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**The Anti-Ballistic Missile Treaty After The Cold War:
*Responding To A Changing Role For Arms Control In A New
Global Security Context***

By

SHANE C. LÉVESQUE

A Thesis
Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF ARTS

Department of Political Studies
University of Manitoba
Winnipeg, Manitoba

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The Anti-Ballistic Missile Treaty After The Cold War:
Responding To A Changing Role For Arms Control In A New
Global Security Context

BY

Shane C. Levesque

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree
of
Master of Arts

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ABSTRACT

Arms control can best be understood as a spectrum of activities used in the management of conflict, much like Carl von Clausewitz's spectrum of military activities that constitute war. Indeed, both ought to be considered as contingent parts on a broader spectrum of activities associated with conflict management. For Clausewitz, the general character of war is dependent upon the political objective sought by the state. This insight led to his development of the concepts of limited and total war, and the notion that a broad range of military activities could be applied in support of the political interests of the state. Just as Clausewitz argued that the character of war might change as the political and social structures on which it is based change, so it is true that the general character of arms control may change as political and strategic conditions within the international system occur. Whenever a major change occurs in the international system it is necessary to carefully assess the emerging state of affairs and determine whether or not previously useful means of conflict management remain relevant.

During the Cold War the Strategic Arms Limitation Talks (SALT I) and the associated Anti-Ballistic Missile Treaty (ABM Treaty) were useful instruments that enabled the United States and the Soviet Union to come together in a cooperative effort to manage their strategic relationship and partake in peaceful coexistence. In the post-Cold War era the emphasis in the area of arms control is shifting from one of cooperative engagement for the purposes of

managing an adversarial strategic relationship, to one of the enforcement of non-proliferation regimes aimed at contributing to stability in the international system. Where armed force is required to enforce non-proliferation regimes the spectra of activities associated with arms control and war begin to merge.

The inevitable proliferation of ballistic missile technology and weapons of mass destruction, as well as the growing reliance of great power states on space-based technology for their economic well being and security needs, and the vulnerability of those systems to ballistic missile attack may have serious implications for the continued utility of the ABM Treaty in the post-Cold War era. As the trends toward the enforcement of non-proliferation regimes and the need to periodically deploy international intervention forces into unstable regions continue, the need to defend against the use of ballistic missile technology by so-called “rogue” states will grow. The need to protect intervention forces from ballistic missile attack has already been established by the 1991 Gulf War. Within the next twenty years, the vulnerability of critical satellite constellations to the strategic detonation of a nuclear warhead in space, delivered by a ballistic missile, will also need to be addressed. For this reason it is necessary to examine the origins of the debate over ballistic missile defence and the ABM Treaty, as well as to explore the limitations of the Treaty’s relevance in the post-Cold War era.

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Introduction

After the collapse of the Soviet Union in 1991, a new socio-political context was introduced which changed the character of conflict. In this new era, arms control, as it was known during the Cold War, can no longer be identified as a principal means of conflict management. However, this is not to suggest that there is no room for arms control in the management of conflict. It is important to bear in mind that, because the character of conflict has changed, it is necessary to adjust the way in which arms control is applied to manage conflict. This thesis assesses the relevance of the 1972 Anti Ballistic Missile (ABM) Treaty with regard to international security in the post-Cold War era.

It is possible to conceptualize the Cold War as an extremely limited form of war between two ideological adversaries. One could suggest reasonably that the Cold War was so limited in nature that direct military engagement was not the means by which it was prosecuted. Instead, the political objectives of the Cold War were sought through diplomatic means and the careful management of armed force. The primary objective was, of course, to avoid a "hot war," in which the United States and its allies, along with the Soviet Union and much of the rest of the world, would be consumed by nuclear devastation. As one means of managing armed force, arms control can be seen as a principal method employed in the Cold War. In order to understand the way in which arms control was used to achieve this goal, it is necessary to conceptualize arms control as a series of activities that constitute a spectrum of options in conflict management. It is also quite instructive to view the spectrum of activities associated with arms control as

being contingent with the spectrum of activities that Clausewitz associates with war.

One of the goals of the early arms control theorists was to develop a theoretical basis for, and a practical means to manage, east-west military relations during the Cold War, so as to reduce the risks of war. As part of the first Strategic Arms Limitation Talks (SALT) agreement, the ABM Treaty is an example of one such attempt to manage American and Soviet military relations in the effort to reduce the likelihood of a strategic nuclear exchange. However, now that the Cold War is over and the intense adversarial relationship between the United States and the former Soviet Union has subsided, it is questionable whether the ABM treaty can still be regarded as a useful device for preserving international stability.

This thesis explores the development of arms control in the context of ballistic missile defence throughout the Cold War and in the years since its conclusion. The thesis will show that fundamental changes in the way conflict and war have been conceptualized and applied over the years have occurred. The utility of arms control as a principal means of conflict management during the Cold War established a fundamental theoretical link between the character of conflict and the role of arms control in its management. The change in the character of international conflict that occurred at the end of the Cold War has had profound implications for the role of arms control in conflict management in the post-Cold War era. This thesis explores these implications in the context of the ABM Treaty and the ballistic missile defence debate, and argues that the demise

of the Soviet Union has established a new international security environment, in which a potential role for missile defence capabilities in enhancing peace and security exists. As such, this thesis asserts that a re-examination of the ABM Treaty and its practical utility in the current international security environment is in order.

The first chapter introduces an important concept from Clausewitz's *On War*, which is that the character of conflict changes as the social and political context changes from one period to the next. Given the close and complex relationship of arms control theory to deterrence theory, Chapter One is then divided into three further sections. The second section examines the development of nuclear deterrence theory throughout the Cold War, and explains the relationship between deterrence and strategic stability. The role of arms control in supporting strategic stability and the deterrent relationship is also introduced in this section. The third section discusses the origins and evolution of arms control theory through the Cold War, and assesses the significance of its relationship to deterrence theory in that period. The purpose of this approach is to put forth and support the proposal that, during the Cold War period, arms control was a fundamental characteristic of the ideological war between the east and the west, which was being fought for specific political objectives. The fourth and final section offers an examination of the role of arms control in the post-Cold War era and discusses how that role differs from what it was during the Cold War.

Chapter Two examines specific issues of the missile defence debate as they related to the origins of the ABM Treaty. The period examined begins with

the earliest conceptions of missile defence technology in the early 1950s and ends with an analysis of the political implications of the 1972 ABM Treaty. This analysis is intended to provide an understanding of the political issues surrounding the early development of missile defence capabilities and an appreciation for the influence of the strategic context of U.S.-Soviet relations throughout the period. In doing so, this chapter demonstrates that, arms control, in the form of the SALT negotiations and the ABM treaty, sought to preserve the strategic balance between the U.S. and U.S.S.R. Furthermore, Chapter Two illustrates that the concept of strategic stability rested on perceived threat capabilities that had the potential to influence political relations between the superpowers, rather than on a practical assessment of the relative military capabilities of the U.S. and U.S.S.R.

The third chapter of this thesis provides a similar analysis of the missile defence debate in the 1980s under the Reagan administration. Reagan's Strategic Defence Initiative (SDI) program emerged in the context of heightened tensions between the United States and the Soviet Union after the détente of the 1970s, yet the debate over missile defence remained in the context of the ABM Treaty. The problem with the continued influence of the ABM Treaty over SDI was that the Treaty was formulated during a time of emerging détente between the superpowers and therefore reflected a political context of cooperation. However, when President Reagan proposed SDI in 1983, relations between the United States and the Soviet Union had once again cooled. This ushered in a political context that was inconsistent with that in which the ABM Treaty was formulated.

The character of the debate over SDI and the relationship of that debate to the ABM treaty is examined in some detail.

