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A Modern Anachronism: An Anatomy of President Reagan's Strategic Defense Initiative *

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Summary

With President Ronald Reagan's strategic defense initiative (SDI) or "Star Wars," the U.S. has embarked on a double track road for the decades ahead and well into the 21st century: defensive options and in addition offensive systems. The initial vision of a leakproof SDI has receded into differing variants of only partial "defensive" shields.

The history of the nuclear arms race reveals that the side which is the first to achieve certain technological breakthrough cannot for long prevail over the other. SDI technologies, both existing and under development, are no exception, and only exacerbate the vicious circle of offense-defense and action-reaction policies.

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History also reveals that U.S. promises of "sharing" SDI technology and "transition" to a world of SDI are replete with ambiguity and inconsistency. In a world of SDI, the proclaimed "elimination" of nuclear weapons will not occur "for many, many years," with no assurances of when and how it will be achieved.

Problems of nuclear weapons should be expressed differently. Can we live with nuclear weapons "for many, many years", or do we want to abolish them?

Nuclear deterrence has never been and cannot be stabilizing. Attempts by one nation, or a group of nations belonging to either of the opposing blocs, to achieve unilateral "National" security based on narrow "national" interest are anachronistic and incompatible with emerging world interdependence.

Contents

1. A Declaration of "Star Wars"

"In the beginning was the WORD." A major policy change was announced out of the blue by President Ronald Reagan in his speech of March 23, 1983.[1] The president advanced the idea of rendering nuclear weapons "impotent and obsolete" by developing the means to destroy Soviet or other missiles launched against the U.S. The "promise of retaliation," Reagan explained, had successfully deterred aggression. However, his advisers now emphasized the need in the future not to rely "solely on offensive retaliation." Reagan asked what if the U.S. could "intercept and destroy strategic ballistic missiles" before they reached the U.S. soil or that of U.S. allies? He pointed up current level of U.S. technology that enables the U.S. to embark on a program to "counter the awesome Soviet missile threat" with defensive measures. With "the very strengths in technology," he was now convinced, the U.S. should be capable of demonstrating its "peaceful intentions" by applying all its abilities and ingenuity to attain a "truly lasting stability."

He therefore was directing a comprehensive and intensive effort to define a long-term research and development program to begin to achieve an "ultimate goal of eliminating the threat posed by strategic nuclear missiles."

This declaration of "Star Wars" intimated a shift away from the doctrine of deterrence based on "mutual assured destruction" (MAD) to a new one of space-based defense against ballistic missiles (BMD).

How did Reagan hit upon this scheme? Edward Teller, an inventor of the U.S. hydrogen bomb, according to an informed source, was an influential advocate of X-ray lasers generated by nuclear explosions. Teller was a White House guest in September 1982. Other SDI patrons comprise the "High Frontier" group under retired Lieutenant General Daniel O. Graham, who served as Reagan's defense policy adviser during his 1980 presidential campaign. This group in mid-January 1982 urged Reagan to replace MAD by a multi-tiered, space-based, non-nuclear strategic defense. A landmark was apparently passed on February 11, 1983, at Reagan's conference on MX missile deployment with Secretary of Defense Caspar W. Weinberger and the Joint Chiefs of Staff. When the suggestion of "strategic defense" was advanced, Reagan immediately showed a strong interest by asking rhetorically: "Would it not be better to defend lives than to avenge them?"[2)]

The Reagan administration was faced by Congressional pressures to scale down its military building and to increase social welfare spending. The administration adopted "Star Wars" as a "new element" to make its military budgets and programs "more palatable to the public." Great secrecy prevailed in incorporating the new element in the 23 March speech, and only a "very small group of aides" took part in its preparation.[3)]

During his speech, Reagan used charts, graphs and photographs, including some recently declassified, as evidence of the Soviet military buildup in contrast to U.S. strategic "neglect" in the 1970s.[4)]

Proponents of the SDI hail the "unprecedented" manner in which "the President has set policy in front of technology."[5)] In fact, the "Star Wars" declaration was not the logical outcome of a policy formation process based on scientific studies and policy analyses. George A. Keyworth, II, the White House science adviser, for instance, was apparently not keen on the BMD options, even after he heard the mid-January 1982 High Frontier briefing. Secretary of Defense Weinberger opposed until the last minute the presidential declaration of "Star Wars."[6)]

Furthermore, in the wake of Reagan's "Star Wars" speech, the President's Commission on Strategic Forces (the Scowcroft Commission) found that applications of current technology offered "no real promise of being able to defend the United States against massive nuclear attack" in this century. The commission

therefore concluded: "no ABM technologies appear to combine practicality, survivability, low cost, and technical effectiveness" sufficiently to justify proceeding beyond the stage of technology development.[7)]

Only after Reagan's speech were studies commissioned: one to a Defensive Technologies team headed by James C. Fletcher (former administrator of the National Aeronautics and Space Administration), and another to a Future Security Strategy team led by Fred S. Hoffman (director of Pan Heuristics, a Los Angeles policy analysis firm).[8)] The two studies were conducted from June to October 1983 and integrated by a senior interagency group. National security adviser William P. Clark recommended a technology development plan to the president. In March 1984, the Department of Defense established an organization to expand and accelerate research in ballistic missile defense technologies under a program called the "Strategic Defense Initiative" (SDI).

