

A NEW HOPE: THE IDEA OF A STRATEGIC DEFENSE

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Since August 1953, when the Soviet Union detonated its own "Super Bomb" (multi-megaton thermonuclear device), the best national defense against nuclear attack was to have so many nuclear weapons that no enemy would dare risk a retaliatory strike. This idea soon became policy. Mutually Assured Destruction (MAD) was the heart of all policies of Deterrence; and (at least initially)¹ all the players in the Cold War seemed to agree with Robert Oppenheimer that starting World War III would soon lead to a world where the only way super powers could resolve their conflicts would be "with sticks and stones."² By 1983, the possibility of a sudden – no, instantaneous – nuclear holocaust had become the whole planet's worst nightmare. President Reagan stumbled onto a way to give humanity an alternative.

On the evening of March 23, 1983, Ronald Reagan made a televised address which

¹ Currently, there is some debate about the degree to which the Soviet Union subscribed to the doctrine of Mutually Assured Destruction and the degree to which an acceptance of this idea was projected onto them by the West. The notion that the Kremlin might not have seen the possibility of winning a nuclear war as completely hopeless began to emerge in the mid-1980s and some historians have begun to wonder if this idea might not have had some influence on Ronald Reagan's decision in 1983 to pursue the emerging technological aspects of Strategic Missile Defense. The possible alternate view of reality that the Soviets might have possessed was best expressed by Richard Nixon in 1999: Victory Without War (New York: Pocket Books, 1988):

Official views on nuclear weapons inside the Kremlin differ strikingly from those inside the Washington beltway. Americans believe that nuclear war is unthinkable. In its two-hundred-year history the United States has lost a total of 650,000 lives in war. Therefore, in the minds of Americans, no rational leader could contemplate starting a war that would kill tens of millions of people. But the leaders of the Soviet Union, which has lost over 100 million lives in civil war, two world wars, purges, and famines in this century, have a different perspective. Kremlin leaders put an entirely different value on human life. The Soviet government, after all, killed tens of millions of its own citizens just for the sake of creating collective farms. . . . While the current Soviet propaganda line is that a nuclear war is unthinkable, Moscow intends to take whatever measures will help it prevail if the unthinkable ever occurs (76).

² Academic oral tradition repeatedly assigns the quotation: "World War Two was fought with tanks and machine guns; World War Three will be fought with nuclear weapons; and World War Four will be fought with sticks and stones," to J. Robert Oppenheimer – but if this is true, the source for this quotation has proven itself to be strangely elusive. According to Daniel B. Baker's Political Quotations (Detroit: Gale Research, 1990) a similar phrase appeared in the November 17, 1975, issue of Maclean's but it was written by Lord Louis Mountbatten: "If the Third World War is fought with nuclear weapons, the fourth will be fought with bows and arrows." I prefer the powerful images that the assumed Oppenheimer quote generates over the much weaker, but documented, Mountbatten line; and, therefore, I have chosen to include it in this essay.

offered both America and the world a new way of thinking about a problem that had become the ultimate no-win situation. The radical idea that he proposed that night soon became a symbol for the hopes and fears of a planet whose continued existence had become a matter of day-to-day debate. It forced the world to reconsider the awesome technological powers at its disposal and question the thinking behind the policies which, for decades, had dictated how these forces would be used:

Would it not be better, [President Reagan asked] to save lives than to avenge them? . . . What if free people could live secure in the knowledge that their security did not rest on the threat of instant US retaliation to deter a Soviet attack: that we could intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies? . . . I call upon the scientific community in our country, those who gave us nuclear weapons, to turn their great talents to the cause of mankind and world peace; to give us the means of rendering these nuclear weapons impotent and obsolete.³

And instantly, the world was a different place. Almost everyone on the planet chose to forget that a great percentage of the speech was nothing less than a justification of the president's policy of increasing spending on more conventional defense measures – and that this idea was, itself, a justification of those controversial spending practices⁴ – instead, the dream of a nuclear-free world captivated the imaginations of millions on both sides of the Iron Curtain.

It is necessary to say that Reagan stumbled onto this way to give humanity an alternative to nuclear holocaust – because the *idea* of a Strategic Defense Initiative had a life of its own that Reagan could not control. The concept that there might just be a way to end nuclear war forever became the light at the end of the tunnel for countless millions of humans around the globe. And it was this shift in thinking that contributed to the Cold War's end only eight years after President Reagan started everyone dreaming. But this is not to say that the Strategic Defense Initiative was the first time anyone had ever thought of the various ways that a country could defend itself against an enemy's missiles. The history of ballistic missile defense (BMD) begins in the later stages of World War II.

Today, weapons that can move faster than the speed of sound are common place and easily understood by the human imagination, but in 1944 they were brand new. Perhaps the most interesting fact about the German V2 rocket which Hitler had developed to bring

³ U.S. President. Public Papers of the Presidents of the United States (Washington, D.C.: Office of the Federal Register, National Archives and Records Service, 1983), Ronald Reagan, 1983, vol. 1, 442-3.