Chapter Four of the thesis continues with the idea introduced at the end of Chapter One. It argues that changes in the social and political context of international relations since 1991 have allowed for the broadening of the concept of arms control. This broadening has, by necessity, changed both the way in which arms control is applied and the role it plays in the management of conflict. Rather than being strictly an exercise in mutual agreement, the practice of arms control in the post-Cold War era has broadened to include efforts in non-proliferation in which the use of force may be necessary to ensure compliance. Indeed, it appears clear that in the current context arms control *is the control of arms*, whether it be by cooperative efforts or the forceful imposition of non-proliferation regimes against certain states. During the Cold War, arms control represented an effort to maintain bi-polar strategic stability. This was accomplished not by seeking parity in the real military capability of the respective forces, but by managing perceived threat capabilities that affected on the political relationship of the superpowers. In the post-Cold War era, arms control is concerned with addressing the military potential of states that pose a *bona fide* threat to stability within the international system.

As will be discussed in Chapter Four, an important factor pertaining to this new role is a change in the practicability of preemptive action. This position will be supported by a brief analysis of the way in which arms control has been applied since the end of the Cold War. The potential role of missile defence

capabilities in support of military operations aimed at the control of arms will be assessed in this chapter, as will the implications of the ABM Treaty for the deployment of missile defence systems in an 'arms control' capacity.

Chapter One

The Emergence of a New Role for Arms Control After the Cold War

Since the demolition of the Berlin Wall in 1989 and the dissolution of the Soviet Union in 1991, the world has witnessed the emergence of the new “post-Cold War” security environment. German unification, the demise of the Soviet empire, and the warming of relations between the former communist East and the democratic West have dramatically altered the social, political, economic and strategic context of international relations. Throughout the 1990s scholars have grappled with the formidable task of identifying the significance of these changes, and determining how to characterize the newly emerging context of international relations. Consequently, the last decade or so has been a very tumultuous time in the analysis of international politics. Some old ideas are being discarded, while others are being reapplied along with some newer ones. A strong case in point is the marginalization of the utility of force in great power conflict, an idea that was prevalent in the inter-war period, and the renewed faith in the power of interdependence to create peace and stability in a highly globalized advanced industrial world. This has bestowed upon strategic theorists the responsibility of differentiating between the Cold War and the post-Cold War security environments in order to offer an assessment of the comparative utility of force among great powers in each period.

The purpose of this chapter is to identify how arms control supported the relationship between nuclear deterrence and strategic stability during the Cold War, and to contrast that with the role that arms control plays in the post-Cold

War security context. The first section is a brief exploration of Clausewitz's theory of war, which provides some insight into the significance of the impact of the political changes that occurred in 1991 on the role of arms control in Russian-American relations. The second section outlines the theory of nuclear deterrence and explains how it was applied to strategic stability considerations between the United States and the Soviet Union during the Cold War. It also provides a brief explanation of how arms control was used as a controlling agent to support the relationship between deterrence and stability, in order to ensure that they did not deteriorate. The third section provides a more complete explanation of how arms control was applied during the Cold War. This explanation is provided by an intensive review of Croft's analysis of the origins and development of arms control from ancient times to the present. A final section discusses the role of arms control in the post-Cold War era and describes the importance of the distinction between the narrow versus the broad interpretation of arms control, particularly in the context of the 1972 Anti-Ballistic Missile (ABM) Treaty and the deployment of missile defence systems.

Implications of the Changing Character of War for Arms Control

The dominant characteristic of the Cold War was a unique interplay of the broad influence in international affairs enjoyed by the two superpowers, and the inimical political relationship, which existed between the West, represented by the United States and its allies, and the East, represented by the Soviet Union and its allies. This relationship made it relatively easy for strategic analysts to identify and prioritize threats to national security. While the superpowers never engaged

each other directly in military conflict during the Cold War, they were prominent participants in smaller proxy, or local, wars. In spite of this fact, as well as an impressive accumulation of the tools of war by both sides, it is generally accepted that, the superpowers shared a common interest in the avoidance of general or nuclear war. The question of the legitimacy of the resort to armed force as a means of resolving political conflict was a fundamental element of the strategic relationship between the United States and the Soviet Union.

The post-Cold War international political environment does not share the same characteristics as that of the Cold War. In the current context, both the nature and intensity of the bipolar conflict between the east and west are significantly different than what they were during the Cold War. One of the most important differences between the Cold War and post-Cold War political contexts is the absence of a global clash in mutually exclusive ideologies. Furthermore, notions of interdependence and globalism now play a more prominent role in global politics. The warming of relations has allowed for cooperative efforts between the former Soviet Union and western countries in several areas, including economic and security issues. In addition, the predominant influence of the U.S. and, more notably, Russia is increasingly being called into question. The emergence of economic powers such as Japan and the E.U. has changed drastically the texture of international politics. As a result of these changes power and influence in the international system are seen by many as more widely dispersed than they have been in previous years. The result has been an apparent reluctance on the part of the great powers to employ armed force to further their

interests, and a preference for diplomatic and economic methods of statecraft.

With this renewed emphasis on the interdependence of states in the international system has arisen the question of whether or not there is a place for war as a form of statecraft in the repertoire of states.

In an essay entitled “The Genesis of *On War*” Peter Paret cites Clausewitz’s assertion that military structures are dependent on the conditions of the state.¹ Clausewitz himself acknowledges that relations among states are the driving forces behind wars, since wars, as an act of policy “can never be considered in isolation from their purpose.”² This, of course, is the logical foundation for his famous dictum that “war is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means.”³ Thus, for Clausewitz, while the means of war may change throughout time, thereby changing the character of warfare, the nature of war as a political instrument does not.

Indeed, this is most apparent in Chapter Three of Book Eight, where Clausewitz offers examples of various strategies in applying military force from Imperial Rome through the Middle Ages and up to the end of the enlightenment and the French Revolution.⁴ In an effort to offer some explanation for his detailed historical analysis, Clausewitz writes,

[w]e wanted to show how every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions. Each period, therefore, would have held to its own theory of war,

¹ Peter Paret, “The Genesis of *On War*” in Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, Eds. (Princeton: Princeton University Press, 1976), 6.

² Carl von Clausewitz, *On War*, Book I Chapter I, Howard and Paret, Eds. (Princeton: Princeton University Press, 1976), 76-78.

³ *Ibid.*, 87.

⁴ *Ibid.* Book 8 Chapter 3, 586-594.

even if the urge had always and universally existed to work things out on scientific principles. It follows that the events of every age must be judged in the light of its own peculiarities. One cannot, therefore, understand and appreciate the commanders of the past until one has placed oneself in the situation of their times, not so much by a painstaking study of all its details as by an accurate appreciation of its major determining features.⁵

Just as dramatic technological and political transformations changed the character of war after 1945, so have the changes in the determining features of international relations between 1989 and 1991 changed the character of war in the post-Cold War era. In order for states to meet the challenges of the post-Cold War world it is necessary to identify and embrace these changes.

Nuclear Deterrence, Arms Control and Strategic Stability

The theory of Cold War nuclear deterrence was heavily dependant on the concept of conflict stability, also referred to as strategic stability. The pursuit of strategic stability during the Cold War represented an effort to ensure that neither the Soviet Union nor the United States achieved an advantage that would induce them to launch a pre-emptive nuclear attack in order to end their stand-off. The resultant state of mutual deterrence contributed to this stability by establishing a state of affairs in which the mutual destruction of both sides was guaranteed if one were to attempt a nuclear attack. This was achieved by ensuring the invulnerability of each side's second strike retaliatory force capability.