2. A Double Track into the 21st Century

One of the conspicuous features of the SDI program is Reagan's pursuit of dual objectives: to have defensive options, in addition to the continued modernization of offensive nuclear weapons. Reagan said on March 23, 1983, that if the defensive systems were "paired with offensive systems," they might be viewed as "fostering an aggressive policy," and "no one wants that." Yet, the ongoing modernization of strategic offensive nuclear systems, initiated in the late Carter administration and accelerated by Reagan, is already formidable.

The number of warheads in the U.S. nuclear arsenal is expected to grow from about 25,000 to over 29,000 by the end of the 1980s and a further increase is anticipated in the following decade. Most of the existing warheads will be replaced by newer models using advanced technologies in materials, electronics, design, reliability, and guidance and fusing systems. The new strategic triad will be composed of MX ("Peace Keeper") and small ICBM ("Midgetman") missiles, Trident missiles, and B-1B bombers and ATBs (advanced technology bombers). A fourth leg, the strategic reserve force, is being added in the form of Tomahawk SLCMs (sea-launched cruise missiles).[9)]

Secretary of Defense Weinberger told the Senate Armed Services Committee that if the U.S. could develop an effective system capable of rendering Soviet nu-

clear weapons "impotent," the U.S. could recreate the situation in 1945-1948 when it was "the only nation with the nuclear weapons."[10]

The report of Hoffman's Future Security Strategy Study team also endorses the modernization of offensive weapons along with the deployment of defensive systems. A satisfactory deterrent, it claims, requires a "combination of more discriminatory and effective offensive systems" to respond to enemy attacks "plus defensive systems" to deny enemy attack objectives.[11]

For SDI proponents, Keith B. Payne and Colin S. Gray, for example, modernization of offensive forces sustains stability during the defensive transition. Offensive weapons, including MX, the new "Midgetman" ICBM, B-1B bomber, cruise missile, and Trident submarine, are "essential" for deterrence stability during the "decades" of initial phase of a defensive transition, they write.[12] In their view, neither superpower, at least in the early stages of an essentially competitive defense transition, will cooperate tacitly in assisting the other side to achieve a highly effective defense. Nor do they think it likely that the two superpowers will abandon permanently the hope of gaining a "major advantage by developing both effective offensive and defensive weapons."[13]

Payne and Gray assign the U.S. strategic offensive forces four future missions: guarding the defense transition; holding at risk so many high-value assets of the Soviet state that the Kremlin perceives a substantial net advantage in negotiating a major bilateral reduction of offensive forces (thereby assisting the U.S. defense transition); providing an enduring hedge against sudden revelation of weakness in defensive systems; and providing some deterrent effect in order to help discourage gross misbehavior by third parties.[14]

Leon Sloss, Deputy Director of the Future Security Strategy Study team, also argues for a "more balanced mix of offensive and defensive measures" as "the way to bolster the nuclear component of deterrence."[15]

The modernization of strategic weapons now in progress is designed to support the Reagan administration's nuclear war doctrine. According to the Defense Guidance for FY 1984, the U.S. nuclear forces must "prevail" over the Soviet Union and "terminate" any U.S.–Soviet war on "terms favorable" to the U.S.[16]

The 15-page war-fighting manual of the U.S. Air Force, re-written and reissued in 1984 as basic aerospace doctrine, incorporates a "Military Space Doc-

trine." The Air Force will maintain "U.S. technological superiority in the aerospace" and ensure a "prolonged war-fighting capability" by developing the potential for combat operations in the space medium. In his foreword to the manual, General Charles A. Gabriel wrote: "The nation's highest defense priority – deterrence – requires a credible war-fighting capability across the spectrum of conflict. From the battlefield to the highest orbit, air power will provide that capability." The U.S. Air Force is prepared to move well beyond satellites and ballistic missiles. Space-based weapon systems could contribute to deterrence in peacetime and to "more rapid conflict termination or increased survivability in war," it says.[17]

If the U.S. can obtain a "significant advantage" over the U.S.S.R. "in strategic defenses," testifies a SDI proponent, the U.S. could gain a "substantial measure of strategic superiority" over them. In the reverse case, however, the results could be "strategically catastrophic."[18]