⁴ "I know this is a formidable technical task, one that may not be accomplished before the end of this century. . . . It will take years, probably decades, of effort on many fronts. . . . And as we proceed we must remain constant in preserving the nuclear deterrent and maintaining a solid capability for flexible response" Ibid., 442-3.

Britain to its knees was the fact that it moved so fast that it exploded before the sound of it approaching caught up with it. It is something of an understatement to say that the English were terrified by this weapon. As a result, they researched every conceivable method of missile defense available at the time; but, in the end, decided that the best defenses would cause more of a loss in lives than would simply allowing the missile to run its course and reach its target.⁵

Fortunately, the war did not last much longer; but the need to develop a viable missile defense did not die. American research scientists were busily developing the first working Intercontinental Ballistic Missiles (ICBMs)⁶ and realized that it was only a matter of time before someone else developed the capability of lobbing a warhead at the United States. Projects WIZARD and THUMPER were instigated by the Army Air Forces in March 1946 as research and development projects to discover a way to stop enemy missiles once they were launched. To be effective, the Army realized that its anti-missile missiles would have to be capable of intercepting a device which was possibly moving at over 4,000 mph and flying at an altitude as high as 500,000 feet.⁷ The possibility of making such a system work seemed hopeless. But research continued and by 1955, as the threat of the Soviets developing nuclear tipped Intercontinental Ballistic Missiles increased, major breakthroughs were made which brought the dream of a ballistic missile defense system into reality.

Eleven years later both the United States and the Soviet Union had anti-ballistic-missile (ABM) capability. But there were serious questions about whether or not such a system would work under fire. And there were serious questions about the morality of such systems as well. The Arms Race was well under way in the sixties and the huge stockpiles of weapons that it created were seen as a way to guarantee that nuclear war would never occur because both sides would be equally annihilated by any attempt to engage in a nuclear conflict.⁸ Anti-ballistic missile defenses were seen by both America and the Soviet Union as the enemy's attempt to subvert the Deterrence that the MAD philosophy provided. And so, both sides soon began to look for a way to prevent the other from using ABMs to develop a First Strike Capability by creating a national ABM system that would be able to defeat a retaliatory strike by its missile-ravaged, and consequently weakened, opponent. So great

⁵ See Jack Manno, Arming The Heavens (New York: Dodd Mead, 1984), 7-14.

⁶ The key word in this sentence is "working." At the very end of World War Two, Hitler's scientists had created a three-stage version of the V2 that would have been capable of reaching New York. Had the war gone on a few months longer, these weapons would surely have been launched. See: Basil Collier, The Battle of the V-Weapons: 1944-5 (New York: Morrow, 1965), 150-2.

⁷ Donald R. Baucom, The Origins of SDI, 1944-1983 (Lawrence: University of Kansas Press, 1992), 6.

⁸ By 1974, nuclear proliferation had reached such an absurd level that Henry Kissinger began to ask: "What in the name of God is strategic superiority. . . . at these levels of numbers. What do you do with it?" See: Roger P. Labrie, ed. SALT Handbook: Key Documents and Issues, 1972-9 (Washington D.C.: American Enterprise Institute for Public Policy Research, 1979) 264-5.

was this fear that it lead to one of the few agreements to come out of the first Strategic Arms Limitations Talks (SALT I) which began in 1969: the 1972 ABM Treaty. The idea behind the treaty was that by limiting the number of anti-missile defenses systems to one guarding each nation's capital and one ICBM launch site, mutually assured destruction would be guaranteed and the possibility of a nuclear war would be deterred.⁹

And the idea seemed to work. This agreement basically put a stop to all further ABM development by both sides until March 23, 1983 when President Reagan effectively annulled the contract.

So the question arises: "Why did the President's advisers suggest that he make such a radical move?" And the answer is, simply, that they did no such thing. As Donald R. Baucom points out in The Origins of SDI 1944-1983, several key members of Reagan's cabinet had no idea what the president's speech was to be about on March 23 until they were briefed at the dinner party that was held immediately before Reagan went on TV.¹⁰ The idea to go ahead with the plan to begin work on a system of anti-missile, space-based, laser defenses was entirely the president's own decision.

This is not too surprising when it is understood that President Ronald Reagan was much more aware of just how vulnerable America really was against an all out nuclear attack than the average person could have imagined. One of the formative moments of Reagan's life was his tour of the North American Aerospace Defense Command (NORAD) headquarters in the summer of 1979. Here he learned that the very center of North America's conventional nuclear defenses was, itself, defenseless. It would only take one, comparatively small, nuclear warhead to remove NORAD (even the parts of it that were underground) from the face of the planet. And it would be absurd to assume that the Soviets only had one such nuclear warhead aimed at the instillation that was primarily responsible for launching the combined American and Canadian nuclear arsenals in the event of a war. Shortly after this visit, in an interview with a reporter from the Los Angeles Times, Reagan got to the heart of both his own and much of America's attitude toward the way the arms race had left the country open to enemy attack:

I think the thing that struck me was the irony that here, with this technology of ours, we can do all this yet we cannot stop any of the weapons that are coming at us. I don't think there's been a time in history when there wasn't a defense against some kind of thrust, even back in the old-fashioned days when we had coast artillery that would stop invading ships if they came.¹¹

⁹ Department of State. "Limitations of Anti-Ballistic Missile Systems" 26 May 1972, TIAS no. 7503, United States Treaties and Other International Agreements, vol. 23, pt. 4.