The development of advanced military technology was a key aspect of the effort to maintain mutual assured destruction (MAD). However, some feared that without proper restraints, technological development could destabilize the relationship between East and West through the introduction of so-called "break

⁵ Ibid., 593.

out” technologies. Examples of such technological innovations include jet power, Intercontinental Ballistic Missiles (ICBMs), Sea Launched Ballistic Missiles (SLBM’s), Multiple Independently Targeted Reentry Vehicles (MIRVs), and Ballistic Missile Defence (BMD) systems. Arms control became the principal means by which the destabilizing potential of the development of military technology was held in check.

In essence, during the Cold War, arms control was geared towards preserving the retaliatory capability of both sides, and therefore by extension, the overall deterrent relationship.⁶ Garnett traces the origins of Cold War arms control theory to Article 8 of the League of Nations, which called for a reduction of armaments “to the lowest point consistent with national safety.”⁷ For this reason it is necessary first to come to understand the nature of the deterrent relationship between the Soviet Union and the United States.

The logic of deterrence is somewhat paradoxical. Morgenthau argues that the essence of man is an inner insecurity and realization of his own mortality, which accompanies self-consciousness. Morgenthau argues that this insecurity and sense of imminent death compel him to try constantly to achieve a sense of security in the world around him.⁸ For Morgenthau, this search for a sense of security is the driving force behind self-interest. The paradox of deterrence, which is particularly pronounced in the case of nuclear deterrence, is that in order

⁶ Stuart Croft, Strategies of Arms Control: A History and Typology, (Manchester: Manchester University Press, 1996), 34.

⁷ John Garnett, “Disarmament and Arms Control Since 1945” in Strategies of Arms Control: A History and Typology, (Manchester: Manchester University Press, 1996), 191.

⁸ Hans J Morgenthau, Scientific Man v. Power Politics, (Chicago: University of Chicago Press, 1946), 1.

to attain this security, humans have persisted in developing new technologies that have an increased potential to contribute to the destruction of the human race.

During the Cold War, the development of increasingly lethal technologies was rationalized by the perceived need to deter and defend against nuclear attack. This strategy led to the development of nuclear deterrence theory, which Buteux explains, is an explanation of how an adversary, or potential adversary, might be convinced not to do something that it would otherwise do.⁹ Similarly, Morgan defines deterrence as “the use of threats of harm to prevent someone from doing something you do not want him to do.”¹⁰ For Morgan, the consideration of deterrence theory is necessarily almost always in the context of a “severe” conflict situation.¹¹ Taken from the context of conflict, Morgan suggests that deterrence simply begins to resemble power, the effect of which would be to make any analysis of its practical utility virtually impossible.¹²

The potentially negative consequences that are faced even by the side that uses nuclear weapons against another nuclear-armed state are severe enough to pose a unique set of problems to the task of maintaining the credibility of the

⁹ Paul Buteux, “The Theory and Practice of Deterrence”, in World Politics, Haglund and Hawes, Eds. (Toronto: Harcourt Brace Jovanovich, 1990: 83-103), 83. Buteux goes on to suggest that the theory is best understood as a theory of rational decision as it explains the logic of strategic decision (p. 84). By applying a similar definition to deterrence, Barry Buzan identifies a pre-emptive characteristic within deterrence, see; An Introduction to Strategic Studies, Military Technology, and International Relations, (New York: St Martin’s Press, 1987), 136.

¹⁰ Patrick Morgan, Deterrence: A Conceptual Analysis, (London: Sage Publications, 1977), 32.

¹¹ Morgan’s emphasis on “severe” conflict is consistent with the Cold War concern for avoiding a crisis situation between the superpowers, which might have resulted in nuclear holocaust. It is important to bear in mind however, that deterrence does function in conflict situations that are characterized by a lower level of intensity than that envisioned by Morgan, see: Morgan, p. 29. This fact relates to the ideas of immediate and general deterrence. Immediate deterrence functions when an explicit threat of retaliatory or punitive action is made in a crisis situation. General deterrence functions in a non-crisis adversarial relationship, in which it is generally understood that retaliatory or punitive action will be taken if the other side should try to precipitate a crisis situation.

deterrent threat. Prior to 1945 it was generally maintained that war could be a viable and effective means of maintaining the international system by providing a way of resolving disputes when the instruments of diplomacy prove to be inadequate to the task. As long as at least one party to a dispute could ascertain some benefit, or identify an absolute need to engage an adversary in combat, the resort to war remained a rational option in the resolution of political disputes between states.

In the context of conventional deterrence, a relatively wide margin of error existed in the cost-benefit analysis of the desirability/necessity of engaging in military combat operations versus the probability of success and the cost of losing, or at least not winning. The difficulty for deterrence in a nuclear context is that it takes a very active imagination for any party to a conflict to be able to rationalize a reason for initiating a nuclear exchange. The carnage wrought by a nuclear war would devastate either state's capacity to continue to function as a viable political entity. In effect then, war itself represented a greater threat to states' security during the Cold War than the pursuit of contradictory interests *per se*.

According to Buzan, the emphasis on war prevention at the end of World War Two encouraged the civilian participation in the development of both strategy and technology.¹³ He suggests that civilian expertise in nuclear technology and the development of air power were invaluable at a time when the western world was focused on reindustrialization and the downsizing of military

¹² Ibid., 18-19.

¹³ Buzan, 140-141.

commitments. Buzan also makes note of the fact that civilian influence was particularly appropriate at a time when the focus of the strategy of war avoidance, did not depend exclusively on military expertise.

As a result of this state of affairs, the development of nuclear strategy was removed from the auspices of military control to political control. Buteux identifies this shift when he notes that since 1945, all competition and confrontation between the superpowers has occurred under the shadow of nuclear weapons.¹⁴ The association is made when he describes how statesmen have simultaneously sought to avoid nuclear war while advancing their political interests by exploiting the ambivalent threat of nuclear war. This threat is generated not so much as a matter of policy, but by a combination of political rhetoric and the existence of nuclear weapons.

The predominance of the political utility of nuclear weapons over their military utility leads to two insights. The first is that it clearly illustrates the distinctive character of nuclear deterrence versus conventional deterrence. The second is the importance of the concept of *finite deterrence*, which, according to Buteux, is achieved when nuclear powers accept that the only utility of nuclear weapons is to deter their own use in combat. As Buteux himself has pointed out, however, the implementation of finite deterrence can be difficult to achieve. This he attributes to the apparent mutual incompatibility of finite deterrence with the doctrine of *flexible response*, which assigns a tactical utility to nuclear weapons in war.¹⁵

¹⁴ Buteux, 89.

¹⁵ *Ibid.*, 99-100.

Flexible response evolved from the realization that the doctrine of massive retaliation did not communicate a credible deterrent threat to a Soviet invasion of Western Europe. The doctrine of massive retaliation, which was initially adopted by the United States in 1954, represents a strategy of *deterrence by threat of punishment*. The basic principle behind deterrence by threat of punishment is the communication of the capability, intent, and will to retaliate to an attack at a level of intensity that the opponent would consider to be so devastating to its own interests as to negate any benefits that might accrue from the initial aggressive action. In other words, even if it would prove impossible to stop an opponent from taking a certain course of action, one could communicate a set of consequences to that action that would dissuade the opponent from carrying it through. This is in contrast to *deterrence by denial*, which requires the preparation of a sufficiently extensive system of defences to cause the adversary to estimate that a prohibitive amount of resources would have to be committed in order to obtain the objective.