Those who are close to this line of thought reject the MAD doctrine. After President Carter's Presidential Directive 59 in 1980, the *Wall Street Journal* editorialized that the directive would "seal the coffin of MAD."[19] Another writer in the *Journal* wished that the burial of MAD marked "the end of an era," not only in American strategic policy, but almost surely in its foreign policy as well.[20]

Even before the March 1983 "Star Wars" announcement, there was a persistent undercurrent in the policy and aerospace communities in favor of strategic missile defense options. The "High Frontier" study group of the Washington-based Heritage Foundation concluded in 1981 that within a decade the U.S. could deploy a defense capable of destroying 95-98 percent of a Soviet first strike at a cost of less than $20 billion.[21]

Military contractors, including Rockwell International, Grumman, Martin Marietta, TRW, and Boeing, worked for years on ballistic missile defense technologies. They were faced with the need to make "business decisions."[22]

When SDI was crystallized on 23 March 1983, the *Wall Street Journal* pointed out that the president's aim was "to set a new doctrinal course" that would give the U.S. "greater flexibility" than MAD in responding to the Soviet threat.[23] Leon Sloss observes, a "major stride has been taken [in] returning strategic defense to the policy agenda."[24]

Statements by Reagan and his supporters invoke "gaps" in ABM, BMD, and

military buildup:

> "The Soviets are already hard at work on advanced technology for BMD, including lasers and other directed energy weapons. They also have active programs on more conventional approaches to BMD, including upgrading the anti-ballistic missile (ABM) system in place around Moscow (the only ABM system in the world), and research and development on a new rapidly deployable ABM system."[25]

Zbigniew Brzezinski, Robert Jastrow, and Max M. Kampelman add:

> "The Soviet military is now working aggressively on a nationwide missile-defense system; and it now appears ready to deploy a system capable of defending the country not only against aircraft, but also many types of ballistic missiles."[26]

These statements seem to imply that the Soviets lead in advanced technologies for BMD and possess a monopoly of the ABM system and technology. But in fact, while the U.S. decided not to complete its ABM system, it has retained all advanced ABM technology.

Payne and Gray are more cautious. They write that "it is very possible that U.S. BMD will be significantly better [than] Soviet BMD," and that "such a lead would have beneficial consequences for strategic stability."[27]

Moreover, an unpublished study by the Joint Chiefs of Staff suggests that within a decade, the Soviets would be capable only of a "relatively crude ground-based defense" whereas by then the U.S. might be able to field a "relatively effective space-based ballistic missile defense system."[28]

The Office of Technology Assessment (OTA) of U.S. Congress estimated that the Soviets are "almost certainly equipped in the near-term to deploy a large-scale, 'traditional' BMD system." The "traditional" BMD technologies are of the sort defined in the 1972 ABM Treaty as "nuclear-armed, radar-guided interceptors."[29]

In terms of "basic technological capabilities," however, "the United States clearly remains ahead of the Soviet Union in key areas required for advanced BMD system" (sensors, signal processing, optics, microelectronics, computers and soft wares included).[30] This is apparently also true for the 20 basic technologies

with "the greatest potential" for significantly improving military capabilities in the next decade or two. The Soviets are estimated to be "roughly equivalent" to the U.S. only in directed energy and power sources.[31]

3. Leaks in the Astrodome

President Reagan's original vision of a perfect defense against ballistic missiles has not been endorsed fully in Washington. While some, like Secretary of Defense Weinberger, still argue for a "thoroughly reliable and total" missile defense, most SDI proponents have retreated from the vision of an Astrodome to that of partial defensive shield deployed in phases.[32]

Some proponents anticipate a near perfection of the SDI, but only in its final phase. Brzezinski, Jastrow and Kampelman, for example, visualize a SDI deployment in two phases. The "combined effectiveness" of a "stabilizing," limited two-tier strategic defense in the first phase would be "over 90 percent," they estimate. Less than one Soviet warhead in ten would reach its target. They predict that this limited version could be deployed by the early 1990s. A "three- or four-layer defense," using such advanced technologies as the laser, may become a reality by the end of this century. The deployment of such a system, they argue, may well boost the efficiency of U.S. defense to a "level so close to perfection as to signal a final end to the era of nuclear ballistic missiles."[33]

Five tiers of defensive interceptors achieving "85-percent effectiveness in each layer," a model used by Payne and Gray, would reduce the overall attack to "less than .01 percent" of the original number of attacking missiles. If 10,000 nuclear warheads were launched at the U.S. with such a multilayered defense system in place, they write, "at most a single weapon would be likely to penetrate to its target."[34]