¹⁰ Baucom, 195.

¹¹ Edward Tabor Linenthal, Symbolic Defense: The Cultural Significance of the Strategic Defense Initiative (Chicago: U. of Illinois Press, 1989), 6.

This point should not be downplayed because it has much to do with the mass cultural movement that the Strategic Defense Initiative would become. It is important to realize that since the country's founding, America had prided itself on its invulnerability. The fact that the Soviet Union had enough ICBMs pointed at North America to wipe the continent off the globe punched a serious hole in that concept of American invulnerability. One of Reagan's key objectives as president was to make the country strong again. He wanted to find a way to give America back the security that the Cold War had stripped from it. Missile-zapping satellites orbiting the planet soon became his own personal answer to that mission. In The Great Transition, historian Raymond L. Garthoff tells us that "The main reason for his sudden, and tenacious, attraction to the idea was a strong desire to escape the confines of mutual dependence for survival."¹²

From almost the first minute he was in office, Ronald Reagan had been looking for a way out of the Deterrence Trap. He found it in an organization called the High Frontier.¹³ This group was led by Daniel O. Graham, three-star general and former director of the Defense Intelligence Agency, who had resigned his post in 1979 and become one of Reagan's campaign advisers. He too was of the opinion that, for much of the past decade, America had been falling behind in the Arms Race and that the Soviets possessed such a numerical superiority in weaponry that they were nearing a First Strike Capability because they would soon have enough weapons to completely devastate the U.S. with their first assault, thereby preventing the launching of a retaliatory response. To his cause of finding a way to prevent this disaster from occurring, Graham had recruited former under-secretary of the army Karl R. Bendetsen; long time friend of Reagan's and president of the Adolph Coors Brewing Company, Joseph Coors; William Wilson and Jaquelin H. Hume, two more influential friends of Reagan; physicist Edward Teller who had worked on the Manhattan Project and later participated in the development of the first hydrogen bomb; and George Keyworth who was influential in the development of X-ray laser technology and had recently received an appointment as presidential science adviser. Together this group began to push and shove their way through Washington calling out the virtues of space-based missile defenses to anyone who would listen – especially those people closest to the president.¹⁴ After nearly two years of constantly playing the role of gadfly buzzing in the president's ear, the group's efforts paid off when Ronald Reagan decided, after meeting with the Joint Chiefs of Staff to verify the feasibility of their idea for a system of laser equipped satellites. It is clear now that members of the 'High Frontier' were the "advisors" that the president referred to in his speech when he said:

¹² Raymond L. Garthoff. The Great Transition (Washington D.C.: Brookings, 1994), 99.

¹³ A recorded message from President Reagan that endorses High Frontier as the group primarily responsible for the ideas contained in the March 23, 1983, speech is available at the High Frontier web site: "High Frontier" <http://highfrontier.org/> Viewed 2-3-99.

¹⁴ For a more detailed examination of the activities of High Frontier see: Baucom, 141-70.

In recent months, however, my advisors, including in particular the Joint Chiefs of Staff, have underscored the necessity to break out of a future that relies solely upon offensive retaliation for our security. Over the course of these discussions, I have become more and more deeply convinced that the human spirit must be capable of rising above dealing with other nations and human beings by threatening their existence. . . . Let me share with you a vision of the future which offers hope. It is that we embark on a mission to counter the awesome Soviet missile threat with measures that are defensive. Let us turn to the very strengths in technology that spawned our great industrial base and that have given us the quality of life we enjoy today. . . . current technology has attained a level of sophistication where it is reasonable for us to begin this effort.¹⁵

Unfortunately, the people who were the experts on “current technology” outside of Washington did not all agree with the president on the “reasonableness” of his plan. Perhaps it is a cliché to say that the scientific community “went ballistic” over the idea of laser weapons in space – but it is, nonetheless, a particularly apt phrase. The fact is that within moments of the president bidding a goodnight to his television viewing audience, the tempers of some of the brightest minds in the country had flared and everyone seemed to be dividing up into two camps: those who believed in the president’s grand vision – and those who thought he should be removed from office due to mental incompetence. Almost immediately, the press labeled the plan “Star Wars” after George Lucas’s classic, genre-defining, space-opera of 1977. And the question of whether or not this was meant to be a derisive term continued for the entire life of the program.

In some ways, Ronald Reagan had set himself up for the term “Star Wars” to be attached to his plan by having himself referred to the Soviet Union as an “Evil Empire” just eight months before his Strategic Defense vision was made public.¹⁶ In fact, the name Strategic Defense Initiative did not even exist until a need to counter the negative connotations of “Star Wars” became a necessity. Nor, for that matter did any official research organization exist until after the president’s speech. This tendency of Reagan to do the important spadework after the announcement had already been made created such a fog around Reagan’s vision that the criticisms that followed were almost inevitable. As historian Simon J. Ball nicely put it:

Since the plan was conceived as a speech rather than as a strategic program the nature of this ‘formidable technical task’ which would develop systems so that we could intercept and destroy strategic ballistic missiles’ was not clear. A detractor

¹⁵ Public Papers of the President, 1983, vol. 1, 442-3.