The realization of the continued vulnerability of Western Europe to Soviet invasion in the 1960s caused NATO to realize that, on their own, neither deterrence by denial nor deterrence by threat of punishment were sufficiently credible to deter the Soviet Union from invading Europe should they decide to do so.¹⁶ Consequently, flexible response was adopted as a means of administering to the demands placed on the U.S. to provide extended deterrence to its European allies. Flexible response effectively combined denial and punishment in one

¹⁶ Ibid., 94-95.

strategic doctrine.¹⁷ Formally adopted by NATO in 1967, flexible response enhanced the credibility of the deterrent threat in Europe by allowing NATO to respond accordingly to different levels of violence. In addition to the option of the selective use of force, flexible response empowered the U.S. and its allies to utilize a strategy of “controlled escalation” of hostilities. In effect this created a two-tiered deterrent to manage the relationship between NATO and the Soviet Union. In the first tier of deterrence, conventional and tactical nuclear forces in Europe represented a deterrent based on denial, which was intended to keep the Soviets from invading. The second tier was represented by the strategy of deterrence by threat of punishment, which could function either independently to prevent a Soviet nuclear first strike, or, in the event that the Soviets did decide to risk a conventional war in Europe, could act to deter the escalation of the conflict to its logical extent within the context of the conventional war.

It is worth spending a little time discussing the issue of the credibility of the deterrent threat, which has been mentioned a few times up to this point. The efficacious implementation of deterrence theory is contingent upon the aggressor state’s perception of a legitimate threat to its own interests. Put quite plainly, an opponent will not be deterred if it is not convinced that the cost of pursuing a hostile action will outweigh any benefit it might accrue. The aggressor state’s perception of a legitimate threat to its own interests is dependent upon four criteria. These criteria are: the capability to carry out the threat; the intention and will of the deterrer to act on the threat; the cost effectiveness of the threat; and the

¹⁷ *Ibid.*, 95.

general credibility of the nature of the threat, based on the circumstances under which the deterrer claims he will act on the threat.

In essence, then, the threat must be one that the deterrer has the economic, technological, and logistic capability to carry out. The deterrer must also have the resolute will and a *bona fide* intent to implement the threat. The threat must also promise to do more harm to the aggressor state than to the deterrer. Finally, the specific circumstances under which the threat will be executed must be clearly defined. In order to maintain credibility, the severity of the threat must be in some proportion to the transgression. These criteria are irrelevant, however, if the opponent is not made to see them.¹⁸ When both sides meet these criteria a state of mutual deterrence is said to exist.

The problem of communicating the intent and will to carry out a threat is perhaps the most difficult criteria of credibility for the deterrer to communicate to its adversary. It is also the most important. Schelling, who adopts the general position that the threat to use force must be communicated to the adversary so as to make it believable, addresses the importance of effective communication.¹⁹ Without effective communication, the satisfaction of any or all of the first four criteria is irrelevant.

Buteux suggests that in the nuclear world the problem of communication may not be as great as it first appears. He points to the grave consequences of discounting a threat to use nuclear force as something of an incentive for state

¹⁸ *Ibid.*, 85.

¹⁹ Thomas Schelling, Arms and Influence, (Yale: Yale University Press, 1966), 120.

actors to take them seriously.²⁰ It seems that the greatest danger posed by a failure in communication between states in the nuclear context is that an effort by one side to enhance the credibility of a deterrent threat may be seen by the other side as an attempt at compellence.²¹ Compellence differs from deterrence in that it refers to the attempt, *via* a threat, to force an adversary to do what it ordinarily would not do.²² It is obvious that any sovereign state would see such an attempt at compellence as intrusive, and cause it to react in a manner that the other side might in turn consider unacceptable. Clearly a circumstance such as this has the potential to devolve rapidly into an acute crisis situation.

There exists an inherent risk of efforts to deter an adversary being mistaken for an attempt to compel that enemy. During the Cold War, this meant that deterrence alone could not be relied on to manage the strategic relationship between the United States and the Soviet Union. The very basis of nuclear deterrence during the Cold War was the principle of strategic stability. The purpose of this stability was to ensure that neither the Americans nor the Soviets could claim a significant strategic advantage over each other. Only by ensuring that both sides were mutually vulnerable to each other's nuclear attack could deterrence possibly work. Without such a mutual vulnerability one side or the other might elect to chance a pre-emptive first strike, effectively knocking out the

²⁰ Buteux, 48.

²¹ *Ibid.*, 89.

²² For a more detailed analysis of the concept of compellence, see; Schelling, pp. 2-18; Buzan, p. 136. Related to Schelling's concepts of deterrence and compellence under the broader classification of "coercion", are Edward Luttwak's notions of dissuasion and persuasion under the broader classification of "suasion", see; Edward Luttwak, Strategy: The Logic of War and Peace, (Cambridge, Mass., The Belknap Press of Harvard University Press, 1987), 121-123.

enemy's retaliatory capability and rendering him more or less defenceless.²³ Thus the establishment of strategic balance meant that both sides had to have a guaranteed retaliatory, or second-strike capability. However, this balance did not just happen on its own, but required a mechanism to help manage the strategic relationship between the U.S. and the Soviet Union. That mechanism was arms control.

It is widely acknowledged that the development of arms control theory after World War Two was somewhat ahistorical.²⁴ A certain urgency was placed on the need to establish effective arms control regimes during the Cold War in order to create and maintain the strategic stability that was so vital to the preservation of relative peace between the superpowers. This urgency derived from the unique strategic environment that was created as a result of the existence of nuclear weapons. This emphasis on the critical importance of arms control, not just for the management of conflict but for the preservation of the human race, fostered a belief among early arms control theorists that they were developing a new and unique mechanism for conflict management in the international system.

Schelling and Halperin have argued that the central connection between arms control and deterrence is the fact that once an arms control agreement has been broken it will take time for the state to acquire the requisite number and type of weapons to pose a threat, a condition that came to be known as security

²³ Garnett borrows from Herbert Butterfield in arguing that the foundation of all relationships is an obstacle to the perfection of trust and goodwill. He argues that this obstacle stems from a Hobbesian fear of the other, and that this fear forms the basis of the arms race and tension in political relations, p. 199

²⁴ Stuart Croft notes the fact that only the particular form of arms control theory developed by theorists such as Schelling, Bull, Khan, Halperin etc. was novel, and that arms control in fact, has

building in the 1980s. During this period of buildup the other party to the treaty may have an opportunity to take preemptive action to what may be perceived as preparations for war. Thus, by placing qualitative and quantitative restraints on armaments, which make it difficult for a state to capitalize on “break out” technology right away, arms control provides a disincentive to take such measures.²⁵ In this way, Aron has argued that the connection between arms control and deterrence is the fact that they share the management of armed forces as their objective.²⁶

Origins of Arms Control and Its Development Through the Cold War

Croft provides an excellent historical analysis of the development of arms control, which is useful in putting the role of arms control, both during and after the Cold War, into some perspective. Croft’s analysis spans five different historical periods that include the ancient world (in the west), Medieval Europe, the Modern era (1648-1919), the inter-war years, and finally, the post 1945 era. Throughout his analysis Croft identifies the “widening” of arms control into five different areas of activity: to establish a new order at the end of a conflict; to create and maintain stability; to develop the rules of war; to control proliferation of weapons; and finally, to enable international organizations to participate in and oversee the arms control process. By “widening” then, he means the expansion of the types of arms control and the range of activities with which it is concerned. Croft also discusses the emergence of a process of deepening in arms control

a much longer history; pp. 33-34. See also, Colin Gray, House of Cards: Why Arms Control Must Fail, (Ithaca: Cornell University Press, 1992), 15.

²⁵ Thomas Schelling, and Morton Halperin, Strategy and Arms Control, (New York: The Twentieth Century Fund, 1961), 74.

during the inter-war years. This essentially refers to efforts to make arms control agreements more comprehensive by increasing their specificity, verifiability, duration, and enforceability.