Less ambitious scenarios for defensive shields are available. Proponents of such visions make themselves look more realistic by emphasizing the usefulness of even a partial defense. "Even a U.S. defense of limited capability," concludes the Hoffman report, "can deny Soviet planners confidence in their ability to destroy a sufficient set of military targets to satisfy enemy objectives, thereby strengthening deterrence."[35]

SDI "will not have to be perfect" in order to fulfill a "significant strategic

role," writes Leon Sloss. It is therefore important, in his opinion, to focus on "intermediate options" for the partial deployment of defenses that could provide a "relatively early means of enhancing deterrence," no matter limited in their coverage.[36]

In late October 1985, a study by the Pentagon's Strategic Defense Initiative Organization (SDIO), came to light. The latest plan envisioned is a seven-layer system to protect about 3,500 major targets in the U.S., including missile fields and urban centers. The system would consist of thousands of space satellites with weapons intended to furnish a nearly perfect nationwide shield. New weapons and other devices to detect incoming targets would be based both in space and on earth. The study postulates that each of the seven layers, or weapons groups, might permit 20 percent of all incoming missiles to slip through. The cumulative effect, as the final layers destroyed nuclear warheads missed by the first layers, would hopefully provide a very high level of protection against nuclear detonations on U.S. territory.[37]

These differing visions, all based on wishful estimates, are uncertain. What about the people who might still suffer from a "single weapon"? Even the possibility of denying "Soviet planners confidence" is still only a guess. It seems absolutely certain that incalculable destruction will be caused by any use of nuclear weapons, deliberate or accidental. The leaky Astrodome argument shakes the ground on which President Reagan has based his rhetoric of rendering nuclear weapons "impotent and obsolete."

4. Technological Fetishism

SDI critics have correctly pointed out that a comprehensive "Star Wars" defensive shield is technologically unattainable. The Union of Concerned Scientists, for instance, concludes that a highly efficient boost-phase interception, a prerequisite of total BMD, is "doomed by the inherent limitations of the weapons, insoluble basing dilemmas, and an array of offensive countermeasures." The failure of midcourse system is "preordained. . . by the sheer unmanageability of its task in the absence of a ruthless thinning out of the attack in the boost phase. Terminal phase BMD remains fundamentally unsuitable for area defense of population centers."[38]

The possibility of an Astrodome BMD is rejected outright by the Office of Technology Assessment (OTA), which found that assured survival of the U.S. population "appears impossible to achieve" if the Soviet Union is determined to deny it to the U.S. OTA decided that strategic defenses "for limited purposes," such as defense of ICBM silos or complication of enemy attack plans, "might be plausible," but only if the existing "imbalance between the offense and defense" is erased, a contingency which "does not appear very likely."[39]

It has not been possible, as a matter of fact, to put an end to technological competition in arms race, not only in the form of offense-versus-defense but also in terms of action and reaction between the opposing parties. The U.S. first manufactured three atomic bombs in 1945, and after testing the first at Trinity in July, it used the next two at Hiroshima and Nagasaki in August. Major General Leslie R. Groves, commander of the Manhattan Project, expected that it would take the Soviet Union some twenty years to duplicate the U.S. technologies, but the Soviets actually detonated their first atomic device in four years, sooner than even the most realistic estimate of some U.S. science administrators. There was a seven-year time-lag between the U.S. and the U.S.S.R. in the development of an intercontinental bomber. In the case of the development of a thermonuclear bomb, the time-lag was only one year. Then, the Soviets reversed the order in the development of an ICBM and a man-made satellite, though followed by the U.S. a year later.

Although the U.S. has taken virtually every technical initiative in the nuclear arms race, it has been followed sooner or later by the Soviet Union. The games have been repeated in the development of a photo reconnaissance satellite, a submarine-launched ballistic missile (SLBM), multiple warheads (MRVs), an anti-ballistic missile (ABM), multiple independently-targeted warheads (MIRVs), and a long-range cruise missile. It is almost sure to continue, if unchecked, in the fields of the neutron bomb, a new strategic bomber, an anti-satellite rocket, and a stealth bomber.

Science and technology transcend national frontiers. Technological know-how can be monopolized only for a limited period, even if embargoes are placed on the transfer of technology and strategic materiels, such as those of the Coordinating Committee for Export to Communist Area (COCOM). A technological breakthrough achieved by one leader will before long be matched or surpassed by a correspond-

ing innovation of its rival.

Many of the Manhattan Project scientists were among those to learn that there is no secret, that there is no defense against nuclear weapons, and that the only alternative is international control.[40]

No technological innovation enables one side in the nuclear competition to dictate a fundamental reversal of the offense-defense relations or to force the other side out of the action-reaction vicious circle.