¹⁶ *Ibid.*, vol.2, 742-8.

Paul Nitze, recorded that: "within the United States government . . .there was little understanding of what the SDI program was to entail. Was it to be a research program only, was it to provide an impenetrable shield, was it to be accomplished within the terms of the ABM treaty and therefore come about as a result of cooperative transition with the Soviet Union, and, finally, in what time periods were all these things to take place?"¹⁷

Choosing to believe in the president's vision became, for most who chose to do so, more a matter of personal conviction than logic. And because Reagan's own commitment to Strategic Defense Technology was itself based on faith not science, logical arguments against it were pointless and did nothing to stop the plan from proceeding.¹⁸ Which is not to say that those arguments were not made; in fact, just the opposite is true, and in many ways, the complexities of the technological issues that the Strategic Defense Initiative brought to the forefront of casual conversation are fascinating in and of themselves. Between 1983 and 1991, scores of books were written discussing both sides of the same standard "Star Wars" questions: "Could it work?" "How could it be defeated if we did make it work?" "What, exactly, are the moral issues involved?" "How effective would it have to be?" A brief examination of these four questions is more than sufficient to provide an understanding of the heated atmosphere of the time.

The most virulent aspect of the debate was, understandably, the question of whether a satellite based anti-missile system would work at all. Obviously, the president believed that it would. And his "advisors" at High Frontier were sold on the idea before he was. So, then, who was on the opposition's side and what were they saying?

The Union of Concerned Scientists, the first group to speak out about the quantum leaps of logic that the President's plan was asking the American public to blindly accept, was by far the most effective. Perhaps this is because their membership roster reads like a *Who's Who* list of modern physicists and nuclear weapons specialists. Renowned astronomer Carl Sagan even had a seat on both the Ballistic Missile Defense and the Anti-Satellite Weapons panels. By June 3, 1983, members of these committees were testifying before Congress and

¹⁷ Simon J. Ball. The Cold War (New York: Arnold, 1998),190.

¹⁸ As Raymond L. Garthoff says in The Great Transition (Washington D.C.: Brookings,1994):

The idea of unleashing American technological genius to provide a total defense of the country appealed to Reagan's nostalgic, even atavistic, deep-seated desire to see America again invulnerable, self-reliant, freed from the shackles of interdependence, with its fate no longer tied to mutual security, to mutual vulnerability through mutual deterrence. President Reagan's dream was, indeed, as he proclaimed at the outset and often thereafter, even when only he still believed it, that his SDI would make nuclear weapons "impotent and obsolete." His commitment was not based on science but on faith, so scientific-technical and military-technical arguments (to say nothing of political-military ones) were irrelevant and his vision unchangeable. (516)

doing their best to make sure that the people who would be allocating the money for the president's plan knew just how far-fetched a notion it really was. Besides the fact that there was no reason to think that it would work, they claimed, there was plenty of reason to think that any satellites that we put into space could only make the existing situation worse. One of the gravest dangers that they cited was the fact that the enemy could hardly be expected to sit back and allow us to fill the heavens with missile-zapping satellites without devising some way to eliminate those satellites. They envisioned a whole array of anti-satellite-satellites and anti-anti-satellite-satellites and satellite-seeking-space-mines and anti-mines and anti-mine-defenses until the whole thing escalated and the distance between here and the moon was peppered with hostile debris. And they foresaw the possibility of a war in space breaking out among all these unmanned devices – with whole battalions of satellites firing on one another – triggering a real war on Earth. When Congress went ahead and launched a \$26 billion, five-year, SDI research and development program anyway, they took their case directly to the American people.¹⁹

The title of the book published by the Union of Concerned Scientists was a description of their basic message: The Fallacy of Star Wars: Why Space Weapons Can't Protect Us. In just under three-hundred pages, they launched their own all-out attack on every aspect of the Strategic Defense Initiative. Here we find out more about how both nuclear missiles and lasers really work than anyone would ever have dreamed was possible without a Ph.D. in physics. For instance, it is not widely known that the earth's atmosphere acts as a natural X-ray, laser, and particle beam scatterer and, therefore, nullifier. This is one of the main reasons why any system that zaps missiles out of the sky has to be based in space. But because of this, there is a simple countermeasure to these devices that president Reagan would rather you did not know: simply shorten the ICBMs boost phase so that it never leaves the atmosphere. It might take a little redesigning of the existing arsenal but it is certainly a measure that is no challenge to the Soviets.²⁰

The proponents of Strategic Defense also wasted no time making their side of the issue known. Their basic attitude was summed up nicely in late 1983 by Patrick J. Friel, who criticized all the opponents of the president's system as being too quick to make final judgements on technology that had not yet been properly researched. It was far too early, he said, to come to solid conclusions because it is always possible that while working with "immature technology" one might be able to make a breakthrough that redefines the realm of possibility. As a case in point, Friel reminds us that, "there were many capable scientists and engineers who believed the Intercontinental Ballistic Missile would not work or that the warheads would never survive the reentry thermal environment."²¹

¹⁹ Union of Concerned Scientists, The Fallacy of Star Wars: Why Space Weapons Can't Protect Us (New York: Vintage, 1984), 286; Garthoff, 514.