Croft points out that, in fact, there is a long history of arms control being used to manage relations between political entities, going back as far as an attempt by the Philistines to prevent the Israelites from acquiring iron-based weapons around 1100 BCE.²⁷ Though not an arms control *agreement* as such, this does represent an early attempt to place constraints on arms. According to Croft, arms control was first institutionalized as a means of managing conflict situations by the earliest civilizations of the ancient world. As Croft says, the endemic character of warfare during this period meant that there was very little incentive to structure arms control agreements in such a way that they worked to prevent the occurrence of armed conflict. The low level of technology that was characteristic of ancient weaponry also contributed to this fact. Therefore, there were both political and practical reasons why the role of arms control in the ancient world was rather limited.

Croft argues that arms control agreements often occurred either at the end of a conflict, or when a significant technological development in weaponry came about. He argues that the use of arms control at the end of conflicts derived from the need to create new strategic relationships after the war. For Croft, four post-conflict models were possible.²⁸ In the first model, the overwhelming victory of

²⁶ Raymond Aron, *The Great Debate: Theories of Nuclear Strategy*, (New York: Doubleday and Co. Inc., 1963), 146.

²⁷ Croft, 22.

²⁸ *Ibid.*, 41-43.

one side resulted in the total disarmament of the loser. This is referred to as the *feodus inaequum*, or unequal agreement. The second model is characterized by a convincing victory that is something short of total, in which unequal arms control terms are used to establish the strategic and political superiority of the victor. Both of these models effectively establish a sort of dependent relationship between the two parties. The third model is one where a clear military victory exists and arms control is used to establish semi-permanent stability through force superiority for the victor. This model is somewhat different from the previous two. While strategic inferiority is imposed on the loser, political equality is maintained. Finally, the fourth model is one in which a cessation of hostilities occurs before there is a clear victory. In such a case, an arms control agreement would tend to work to the advantage of the party with the strategic and political initiative at the time of the cessation of hostilities. This is due to the fact that treaty negotiations would occur while the conflict was being waged and not after the fact.

Croft dates the use of arms control to strengthen strategic stability back to an agreement between the Egyptians and the Hittites around 1280 BCE. The purpose of this type of agreement was to develop a strategy for war avoidance and/or circumvent the high cost of an arms build up in preparation for an unnecessary war.²⁹ According to Croft, there was a much greater likelihood of reaching a balanced agreement in this form of arms control than in the form that

²⁹ Ibid., 44-46. By the early part of the 13th century BCE, Egypt had lost control of much of its territory and the Hittites disputed its control over Syria. Ramses II of Egypt (1279-1212) began a campaign of reconquest at the beginning of his reign, but was soon defeated at the battle of Qadesh in 1274 by the Hittites. In 1259 a peace treaty was signed with Hatusilis III, part of which

was used to conclude conflicts. Given the importance of the concept of strategic stability to Cold War arms control, it is worth noting that stability has been defined by Schelling and Halperin as the establishment of disincentives, which outweigh the incentives for going to war.³⁰ Arms control theory attempts to facilitate this stability by reducing, if not eliminating, any potential advantages that might accrue from a surprise attack capability or the creation of a general strategic advantage.³¹

The endemic nature of warfare and the simplicity of military technology provided both political and practical reasons for the marginal importance of arms control in the ancient world.³² Thus, most arms control agreements prior to the Middle Ages took one of two forms, either an agreement used to conclude conflict, or an agreement intended to decrease the likelihood of having to go to war. Croft concludes that arms control was developed to serve two purposes in the ancient world: the establishment of a new balance of power at the conclusion of a conflict, and to create or perpetuate stable political relations.³³

The second significant period in the development of arms control examined by Croft occurred in Medieval Europe. During the Middle Ages in Europe, intrastate violence, both legal and illegal predominated, as did conflict between diverse cultural and ethnic groups. The period was characterized by a debate over secularization, which resulted in an effort to limit the amount of

established a buffer zone between the Hittite and Egyptian empires in the Levant. L. De Blois, and R.J. Van Der Spek, *An Introduction to the Ancient World*, (London: Routledge, 1997), 30.

³⁰ Schelling and Halperin, p. 12

³¹ *Ibid.*, 50.

³² Croft, 22.

³³ *Ibid.*, 22.

violence that could be perpetrated within war.³⁴ This was accomplished through the establishment of restrictions pertaining to the justification for going to war and the conduct of combatants within war. Three main categories for the limitation of war through the development of norms of behaviour exist: the prohibition of certain weapons in order to limit the destructiveness of war; the establishment of rules regarding non-combatants; and the definition of geographic areas where war was prohibited.³⁵

As Croft suggests, the most significant application of arms control in limiting violence within war was its role in designating the legitimacy of certain targets.³⁶ He goes on to add that the control of weapons *per se* was only a limited factor in the development of arms control during the Middle Ages. Instead, emphasis was placed on controlling how those arms were used in war. For Croft, this represents a widening of the concept of arms control in so far as it was applied to the problem of limiting the destructiveness of war in a new way. Therefore, he identifies the emergence of a third objective of arms control during this period: the development of a more orderly state of affairs based on accepted and established norms of behaviour.

The third period examined by Croft extended from the origin of the modern nation state period to the end of World War One. During this lengthy period the emphasis of arms control remained on limiting the scope of violence

³⁴ Croft notes that the emphasis on establishing norms of accepted behaviour began with a perceived need to establish rules that would protect ecclesiastical lands from the effects of war, p. 50.

³⁵ *Ibid.*, 47.

³⁶ Croft cites the Second Lateran Council of 1139, which prohibited the use of the cross-bow against Christians, but allowed for its use on non-Christians as an example of how arms control

and creating norms of behaviour in war. States once again tried to establish buffer zones, or strategically neutral areas, which were designed to promote stability between potential adversaries. In addition to the establishment of buffer zones the *feodus inaequum*, or unequal terms of settlement, were also used to reduce the risks of war. As Croft points out, this period witnessed the consolidation of the three purposes of arms control developed in the previous periods.³⁷ This, he suggests, is associated with the emergence of the predominance of the nation state in international relations, the technological development of arms, and a continued emphasis on the rules of war. These elements worked together to ensure the continued role of arms control in establishing a new balance of power at the end of a conflict, the development and perpetuation of stability between states, and the establishment of international norms of behaviour in warfare.

The fourth era examined by Croft was that of the inter-war period. The most significant development of arms control during this period was the introduction of the process of deepening in arms control.³⁸ This process can be seen in the connection of arms control with efforts to end conflict, in the application of arms control to the creation and strengthening of strategic stability without having to endure the aftermath of war, and also in the renewed emphasis in further developing the rules of war and the creation of general world order.

was used to limit violence within war by establishing guidelines for the legitimacy of targets, Croft, 23-24.

³⁷ Ibid., 24-26.

³⁸ Ibid., 26.

In addition to the process of deepening, this period also witnessed a further widening in arms control. After the conclusion of World War One most states felt that something had to be done to reduce the risk of war and the extremely high cost associated with it. Consequently, the practice of arms control was widened to encompass efforts at non-proliferation. This was a response to the view that weapons were generally destabilizing and represented an inherent impediment to the peaceful conduct of international relations.³⁹ Croft notes that prior to the twentieth century, proliferation control was focused internally, to protect the state against rebels, but that the inter-war period introduced the idea that arms control could lead to global peace and that therefore proliferation control ought to be directed against other states.⁴⁰ A final area into which arms control widened between the two World Wars was in the area of “arms control by international agency.” According to Croft, this novel approach to arms control first appeared under the mandate of article 8 of the League of Nations.⁴¹

Thus, the fourth period of arms control development studied by Croft combined the three previous characteristics of arms control with two new ones:

³⁹Three kinds of proliferation control are identified: defensive control, intended to keep an enemy from acquiring weapons; control for the enhancement of global stability; and finally, control for the purpose of limiting the violence and danger of war, Croft, 51; Croft also acknowledges that non-proliferation was not a novel idea in the inter-war period and that it can be traced at least as far back as the Third Lateran Council of 1179, which prohibited the sale of arms to Saracens, however, he also suggests that until the twentieth century, arms control placed very little emphasis on non-proliferation, p. 26

⁴⁰ Ibid., 52; Interestingly, one can see the expansion of this globalist approach in the 1950s, after the introduction of nuclear weapons to the strategic equation. The global implications for arms control were once again illustrated with the establishment of the Missile Technology Control Regime in the 1980s, which sought to limit the capabilities of states to launch missile attacks anywhere on the planet.