Even Payne and Gray realize the inherent universality of technology when they say that "Star Wars" defenses, no matter how great their promise, will "not constitute the last move in high-technology arms competition." They admit that the SDI technology will "not solve the fundamental problems of political rivalry." Nevertheless, they still maintain that the SDI, embracing a wide range of near-term and far-term weaponry, promises to strengthen the stability of deterrence by "imposing major new uncertainties upon any potential attack." In the long run, they say, it holds out "the possibility of transforming, though not transcending the Soviet-American deterrence relationship."[41]

In other words, SDI proponents wishfully regard its technology as a promise to be materialized as they see it statically within the purview of the existing technological horizon, without, however, taking into account of possible reactions which could raise the nuclear arms competition to even higher dimensions.

When President Reagan presented the SDI as the technological means to intercept and destroy strategic ballistic missiles before they reached U.S. soil, he perhaps thought that he had hit upon a marvelous idea to command great popular support. Calling on the U.S. military-scientific community to meet this formidable challenge by the expenditure of a trillion dollars, he played on the politics of "technological fetishism" and fermented the anachronistic illusion of omnipotent America.

5. "Sharing," "Transition" and "Elimination" in the U.S. Nuclear Lexicon

There are many different interpretations of the "transition" from the world of MAD (mutual assured destruction) to that of "mutual assured security" or "mutual assured survival." The Brzezinski-Jastrow-Kampelman version says: "As our

strategic space-defense initiative expands incrementally, it should be realistically possible to scale down our offensive forces." The combination of "defense" against space missiles with "retaliatory offense in reserve" enhances deterrence, they argue. A transition "first of the United States" and "eventually of the Soviet Union" into a "genuinely defensive posture," with neither side posing a first-strike threat to the other, would not only be stabilizing but would also be most helpful to the pursuit of far-reaching arms control agreements.[42)]

What about the period between the transition by the U.S. and that by the Soviets? There appear to be at least two possibilities. A "transition. . . into a genuinely defensive posture" might mean: (1) a condition, in which all U.S. offensive nuclear weapons have been scrapped, a U.S. BMD system is deployed fully, all Soviet offensive nuclear weapons have been eliminated, but no Soviet BMD systems are deployed, or only part of such systems are deployed. Or (2) All U.S. offensive nuclear weapons are retained, though scaled down to a certain level, a U.S. BMD system is deployed fully, the Soviets also possess offensive nuclear weapons, likewise scaled down to a certain level, and either no Soviet BMD systems are deployed or only part of such systems are deployed. If they mean (2), do they still believe that neither side could pose a first-strike threat to the other? How does this imbalance between the two sides armed with asymmetrically mixed sets of offensive and defensive systems enhance "deter rence"?

President Reagan also has revealed ambiguities and contradictions. In a BBC interview October 29, 1985, he admitted that for the U.S. to "share" its SDI technology with the Soviets, there would have to be the "reductions" of offensive weapons. However, in his interview with four Soviet journalists October 31, 1985, he favored "elimination" of nuclear weapons before "deployment" of the defensive shield. Reagan told the Soviet journalists that the U.S. would not deploy BMD system "until we sit down with the other nations of the world and those that have nuclear arsenals and see if we cannot come to an agreement on which there will be deployment only if there is elimination of the nuclear weapons." He said too that deployment of SDI would occur only after the U.S. and U.S.S.R. "do away with our nuclear missiles, our offensive missiles."[43)]

White House spokesman Larry Speaks on November 5, 1985, dismiss-

ed this inconsistency as "presidential imprecision," explaining that Reagan intended to use the word "sharing" instead of "deployment."[44] Another White House spokesman Edward P. Djerejian said that the "transition" would include a gradual phasing out of offensive weapons but not their immediate elimination.[45]

And then speaking November 6, 1985, to news agency correspondents, Reagan said that after confirming the effectiveness of the new defensive shield, the U.S. would propose an international conference with the other nuclear powers to "see if we cannot use that defensive system for the elimination of nuclear weapons." He added, however, that if the U.S. could not come to an agreement with them to "eliminate" the nuclear weapons, it would "go ahead with deployment."[46]

Paul H. Nitze, special adviser to President Reagan and Secretary of State George P. Shultz on arms control, has presented a three-stage SDI blueprint.[47]

For at least the next decade, declares Nitze, U.S. deterrence will remain based on the ultimate threat of nuclear retaliation. The SDI research program will be pursued "in full compliance with the ABM Treaty." (Reagan administration officials have been divided on adherence to the 1972 ABM Treaty, as revealed by the dispute between Robert C. McFarlane, then White House national security adviser, and Secretary of State Shultz.[48]

In this near term, Nitze says, the U.S. will press for "radical reductions" in the number and power of strategic and intermediate-range nuclear arms.