²⁰ Union of Concerned Scientists, 41.

²¹ Patrick J. Friel, "Spaced Based Ballistic Missile Defense: An Overview of the Technical Issues" In Keith B. Payne, ed. Laser Weapons in Space: Policy and Doctrine (Boulder: Westview, 1983), 32.

Alternatives soon began to emerge just in case laser technology never became the final solution to the nuclear dilemma. Many in High Frontier and elsewhere began to call for a reopening of BAMBI, a program that had been both conceived and abandoned in the mid-1960s that put both the launch sensor systems and the interceptors in space together. Under this plan, an array of 492 “space trucks” would circle the earth at distances of 300 nautical miles from each other. When an enemy launch was detected each of these “carriers” would fire an array of “kinetic kill vehicles” at the missile while it was in its “boost phase”²² Stripped of jargon this last sentence basically means that a system of half-missile-launcher, half-launch-detector, combination satellites would take aim at a Soviet missile as it climbed into the upper atmosphere and then fire several non-nuclear projectiles at it. Such projectiles were called kinetic kill vehicles because they relied solely on the force of their collision with the hostile missile to put that missile out of commission. To understand this concept clearly just imagine one bullet colliding with another bullet in mid-air. High Frontier was particularly fond of this system because it would rely entirely on existing technology and would therefore be an “off-the-shelf” system that America could deploy as soon as the “trucks” were built.

Many people were opposed to undertaking any type of Strategic Defense Initiative because they saw the existing system of Mutually Assured Destruction and Deterrence as being more morally correct than the “Star Wars” alternative. And there simply was no way around the fact that President Reagan had forgotten all about the ABM Treaty of 1972 when he decided to go ahead with his plan to find a way to make America safe from nuclear attack.

Section One, Article Five, of the ABM Treaty clearly states that “Each party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, space-based or mobile land-based.”²³ That, however, did not stop many in Washington from trying to find a loophole that they might be able to fit SDI into. But their quest to discover some ambiguity in the words “space-based” or “develop” or “components” did not lead to much and generally only succeeded in leaving feelings of absolute disgust in their opponents.²⁴

Another issue was the question of just what America would do with the ability to make the Soviet nuclear arsenal useless once we got it. In 1988, philosopher Steven Lee wondered if we might not simply be trying to get the upper hand and use our technological advances to bully the Soviets into complying with our demands. He then went on to argue that even

²² Ibid., 18.

²³ Department of State, “Limitations of Anti-Ballistic Missile Systems,” 26 May 1972, TIAS no. 7503, United States Treaties and Other International Agreements, vol. 23, pt. 4.

²⁴ See Alan M. Jones Jr., “Implications of Arms Control Agreements and Negotiations for Space-Based BMD Lasers,” in Keith B. Payne, ed., Laser Weapons in Space: Policy and Doctrine (Boulder: Westview, 1983), 36-105.

if we did achieve the lofty ambition of making SDI into a real system, we still would not stop producing our huge stockpiles of nuclear weapons because no one would ever completely trust SDI. Lee and many others found themselves wondering: How do you test such a thing? The only way to do so is by starting a full-scale nuclear war – and that certainly is not a moral proposal. So, we would continue to build just as many missiles as before, but now, we would be building satellites too.²⁵

President Reagan had opened up a can of worms in 1983 when he used the words “impotent and obsolete” to describe the state that he wanted to leave the Soviet nuclear arsenal in. This gave many the impression that any proposed SDI program must be guaranteed to be one-hundred percent effective before satellite construction was even begun – and this was patently impossible. The Union of Concerned Scientists, for instance, was always overwhelmingly pleased to pass on the incredible number of weapons that a 99.9 percent effectiveness would require. This is particularly evident in the way they countered the idea of using self-guided kinetic kill vehicles to stop Soviet weapons in the reentry phase of the attack:

If 10,000 autonomous homing vehicles are directed at 10,000 reentry vehicle targets, the attack will average 63 percent kill, and 3,700 reentry vehicles will survive. Nearly 70,000 autonomous homing vehicles are needed to reduce the number of surviving reentry vehicles to ten, or a 99.9 percent kill. Similarly, if the threat cloud contains 100,000 objects, then 700,000 vehicles must be sent against them to achieve a 99.9 percent kill. This illustrates the advantage the offense enjoys by using large numbers of objects.²⁶

The flipside of this issue was expressed by Alun Chalfont in his book, Star Wars:

The aim is not to provide 100 percent ‘leakproof’ protection, either for the population of the United States or its retaliatory missile force. It is to demonstrate a capacity to destroy so many attacking missiles that the Soviet Union would not know how many targets, or which targets, would be destroyed. This would make a first nuclear strike an even more problematical option than it is today, thus increasing the credibility of the deterrent.²⁷

But not all of the debate was cloaked in rhetoric and techno-babble. The common “man on the street” was as quick to take a stand on the issue of the Strategic Defense

²⁵ Steven Lee, “Morality, the SDI, and Limited Nuclear War,” Philosophy and Public Affairs, vol. 17, no.1 (Winter 1988).