⁴¹ Article 8 gave the Council of the League of Nations some authority in determining the level of armament for states. Permission from the council was required to exceed these limits. Croft also notes that the only reference to arms control in the UN Charter is in Article 26, which states that

proliferation control and international agency. The deepening that occurred during this period refers to three developments in the approach that was taken to arms control.⁴² First, they began to demonstrate a higher degree of specificity. Second, the importance of the incorporation of some sort of verification mechanism was beginning to be realized. Third, agreements were less frequently drawn up as short term or *ad hoc* methods of managing inter state relations. Instead, arms control agreements began to take on the characteristics of enduring regimes that were intended to continue over time. These developments effectively ushered in a period where, increasingly, it was believed that arms control could be an effective means of managing political difficulties.

The fifth and final historical period in the development of arms control examined by Croft is that of the Cold War. As Croft suggests, the development of arms control during this period was structured around the theory and policy of nuclear deterrence.⁴³ Croft has identified seven assumptions that arms control and deterrence theorists relied on to form the framework of this structure. They were bi-polar nuclear dominance, strategic parity, competition/rivalry between the superpowers, rational aversion to the use of nuclear weapons, emphasis on the avoidance of all armed conflict due to the fear of escalation, strategic advantage in the offensive use of nuclear weapons, and finally, the danger of the miscalculation of threats due to the competitive relationship.⁴⁴

the Security Council and Military Staff Committee will formulate plans to be submitted to member states "for the establishment of a system for the regulation of armaments". p. 55.

⁴² Croft also acknowledges that, while the deepening process is quite apparent in the first three forms of arms control, it did not apply to the newly introduced efforts at proliferation control or arms control by international agency, Croft, 32.

⁴³ *Ibid.*, 23.

⁴⁴ *Ibid.*, 33.

The effect of this unique international security context was that it appeared to establish the need for dialogue between the principles as well as a role for arms control as a mechanism for ensuring that neither party would perceive strategic advantage in launching a preemptive first strike. The Cold War nuclear debate can be characterized then by the need to balance a demonstration of the political will necessary to maintain the credibility of deterrent threats, with the political reassurance of the desire to preserve peace. The latter need was facilitated by arms control, which was a mechanism by which states could demonstrate their good faith in their desire for peaceful relations.

The first of five sub-periods in the development of arms control during the Cold War lasted until the end of the 1950s. During this period “the political debate was formed by notions of general and complete disarmament mainly of nuclear weapons.”⁴⁵ Garnett has attributed the periodic emphasis on disarmament on the misguided assumption that a direct linear relationship exists between arms racing, or the general procurement of weapons, and the likelihood of the occurrence of war. He has also argued that, just as disarmament could not be implemented effectively in the inter-war period, it could not play a constructive role in the management of Cold War strategic relations.⁴⁶

The unrealistic goals of total and complete disarmament that were predominant during this period paralleled the crude and unrealistic threat of massive retaliation proposed by the Eisenhower administration. Just as deterrence theory was later refined and a distinction was made between massive retaliation

⁴⁵ Ibid., 34-35.

⁴⁶ Garnett, 187.

and graduated response, so a distinction must also be made between arms control and disarmament.⁴⁷ Garnett defines arms control as an activity that is less ambitious than disarmament, even as it is considered in Article Eight of the League of Nations, which calls for disarmament to the “lowest point consistent with national safety.”⁴⁸ For Garnett, arms control “merely implies cooperation between potential enemies to establish qualities and quantities of weapons likely to reduce both the chances and ferocity of war, and to control the development, deployment and use of weapons along mutually acceptable lines.”⁴⁹ Thus Garnett’s interpretation of the definition of arms control would fall under a somewhat broader category than one in which arms control is defined as the limitation or reduction of weapons *per se*.⁵⁰

Two assumptions about the U.S.-Soviet strategic relationship were fundamental to the earliest period in Cold War arms control theory. The first was that arms control agreements could be used to reduce the incentive for one side to attempt a first strike. The problem with arms control during this period was that there was an apparent disconnection between arms control as theory and arms control as practice. As Croft suggests, the Baruch plan of 1946, which called for the establishment of the International Atomic Development Authority, was not sufficiently deep, in that it failed to provide for an effective verification

⁴⁷ Schelling and Halperin, 2-3.

⁴⁸ Garnett, 191.

⁴⁹ This notion was well established by Schelling and Halperin, 2; see also, Garnett, 191; Gray, 6.

⁵⁰ In fact Garnett argues that arms control should focus on alleviating political tension rather than eliminating arms for the sake of eliminating arms. This perspective stems from the fundamental belief that the cause of conflict and arms racing lies at a deeper level than at the simple existence of weapons, p. 206.

mechanism.⁵¹ Without such a mechanism the theory of arms control, based on the assumptions of mutual desire for war avoidance and the ability to reduce the incentive for first strike, could not be realized in practice.⁵² The second of these was that a mutual desire for the avoidance of nuclear war existed. This is a fundamental element of Schelling and Halperin's classic *Strategy and Arms Control*, which established the fact that, during the Cold War, military force was useful only for purposes of deterrence.⁵³ The implausibility of both total disarmament and of the deterrent threat articulated by the Eisenhower administration led to the next period in the development of both arms control and deterrence theory.

The period of "pure" arms control, which lasted from the late 1950s until approximately 1972, established a much closer relationship between the theory and practice of arms control. During this period, arms control theory was based on an interpretation of the strategic context, which led to the belief that strategic stability for the purpose of war avoidance and a relative degree of "safety" during war could be achieved by reducing the number weapons on both sides.⁵⁴ However, it was also acknowledged that, below a certain threshold, arms reductions could actually increase the fears and temptations that could lead to war. Therefore, the goal of nuclear arms control was the maintenance of strategic stability between the U.S. and the U.S.S.R., as opposed to general strategic disarmament. For this reason the decision was made in the 1960s to allow the

⁵¹ Croft, 35.

⁵² Garnett, 208-209.

⁵³ Schelling and Halperin, 1.

⁵⁴ Croft, 35-36.

Soviets to build their nuclear stockpile to a level which approached parity with the American stockpile. This particular concept of the utility of arms control was based not on a threat of massive retaliation, but on the deterrent concept of assured destruction, and promoting the conditions of MAD.

As part of the SALT I agreement, the Anti-Ballistic Missile Treaty of 1972 is perhaps the most important example of how arms control and deterrence functioned together to preserve strategic stability during the Cold War. It has been widely asserted that the ABM Treaty helped to preserve MAD by making it possible for both sides to retain a second strike capability.⁵⁵ Three aspects of arms control efforts during this period were deemed to have a particularly stabilizing effect. The first of these was the fact that no limitation was placed on the development of the Soviet strategic arsenal during the 1960s. Of course, it is also possible that the Soviets simply would not have agreed to a substantial arms control settlement before they had achieved some semblance of parity. Regardless, this enabled the Soviets to attain a level of strategic parity with the U.S. The second was the fact that no limitations were set on the development of new technologies such as Sea Launched Ballistic Missiles (SLBMs) and Multiple Independently Targeted Reentry Vehicles (MIRVs), which were deemed to be stabilizing at the time. Finally, the agreement between the superpowers of the required levels of strategic capability that would guarantee a second strike capability for both parties helped to ensure that the strategic balance required for MAD was met and maintained. Above all else, it is clear that during this period, arms control was not about the reduction of armed forces *per se*, but about the

control of the procurement, deployment, and disposition of armed forces in such a way that strategic stability could be maintained.