If new defensive technologies prove "survivable" and "cost effective at the margin," Nitze argues, a transition will take place to a second phase of deterrence relying on a "mix of offensive nuclear and defensive systems." Nitze, however, does not fail to caution that in the near term and even in the early and intermediate stages of the transitional second stage, "offensive nuclear arms and the threat of massive destructive retaliation they embody" will be "the key element" of deterrence. This unavoidable situation will continue "for many, many years," Nitze admits.

Given the long buildup of offensive nuclear weapons and the possibility that at some point during this process one side might judge it had acquired an effective defense against nuclear ballistic missiles, how could the other side be pursuaded to move toward a "more stable balance at lower levels" of nuclear arms?

The ultimate phase, according to Nitze's blueprint, would be based on the

ability of the defense to deny success to a potential aggressor's attack, "whether nuclear or conventional." (No one has ever made a convincing case for the effectiveness of SDI against theater and tactical nuclear weapons and conventional arms.)

Nitze denies that Reagan's earlier statement allowing the deployment of new defenses against ballistic missiles to be negotiated entails a "Soviet veto" over U.S. defense. He says that the U.S. should seek to move forward "in cooperative manner with the Soviets." But what is meant by "in cooperative manner"? If the U.S. determines the technological feasibility of BMD, why would it "share" that technology with the Soviets? And in what manner?

According to OTA, the "negotiability" of a safe transition to a state of highly constrained offenses coupled with highly effective defenses is "very much in question." Because both sides would fear to face the "risk" that the other side's defenses might become highly effective against the reduced offenses before one's own defenses were ready. If the BMD deployment took place without a U.S.-Soviet agreement to reduce offensive forces as defensive forces grew, points out OTA, a fear on either side that the other could obtain a "first strike capability" could lead both sides to "build up both their offenses and their defenses." OTA therefore concludes that such buildups would make it "even more difficult to negotiate a cooperative transition from offense dominance to defense dominance."[49]

It is pertinent to recall here that problems of nuclear weapons "sharing" were discussed even prior to Hiroshima and Nagasaki. Meeting with President Franklin D. Roosevelt on 31 December 1944, Secretary of War Henry L. Stimson observed that it would be impossible to permanently deny the secrets of atomic energy to the U.S.S.R., but that the time to "share" them with the Soviets had not yet arrived. A definite *quid pro quo* would be needed first.[50]

At the Potsdam conference, Stimson forwarded a memorandum to President Harry S. Truman, arguing that careful consideration should be given to "sharing" the new U.S. discovery with the Soviets, and that the question of "how our headstart in X [atomic bomb] and the Russian desire to participate" in the atom bomb project could be used to bring the U.S. closer to the removal of the basic difficulty – the character of the Soviet state – should be explored.[51]

Problems of "transition" recall the transition to an International Atom-

ic Development Authority (IADA) contemplated in the 1946 Acheson-Lilienthal report. This document acknowledged that the U.S. atomic "monopoly" could hold only for "five to twenty years." Yet, the U.S. "monopoly on knowledge cannot be, and should not be, lost at once." Even though this monopoly would gradually be lost, the U.S. would still be in possession of all available production facilities. Therefore, "should the worst happen, and during the transition period, the entire effort collapse, the United States will at all times be in a favorable position with regard to atomic weapons." The necessary safeguards were incorporated accordingly in the Acheson-Lilienthal plan.[52)]

History demonstrates that the stronger party, with superior technologies and production facilities, will not voluntarily "share" anything with the weaker, except for a substantial *quid pro quo* and will not abandon its advantage in some hypothetical "transition" to a condition in which it would share an equal status with the weaker.

Now, what about the global "elimination" of nuclear weapons, the central task of our time, in the ultimate stage of SDI?

President Reagan initially presented SDI as if it could some day achieve the goal. However, he has somewhat retreated now into a position that SDI will be a "crucial means" by which both the U.S. and Soviet Union can safely agree to "very deep reductions," and eventually even the "elimination of ballistic missiles and the nuclear weapons they carry."[53)]

The SDI, "by itself," however, cannot fully realize Reagan's "vision of a world free of its overwhelming dependence on nuclear weapons, a world free once and for all of the threat of nuclear war."[54)] Both the "very deep reductions" and "elimination" of ballistic missiles and their nuclear warheads are a matter of negotiation. President Reagan's posture for such negotiations is from the "position of strength," as he has often pronounced, perhaps eventually armed with SDI technology.

If the global "elimination" of nuclear weapons were "ever to become possible," Nitze says, it would need to be accompanied by "widespread deployment of effective non-nuclear defense." He is skeptical about the possibility of eliminating nuclear weapons and even admits that it may prove "impossible to obtain," exhibiting a striking contrast to President Reagan's rhetoric. "Even if the world does even-

tually reach it [the elimination], Nitze says, it will be "perhaps well into the next century."[55] The SDI may never achieve its proclaimed goal and can never be a panacea for a world free from nuclear threat.