²⁶ Union of Concerned Scientists, 136-7.

²⁷ Alun Chalfont, Star Wars: Suicide or Survival (Boston: Little, Brown, 1985), 84.

Initiative as were the government specialists and independently concerned scientists. In 1985, William Safire, writing for the New York Times Magazine, asked his readers to send in their suggestions for new acronyms to define SDI since the president had recently expressed his disdain for the label “Star Wars” and Safire was, himself, not too fond of SDI or any of its officially proposed replacements: Study of Protection (STOP), Security Assured for Each (SAFE), and Mutual Assured Safety (MAS).²⁸ A month later he’d had over 600 responses. On the side of those in favor of SDI Safire selected: Defense of Outer Space (DEUS); Security Against Nuclear Extinction (SANE); Shield Against Fatal Encounter (SAFE), Defense In Space Against Russian Missiles (DISARM); Hostile Projectile Elimination (HOPE), Defense Oriented Missile Employment (DOME); and, since there are apparently no taboos on two of the same acronyms, Shield Against Nuclear Extinction (SANE). The opponents of the plan got their chance to deride it with acronyms like: Western Intercontinental Missile Protection (WIMP); Ballistic Offensive Neutralization Zone, and Bulwark Order Negating Zealous Offensive (both BONZO); Defensive Umbrella (DUMB); and finally, Wistful Attempts to Circumvent Killing Ourselves (WACKO).²⁹

It was not long before both sides realized the value of television advertising as a means of getting their message to the public. The two most successful ads were the opposition’s “Twinkle, Twinkle” and the pro-SDI “Peace Shield”.³⁰ In “Twinkle, Twinkle” we see a little boy dressed in pajamas looking out of his bedroom window at the night sky and singing “Twinkle Twinkle Little Star” to his teddy-bear. As he sings, one star begins to glow and become brighter and brighter until it explodes and the little boy and his teddy are blown away. As the picture fades, the characteristic, mechanically-assisted breathing of the Star Wars trilogy’s primary villain, Darth Vader, grows steadily louder until the fiend finally speaks and reveals the commercial’s message: “Stop Star Wars. Stop weapons in space.”

“Peace Shield” soon became known to those who would deride it as “The Crayola Ad” because it depicted a child’s multicolored drawing of a stick figure family standing outside a small house. The sun in the sky has a frown on its face at the beginning but as the little girl narrator begins to tell us how her daddy has told her all about how it is now possible to stop nuclear wars from occurring, the sun’s frown changes to a smile. The ad claimed that we could now stop missiles in outer space so they would not be able to hit our houses and that this would make it impossible for anyone to win a nuclear war. “And if nobody could win a war,” the little girl decides at the end, “there’s no reason to start one.”

It is uncertain how much good either of these ads did to win people over to the side that had spent the money on the attempt. In fact, it is uncertain how much good any part of the two campaigns did in changing people’s minds in any respect. Choosing to believe in an end to nuclear terror or choosing to scoff at the president’s scientific delusion was almost

²⁸ William Safire, “Acronym Sought” New York Times Magazine (Feb. 24, 1985), 10.

²⁹ William Safire, “New Name for ‘Star Wars’ ” New York Times Magazine (Mar. 24, 1985), 15-6.

³⁰ Linenthal, 108.

as much a matter of personal conviction as a decision to practice one religion over another. Arguments based on logic did little to affect the faith of anyone once the decision to choose one side over the other had been made. However, all the noise that both camps generated did not fall on deaf ears. Someone else was following SDI's development as well.

In The United States and the End of the Cold War, historian John Lewis Gaddis examines the effect of the American Strategic Defense Initiative on the USSR and decides that:

Strangely, of all the efforts to promote internal reform in the Soviet Union through external pressure, SDI – which was never intended for that purpose – may have been the most effective. For as the Soviet Union sank more and more deeply into the “stagnation” that characterized the final Brezhnev years, the task of keeping pace with a new American military buildup imposed heavier and heavier burdens on an already severely strained economy, especially in connection with developing the sophisticated technology required to operate new weaponry. Coming at this moment of exhaustion, SDI's challenge to yet another round of costly research and development can only have been discouraging in the extreme to the Russians. . . . It clarified the price of continued backwardness, and in this way – as visions of defeat stemming from backwardness have often done in Russian history – cleared the way for dramatic change.³¹

By the time Gorbachev came to power in 1985, the economy of the Soviet Union was in hopelessly bad shape. The new premier quickly realized that he had two choices regarding America's SDI plan: he could throw billions of rubles at a potential fantasy, or he could put the same money back into revitalizing his own economy. Of course, he did the only rational thing under the circumstances and chose the latter option. But by this time the situation had gotten so out of control that nothing he did made much of a difference.³² Three years later the Soviet economy had continued to decline so much that former president Richard Nixon was able to sum up the situation in his book 1999: Victory Without War:

When Gorbachev looks beyond the regions of his immediate frontiers, he finds all his communist clients in the Third World queuing up for handouts. They are not allies but dependencies. . . . Lenin wrote that capitalist countries turned to imperialism as a profit making venture. If that was true, the communist revolution in Russia certainly did usher in a new era, since Moscow's empire impoverishes

³¹ John Lewis Gaddis, The United States and the End of the Cold War (New York: Oxford U. Press, 1992), 44.