The third period in the development of arms control during the Cold War extended from approximately 1972 to the early 1980s. This period coincides with the period of détente in U.S.-Soviet relations. With the apparent realization of strategic stability achieved in the previous era of Cold War arms control and facilitated by the SALT I agreement and the ABM Treaty, a new emphasis was placed on proliferation control and on the establishment of norms of behaviour. This new emphasis deviated somewhat from the original purpose of the SALT I agreement, which was to support strategic stability and the deterrent condition of MAD rather than the limitation or reduction of weapons as an end in and of itself.⁵⁶ However, this emphasis created a new disjuncture between the theory and practice of arms control. Just as was the case in the inter-war period, arms control came to be dominated by idealistic goals that clouded an accurate understanding of its utility, and therefore impeded its useful application in the management of conflict.

According to Croft, the unity between the theory and practice of arms control was compromised during the 1970s in two ways.⁵⁷ First, the scope of arms control was broadened beyond the strategic question of ensuring a second strike capability. Instead, heightened emphasis was placed on controlling the proliferation of chemical and biological weapons, conventional weapons, and the

⁵⁵ Garnett, 214.

⁵⁶ Lawrence Martin, "The Role of Military Force in the Nuclear Age", in Strategic Thought in the Nuclear Age, Lawrence Martin, Ed. (Baltimore: Johns Hopkins University Press, 1979), 6; see also Garnett, 189.

arms trade at large. As Croft suggests, the focus on nuclear arms control was somewhat blunted as proliferation control was widened into other areas. The second way in which the unity of the theory and practice of arms control was compromised was that arms control was seen as being synonymous with détente.

Within the context of détente, the value of arms control regimes was publicly and politically debated. Croft asserts that the above two factors, which contributed to the breakdown in the unity of the theory and practice of arms control, were enabled by the inevitable widening of the public discussion of the arms control debate and the fact that the previous arms control agenda had been satisfied by the early 1970s. In other words, arms control, like Alexander the Great, had run out of wars to conquer. Rather than being satisfied with maintaining the strategic stability it had helped to achieve, “theorists” tried to apply arms control to the broader and more ambiguous questions of international security. Theorists during this period mistakenly believed that the arms control theory of the 1960s was less relevant to the strategic environment of the 1970s. In fact, while détente meant that political tensions between East and West had eased somewhat, the strategic environment still relied on the utility of arms control and deterrence for the prevention of war.

The shift in the emphasis on arms control is evident in the SALT II negotiations and treaty.⁵⁷ Whereas SALT I was concerned with parity and the support of Mutual Assured Destruction, SALT II lacked a focused end state.

⁵⁷ Croft, 37.

⁵⁸ Gray maintains a similar position, arguing that, with the exception of the continued application of the ABM Treaty, SALT II and START were ineffective in part because they were so ambiguous, 125-126.

Rather than being focused on the specific question of strategic stability, arms control grew to be concerned with the more general problems of “world order and proliferation control.”⁵⁹ The result was a decrease in the overall level of strategic stability during this period due to a lack of specific emphasis on strategic/conflict stability over the establishment of arms controls for their own sake.⁶⁰ The emphasis during this period shifted from the management of conflict to the management of weapons. An association can clearly be made between this loss of focus in arms control and a trend that Hedley Bull has identified as originating as early as the 1960s that considered that the utility of force was in the decline.⁶¹ With the continued détente in the mid to late 1970s theorists assumed that the superpower conflict had subsided to a level that did not require special attention so they shifted their focus.

However, when relations between the U.S. and U.S.S.R. deteriorated in the early 1980s it became clear that the abundance of nuclear weapons, particularly in their MIRV and SLBM forms, represented a threat to stable relations between the two countries.⁶² This perceived instability was based on the

⁵⁹ Croft, 38-39.

⁶⁰ Although START II was intended to reduce the total number of warheads by 50%, the counting rules vis MIRV technology meant that while the total number of missiles was reduced the number of warheads actually increased, Croft, 71.

⁶¹ Hedley Bull, “Force in International Relations: The Experience of the 1970s and Prospects for the 1980s” in New Directions in Strategic Thinking, Robert O’Neill and D. M. Horner, Eds. (London: George Allen and Unwin, 1981), 17; see also, W.F. Biddle, Weapon Technology and Arms Control, (New York: Praeger Publishers, 1972), 308.

⁶² Garnett suggests that MIRV technology in particular was seen as particularly destabilizing during this period because of the significant counter force capability that it provided to the Soviets. He goes on to argue that as the deterrent balance of terror deteriorates a balance of power may emerge, which can be consistent with conditions that are favourable for preemptive action, 189, 197. J. Owen Zurhellen Jr. notes that the pace of Soviet armament in the 1970s continued even after parity had been achieved, thus threatening strategic stability; see Zurhellen, “Arms Control: The Record of the 1970s and the Outlook for the 1980s” in New Directions in Strategic Thinking, Robert O’Neill and D.M. Horner, Eds. (London: George Allen and Unwin, 1981), 246.

realization that the increase in the number of warheads facilitated by MIRV technology was not in accord with the concept of strategic parity, which was essential to the conditions of MAD.⁶³ It can be argued that the development of the concept of the Strategic Defense Initiative (SDI) by the Reagan administration was a response to the perceived instability in the strategic balance, both as a result of the Soviet counterforce capability and the tremendous Soviet advantage in conventional forces deployed in Europe.⁶⁴

By the 1980s, which represents the fourth period in the development of arms control during the Cold War, the theory of arms control was virtually lost and arms control had become highly politicized. For Croft, the period is marked by a failure to identify a strategic logic for arms control.⁶⁵ As a result of this failure, no arms control negotiations were actively under negotiation between the superpowers between 1983 and 1985.

The fifth and final period of arms control development in the Cold War examined by Croft occurred in the mid to late 1980s. This period is most clearly characterized by the efforts of Gorbachev and the Soviet reformists to find a way out of the Cold War for the Soviet Union.⁶⁶ In an effort to achieve this, arms control was further broadened so that it could be used as a means of diffusing

⁶³ Croft, 38.

⁶⁴ Gray, 51.

⁶⁵ Croft, 38.

⁶⁶ This position is supported by Croft, who suggests that one can clearly see the “balanced agreement” approach to arms control for the purposes of the conclusion of conflict, as opposed to total disarmament and the *feodus inaequum*, which were never on the negotiating table, 69. One could also argue, as Croft does, that the perceived threat that SDI represented to the ABM Treaty by the Soviets, provided a substantial incentive for the revival of arms control near the end of the Cold War, 72-73.

political tensions and creating the diplomatic space required for both sides to engage each other cooperatively.

For Croft, then, arms control agreements at the end of the Cold War resemble very closely those agreements that conform to the fourth model of arms control agreements that occur at the end of major conflicts insofar as they were not geared towards the uneven disarmament of one of the parties.⁶⁷ The victory of the U.S. and its allies in the Cold War, while decisive, was simply not so overwhelming, nor was it of a nature that they could dictate terms of settlement to Russia and the former Soviet Republics. However, perhaps the most important insight that can be taken from Croft's analysis is that throughout the Cold War arms control was faced with the challenge of keeping up with both subtle and overt changes in the international security context.⁶⁸ It should come as no surprise then, that arms control is faced with the same challenges in the post-Cold War era.