6. Roles Assigned to U.S. Allies

Attitudes of U.S. allies are complicated and can be characterized generally by skepticism, and by specific contradictions.

Australia and Greece have ruled out participation in SDI research in any form. Canada, Denmark, France, the Netherlands, and Norway have left their industries free to take part in the research program. These moves, along with the reiteration by France of its "independent" nuclear posture and the inauguration of the Eureka European space project, account for a certain disarray among the U.S. allies.

Considerations that might induce some of the U.S. allies to support the SDI and to participate in its research program include: high-technology "spin-offs" expected from SDI research, a safeguard against "brain drain," diplomatic need for the alliance politics, and the nuclear "deterrence" mentality on which they still rely in varying degrees in the domestic arena.

Britain's position mirrors ambivalence. Its Foreign Secretary Sir Geoffrey Howe, in March 1985 said that there would be "no advantage" in creating a new Maginot Line for the next century, "liable to be outflanked by relatively simple and demonstrably cheaper countermeasures."[56] On 6 December 1985, however, British Secretary of Defense Michael Heseltine and U.S. Secretary of Defense Weinberger affixed their signatures to a "Memorandum of Understanding" on Britain's participation in the SDI research program. Prime Minister Margaret Thatcher's acceptance of Britain's participation was apparently reached from diplomatic, technological and economic considerations.

"Sharing" and "transfer" of high technology between unequal partners are not to be materialized easily; once materialized, the transferee is likely to be dependent on the transferer. Even after secret agreements were signed in Quebec in 1943 regarding Britain's participation in the U.S. atomic bomb project, Britain was allowed to "share" only those scientific information which the U.S. had decided as falling within Britain's "need-to-know" categories.[57] Britain's sharing of

"comonality" with the U.S., in the case of a switch from Trident I to Trident II missiles in March 1982, an arrangement between the two countries in an "extraordinary" alliance, shows an extent to which Britain has been dependent on the U.S. politico-military strategy.[58]

In the SDI research program, Britain is observed "very unlikely to get the jobs and contracts" that have been suggested by the Thatcher Government. In the summer of 1985, British Secretary of Defense Michael Heseltine requested the U.S. for a guarantee of $1.5 billion in contracts as the price for Britain's participation. His request was denied cordially, however. It is predicted that the money the Europeans receiving from the five-year research project will not exceed $1 billion at most. Despite the U.S.-U.K. agreement, which has reportedly addressed transfer and safeguarding of classified material and so-called intellectual property rights, Britain will still be "barred" from many parts of SDI, especially from its most attractive and advanced bits.[59]

The attitude of the Federal Republic of Germany has been equally ambivalent. Chancellor Helmut Kohl's Government was anxious to portray any agreement as "commercial in nature" to alleviate possible negative impact on the Democractic Republic of Germany, whereas the U.S. wanted a military-venture accord. Two documents were due to be signed in the last week of March 1986: the first paper outlining Bonn's backing for private German companies to participate in the research program, and the second prescribing the "sharing" of research findings and the use of technology developed under the "Star Wars" contracts. Meanwhile, Bonn's Defense Minister Manfred Wörner wants even to obtain a "European Defense Initiative" (EDI), a new anti-aircraft system capable of shooting down Soviet planes, cruise missiles, and intermediate-range and short-range missiles.[60]

There are others who are anxious not to miss a "Star Wars" bus. Prime Minister Bettino Craxi's Government of Italy has reportedly "made up its mind" to take part in the SDI research program.[61] For the national union Government of Israel, under Prime Minister Shimon Peres, the cabinet decision reached early in 1986 in favor of accepting the U.S. invitation to participate in the SDI was dictated by "economic and strategic" reasons. Israeli participation is expected to place the Reagan administration in a stronger position on Capitol Hill in dealing with problems of military assistance and emergency aid to that country.[62] Prime

Minister Nakasone of Japan also is said to have made up his mind about Japan's participation.[63]

Will the non-U.S. companies and laboratories taking part in the BMD research project be given leeway in making use of the technology acquired? OTA observes that they would be working under "restrictions" likely to be imposed by the U.S. itself on the transfer of military technology to its allies "for fear that such technologies may eventually reach the Soviet Union." Moreover, allied participation in the SDI research program, if conducted in complicance with the 1972 ABM Treaty, would have to be limited to research which had not reached the "system" or "component" level.[64]