³² Richard Crockatt, The Fifty Years War (New York: Routledge, 1995), 356.

rather than enriches the Kremlin. Vietnam costs the Soviet Union over \$3.5 billion a year, Cuba over \$4.9 billion, Angola, Mozambique, and Ethiopia a total of over \$3 billion, and Nicaragua over \$1 billion. Moscow's imperial domain costs the Kremlin over \$35 million a day.³³

As a consequence of this strain, Gorbachev began to show an increased willingness to accommodations with the West. And SDI soon became the best bargaining chip that America had ever invented.

Throughout the course of SALT I and II and START, America had continually come away from the negotiating table as the party that had given up the most.³⁴ But president Reagan refused to part with any aspect of SDI – even when doing so would have gained him much more in Soviet concessions than the hopelessly impractical system he envisioned was truly worth. The collapse of the summit at Reykjavic, Iceland, in 1986 is a perfect example of this. The Soviets were offering to cut nuclear forces by an astonishing 50 percent over five years and to totally eliminate ballistic missiles within ten years if only America would agree to abandon its plan to deploy an SDI system and limit all further research on ABM systems to the laboratory. Reagan refused and walked out of the meeting.³⁵ President Nixon understood Reagan's tenacity. Although he was clearly convinced that SDI was, scientifically, a hokey notion at best, he realized that it was of immense value to America as a means to exert leverage over the Soviet Union. He predicted that the first thing that Gorbachev would do once President Reagan's successor was in office would be to try to undercut SDI because he can not imagine that any president other than Ronald Reagan could stand up the vast public criticism. But, President Nixon cautioned, giving away any piece of the Strategic Defense Initiative at that point would be, "a disaster for U.S.

³³ Nixon, 36.

³⁴ Actually, this complex problem has two major aspects. The first was the American tendency to cut military expenditures on projects that could have been "bargained away" instead. In essence, this often left the negotiators with nothing to give up at the bargaining session because Washington had already cut the funding for the programs that the Soviets were worried about. For a discussion of the effects of this on negotiations regarding missiles and missile defenses, see Baucom, 184-92 (this section also contains an interesting look at the way one specific religious attitude toward nuclear weaponry [The National Conference of Catholic Bishops' 1981 pastoral letter: The Challenge of Peace: God's Promise and Our Response] was able to cause considerable havoc in the "real world" of strategic arms negotiations).

The second part of the problem was the fact that American negotiators often seemed more interested in making a deal than they did in making a deal that was beneficial to their country. Chapter five of President Nixon's 1999: Victory Without War (titled "How to Negotiate With Moscow" (160-194)) examines several of the mistakes that America made in its previous negotiations and prescribes alternate tactics that Nixon claims will enable American negotiators to come away from the bargaining table in a better position than they were when they stepped up to it.

³⁵ Garthoff, 288.

security."³⁶

By 1991, the problem of whether or not to give in on SDI had been solved because, suddenly, there was no one on the other side of the table to give it away to. For all practical purposes the Soviet Union had ceased to exist. The Strategic Defense Initiative's contribution to this development should not be overlooked. Although it was never a working system, it was a working *idea* and, as such, had as profound an effect on the East as it did on the West. The Soviet Union simply did not have the money to throw away on it that America could easily afford, and this did little to boost the morale of those who were scrambling to do whatever it might take to save their swiftly failing way of life. "In short," as Richard Crockatt put it in 1995, "American strength of will and material resources at a critical moment in Soviet history tipped the scales in the United States' favor."³⁷

But the disintegration of the Soviet Union did not magically remove the threat of nuclear war. Huge stockpiles of Soviet ICBMs still exist today even if the government that commissioned them has faded into history. This fact, combined with the increasing ability that radical Third World countries have shown in developing their own nuclear weapons and intercontinental ballistic missile technologies has kept the idea of a Strategic Defense Initiative of some sort alive.

