect to such future systems or components was to adopt a side agreement prohibiting only the deployment of such systems and components, once created, until the parties agreed on specific limitations. The parties did not agree to ban development and testing of such systems or components, whether on land or in space.

The negotiating record also contains strong support for a reading of article II(1) that restricts the definitions of "ABM system" and "components" to those based on current physical principles. The Soviets specifically sought to prevent broad definitions of these terms, and our negotiators acceded to their wishes. Moreover, our negotiators ultimately convinced the Soviets to adopt Agreed Statement D by arguing that, without it, the treaty would leave the parties free to deploy systems or components based on other physical principles, such as lasers.

I am aware that some U.S. negotiators in the SALT I talks assert that they achieved a total ban on the development, testing, and deployment of all future mobile systems and components, including those based on other physical principles. The negotiating history contains suggestions as to why they reached their conclusions. But the record of the negotiations fails to demonstrate that they actually succeeded in achieving their objective. On the contrary, the record reflects that they failed to obtain the ban they sought and that we could never have enforced such a ban against the Soviets. Treaties, like other agreements, are enforceable only to the extent they create mutual rights and duties. In effect, because the Soviets succeeded in avoiding a broad, binding commitment regarding the development and testing of mobile systems and components based on future technology, we cannot properly be said to be bound by such a commitment.

Conclusion

I wish to close by reiterating a critical point. Notwithstanding our belief in the merits of the broader interpretation, the President has decided to pursue the SDI program as currently structured, which can be accommodated within the confines of the "restrictive" interpretation—namely, research into, but not development or testing of, systems or components based on future technology and capable of substituting for ABM interceptors, launchers, or radars.■

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