However, a different situation seems to be emerging in areas where non-U.S. manufacturers and laboratories have technologies superior to those of their U.S. counterparts. Pentagon has a free hand in its procurement of high-technology know-how and products on international market. According to a source versed in the U.S. Defense Department and the arms industry, Japanese high-technology firms may become an ideal source of "low-cost suppliers." Many of them are estimated to have a lead over U.S. arms contractors in "several key technologies" vital to the development of BMD system. In Pentagon's procurement, it is pointed out, there is a "very large and increasing dependence on Japanese components."[65]

With the SDI research program, the Reagan administration is re-organizing an international network of military-industrial-scientific complex under the umbrella of the new American Strategy of "Star Wars." The proponents of SDI are working hard apparently to see that the U.S. and its allies are committed to the "Star Wars" program as firmly and deeply as possible while Mr. Reagan is in office, thereby making it difficult for the future U.S. president(s) to halt or reverse the program.

7. The Need to Formulate Problems Properly

The superpower nuclear arms competition and alliance politics have always set the pattern and pace of global militarization. The U.S. and the Soviet Union have built two giant opposing pyramidal blocs and assigned their respective allies with a role of fortifying the two constructions particularly in the so-called conventional areas down the central strategic systems. In the peripheries below the two

pyramids are the countries detached from the two blocs and in the Third World, some of them adding to their conventional, but ever more sophisticated arsenals.

A world of SDI, both during the preparations for BMD weapons and in the course of transition to the ultimate phase, as envisioned by its proponents, will accelerate the spiral of global militarization. The SDI denies security for the superpowers, for their allies, and for the family of all nations.

Incredibly and unfortunately, the Reagan administration, that represents only one component of the family of nations, has so far been successful in throwing the world into confusion over the problems of eliminating nuclear weapons.

Nevertheless, even the Reagan administration itself is far from monolithic behind the SDI. The subject has been treated, it seems, as a yardstick to test personal loyalty of administration officials to Reagan himself. In the intellectual climate of Washington, some officials might have said "yes" even though they really did not mean it.

The SDI starts from a delusion that with its superior technologies, the U.S. can avoid the humiliation of MAD, where it is matched by the Soviets under the intolerable threat of nuclear annihilation.

But more realistic thinkers maintain that the U.S. must live with nuclear weapons and the Kremlin. Harold Brown, Secretary of Defense under President Jimmy Carter, for instance, sees "the ambiguities and paradoxes of the nuclear age" as embodied in the nuclear deterrence doctrine, which, he insists, "must be accepted and lived with." For he can find "no alternative" to living with both "the genie of public involvement [in] and discussion" of nuclear problems and "the genie of nuclear weapons" that are already out of the bottle. Samuel P. Huntington of Harvard also argues that there is "no choice but to live with a certain level of anxiety with respect to both the Kremlin and the bomb."[66]

There is indeed no alternative to coexisting with the Kremlin, and for that matter, with other countries as well. The world is certainly not the exclusive domain of the U.S. or the U.S.S.R.

But alternatives to living with nuclear weapons must be found, first and foremost politically, and not through the technological fixes of SDI.

There are those who see the SDI as another "grand design" for a reduction of Soviet offensive forces in exchange for constraint of U.S. defense technologies.[67]

Highly critical as he is of the SDI as such, James R. Schlesinger, former U.S. Secretatry of Defense, nevertheless suggests that its research program be best used as a "bargaining chip" even with the "much maligned role."

The SDI research program as a bargaining chip may be "quintessential" as he says. But the arms control negotiations so far conducted, especially when one side had the strength of a bargaining chip over the other side, have only resulted in the institutionalization of the nuclear arms race in one form or another.

Hence the imperative need to formulate problems differently. The fundamental question that should be asked in formulating problems properly should be: where do we stand? Can we live with nuclear weapons, or do we want to abolish them? Not how to live with such weapons "for many, may years" well into the next century, without any promise of ever achieving their "elimination."

"Deterrence" based on nuclear weapons to secure "national" security should be questioned fundamentally. These dead-end concepts, like the other strategic doctrines, which have driven the nuclear arms race to date, are being questioned seriously, as shown in the unprecedented upsurge of popular movements in Western Europe in the wake of NATO's 1979 decision to deploy Euro-missiles, and in the aroused public concern about "Star Wars." On our ever more interdependent planet, saddled with a host of urgent problems requiring prompt joint action, we cannot afford the luxury of squandering time and capital on the SDI, with all its dangerous ramifications.

The world is rich enough in resources, scientific, technological and political, to find solutions to securing, in President Reagan's words, a world of "mutual assured survival," but ony if problems are formulated properly and world leaders take the appropriate actions. President Reagan might well take a step forward along this line if he would state: "Would it not be better and more moral to defend lives by eliminating nuclear weapons and their systems once and for all, as the matter of highest priority, than to retain such weapons for decades into the 21st century?"

Footnotes

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