Beginning in 1990, when it began to look like some kind of massive change would soon be taking place within the Soviet Union, SDI proponents began to shift their worries onto other potentially threatening nations. In the Rand Corporation's Strategic Defense Issues for the 1990s, the fact that there were several countries which were "undeclared" nuclear powers was expressed as common knowledge. The four countries listed as such were Israel, South Africa, India, and Pakistan (the last two have just recently come out of the nuclear closet). And then there was the fact that chemical weapons were relatively easy to produce and not everyone felt the same way about the atrociousness of their use that the West often assumed that they did. Ballistic Missile production had become so commonplace in the Third World that there was a widespread commercial trade among the various minor powers in both the missiles themselves and the parts necessary to build and maintain them. And Israel, India, Brazil, and even Iraq's Saddam Hussein, all had the ability to launch weapons into space.³⁸

A little over a year later, the United States would find itself engaged in battle with Hussein and be forced to realize just what tiny countries like Iraq were becoming capable of. Saddam's SCUD missile launches against Israel were the contemporary equivalent of Hitler's V2s – but now there was a defense against these weapons of mass terror that had been a technological impossibility in the mid '40s: the Patriot missile. In many ways, the

³⁶ Nixon, 92-3.

³⁷ Crockatt, 356.

³⁸ James T. Quinlivan, George L. Donohue, and Edward R Harshberger, Strategic Defense Issues for the 1990s (Santa Monica: Rand Corporation, 1990), 3.

televised coverage of the successes of the Patriot missiles in the Gulf War did more to alleviate the public demand for SDI than the end of the Soviet Union did. The issue almost seems to disappear from the public consciousness around 1992 when the publication of books arguing the pros and cons of “Star Wars” virtually ceases – but it did not disappear from the consciousness of those in Washington quite so easily.

On March 17, 1999, the Senate decided by a vote of 97-3 to allocate \$10.5 billion to create a system to defend the US against long-range missile attacks “as soon as technologically possible.” This decision was spurred on both by the recent ICBM tests of the “rogue” states of North Korea and Iran (both of whom have been working on developing nuclear capability for several years), and by the increased awareness of the possibility of an accidental firing of a single nuclear tipped ICBM by China or Russia. Although it still awaits approval by the president, the proposed system would be capable of defending against small-scale launches using kinetic kill vehicle interceptors directed by space-based launch and trajectory detectors. Its limited scope is a far cry from president Reagan’s grand vision of a system that would be capable of destroying thousands of hostile missiles – but this also gives it the benefit of being a technological possibility in the very near future.³⁹

Yet it was the grand vision of president Reagan that the current plans for a national Intercontinental Ballistic Missile Defense System owe their existence to. And, in some ways, it is also to this vision that the Cold War owes the end of its existence to. Ronald Reagan’s dream of creating a working system of space-based lasers that would render the Soviet nuclear arsenal “impotent and obsolete”⁴⁰ might have been a delusion, but the idea that it could work was enough to give many people a new hope for a nuclear-free future. As Raymond R. Gartoff says, “The vision was a mirage. But it had a significant impact.”⁴¹ In this way, the *idea* of SDI was even successful when it was being slandered. People the world over were taking a stand on Strategic Defense and arguing its pros and cons so much that they seem to have overlooked the fact that they were doing something that they had never really done since the possibility of mutually assured nuclear annihilation became a terrifying fact of their everyday lives: they were talking about the logic behind the MAD philosophy. Ronald Reagan’s March 23, 1983, address to the nation was the first time in the history of

³⁹ The information in this paragraph was “breaking news” when this essay was being written. See primarily: Eric Schmitt, “By Wide Margin, Senate Approves Missile Defense System” New York Times, 18 March 1999, A 22. Also of interest is: Helen Dewar, “Senate, 97-3, Endorses a Commitment To Deploy Anti-Missile System” The Washington Post, 18 March 1999, A 4.

Also, it is interesting to note that the idea that a Strategic Defense System is necessary in the event of an accidental firing of a nuclear weapon has been a part of the SDI debate from its very beginning. It was one of the key issues that High Frontier used to justify their claim that an SDI system was a national imperative. For an example of this, and to see their founder in action, see: Daniel O. Graham, “SDI: Technical Reality and Political Intransigence,” in Dorrinda G. Dallmeyer, ed., The Strategic Defense Initiative: New Perspectives on Deterrence (Boulder: Westview, 1986), 25-42 (especially 29).

⁴⁰ Public Papers of the President, 1983, vol.1, 443.

⁴¹ Gartoff, 516.

the Cold War that anyone in a position to create change had ever really asked if maybe there was not a better way of “dealing with other nations and human beings [than] by threatening their existence”⁴² – but it would certainly not be the last time that anyone asked this question. And that was SDI’s real benefit to humanity. Although it might have been a hopeless fantasy when looked at logically, the Strategic Defense Initiative was one of the most powerful ideas to come out of the twentieth century. In fact, it was so powerful as an idea that before a single satellite could be built, it had made it possible for people on both sides of the Cold War to imagine a world that was free of nuclear terror – and, as a consequence, it soon made it possible for people on both sides of the Cold War to begin to look for a way to make that fantasy into reality.⁴³

⁴² Public Papers of the President, 1983, Vol. 1, 442.

⁴³ Our knowledge of history is always in flux. As this essay goes to press, testing has begun on the “smaller scale” ABM system mentioned above. This has renewed interest in Ronald Reagan’s SDI program and several researchers are currently asking important questions concerning whether President Reagan actually intended to build anything in the SDI program or whether this whole episode was not just a highly elaborate attempt to “rattle the Ruskies.” These new developments promise to be exciting enrichments to this field of study.