To summarize Croft's analysis, the most significant contribution of arms control to international security during the Cold War derived from a deepening of the concept of arms control, which occurred in three ways.⁶⁹ First, greater emphasis was placed on the level of detail provided in arms control agreements. Croft cites the Interim Agreement on Offensive Arms, the ABM Treaty and the use of attached statements and understandings in the SALT agreements as examples of the deepening of arms control during the Cold War. Zurhellen has noted that the significance of the ABM Treaty is that it defines the basis of

⁶⁷ Ibid., 87.

⁶⁸ Aron, 229.

deterrence in arms control and establishes it in policy.⁷⁰ He also notes that in practice these developments still failed to contribute a significant level of clarity and understanding in the communication of intentions between states, though they did represent a step forward. Second, the concept of verification became much more important during the Cold War. This phenomenon emerged after the 1963 Partial Nuclear Test Ban Treaty, which contained virtually no provisions for verification. Croft cites the SALT I agreement and its various elements as a watershed in the introduction of practicable verification measures.⁷¹ The third contribution was the establishment of arms control regimes in the international system. Prior to the Cold War, arms control agreements tended to be short-term arrangements with short-term goals. During the Cold War, however, the need emerged to establish more robust, longer-term arms control regimes that could help to establish and maintain strategic stability.

Post-Cold War Arms Control

Gray argues that the collapse of the Cold War in December 1991 significantly undermined the utility of the START regime as the new political situation marginalized the significance of offensive reductions.⁷² Negotiations for the START I agreement began in 1982, however, poor relations forced a break in negotiations between 1983 and 1985. The treaty was finally signed on July 31, 1991. For Croft, the incompatibility between the START regime and the new security context of the post-Cold War era became apparent when a series of

⁶⁹ Croft, 39.

⁷⁰ Zurhellen, 248-249.

⁷¹ Croft, 40.

⁷² Gray, 127; Croft, 88.

unilateral disarmament gestures were made by the U.S. and Russia in the fall of 1991. The problem with these unilateral gestures was that the speed of the disarmament process and the speed at which arms control agreements widened into new areas outstripped the speed of implementation and the establishment of practical verification measures. In other words, the agreements that ended the Cold War happened so quickly that they could not possibly be deep enough to play a meaningful role in the management of strategic relations between the U.S. and Russia.⁷³ According to Croft, “arms control activities have always reflected the norms and concerns of the international political system of the time.”⁷⁴ The result of this incompatibility between Cold War arms control agreements and the post-Cold War strategic and political environment was that the SALT II and Conventional Forces in Europe (CFE) agreements failed to define a new set of inter-state relations as arms control agreements traditionally have been used to do at the end of major conflicts. This fact has had a lot to do with the ambiguity over the nature and character of the international strategic environment since 1991.

This very fact demands that the role of arms control in the management of conflict in the current security context be reassessed. Arms control negotiations and other diplomatic processes can be seen as the combative means of the Cold War.⁷⁵ Brodie makes this point particularly clear when he writes:

⁷³ Ibid., 77-79.

⁷⁴ Ibid., 20, see also 48.

⁷⁵ Bull has acknowledged that concepts such as deterrence, crisis management, limited war, insurgency, and arms control are all “...variations on Clausewitz’s theme of the need to subordinate war to the political object”, Hedley Bull, “Conclusions: Of Means and Ends” in New Directions in Strategic Thinking, Robert O’Neill and D. M. Horner, Eds. (London: George Allen and Unwin, 1981), 280.

Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose.⁷⁶

However, such is no longer necessarily the case. Instead, states need to be prepared to engage in armed conflict when such action is necessary.⁷⁷ Now that the Cold War is over, arms control ought not to be perceived as a combative means in the management of conflict, but rather as an ancillary means of managing conflict.

This position is supported by Croft, who argues that, as is the case with the conclusion of most major conflicts, the end of the Cold War is marked by the overthrow of a pattern of relations among great powers, and the establishment of a new framework for relations between states.⁷⁸ The task for arms control theorists today is to determine the character of conflict in the post-Cold War world and then develop a means of applying arms control to that system in a manner that is consistent with the goals of arms control theory. As Croft suggests, there are many forms of arms control out there, but they are not all equally useful in the maintenance of international security.⁷⁹

It would be a mistake to assume, however, that the argument is made, either by Croft or in this thesis, that there is nor role for arms control in the

⁷⁶ Bernard Brodie, The Absolute Weapon, (New York: Harcourt Brace and Co., 1946), 76; Similarly Colin Gray argues that a certain amount of overlap existed between arms control and national military policy during the Cold War, because both were concerned with the prevention of nuclear war through deterrence, 8-9. See also, Schelling and Halperin, 4-6, 142.

⁷⁷ This position is supported by John Ravenhill, who has acknowledged that advanced industrial states simply can not afford to ignore crises that are occurring in the periphery, "The New Disorder in the Periphery" in The Post-Cold War Order: Diagnoses and Prognoses, (St. Leonards, Australia: Allen and Unwin, 1993), 79.

⁷⁸ Croft, 68; It is worth noting here however, that while Croft's point is well taken, he fails to explicitly define how the CFE and SALT II Treaties contribute to the creation of new relationships in the Post Cold War era.

⁷⁹ *Ibid*, 205.

management of strategic relations in the post-Cold War era. At least four examples of post-Cold War arms control agreements exist that demonstrate varying degrees of depth, and have contributed to crisis and/or arms race stability.⁸⁰

Perhaps the biggest shortcoming of the various analyses of arms control in the post-Cold War era has to do with the failure to recognize that arms control has once again widened into a new area.⁸¹ It has already been noted that, according to Garnett, the notions of cooperation and agreement have been fundamental to arms control theory since its inception. This is not a unique perspective. In fact, all arms control theorists from both the Cold War and post-Cold War periods have retained this assumption.⁸² In the post-Cold War security context, however, the notion of cooperative arms control has to be reconciled with the imposition of non-proliferation regimes against states such as Iraq, among others, and the use of armed force to enforce those regimes. The importance of making this recognition is paramount as the misapplication of arms control and disarmament in the management of conflict can lead to a heightened state of insecurity in the international system rather than greater security.⁸³ Schelling has correctly

⁸⁰ The four agreements cited by Croft are: The Indian-Pakistani Agreement on the Prohibition of Attack Against Nuclear Facilities and Installations, The Hungary-Romania Open Skies Agreement, The Argentine-Brazilian Joint Declaration on Nuclear Policy, and The START II Treaty, Croft, 91-111. The continued development of Confidence and Security Building Measures (CSBM's) associated primarily with the 1992 Open Skies Treaty, the 1992 CFE IA Agreement, and the Vienna Documents of the CSCE, are some other examples of the utility of arms control on the Post Cold War world, 117-133.

⁸¹ Interestingly, Croft asserts that arms control will continue to widen and that it will continue to play a useful role in the management of conflict. Unfortunately, he neither explains how it will widen nor what its role will be, 208-209.

⁸² Ibid, 209; Biddle, 9.

⁸³ Garnett, 192.

observed that armed intervention between and among great powers is unlikely.⁸⁴ This was particularly true during the Cold War when such an action could have led to a full-scale nuclear exchange. However, in the current context, some smaller powers have determined that it is in their interest to acquire and in some cases use arms.⁸⁵ Where such action may pose a threat to international stability and security it is necessary to take deterrent and preventative measures. It is also necessary to consider the possibility that internal instability within a great power state, or a nuclear-armed state also has the potential to threaten international security.

It is clear that in the post-Cold War era the use of international organizations as an agent of arms control and non-proliferation has in fact broadened somewhat, so that the use of force by states, typically in accordance with the UN Charter and a UN mandate, can be considered a viable and legitimate form of arms control. This fact raises the issue of the narrow versus the broad interpretation of arms control.

The issue of the distinction between the narrow and broad interpretations of arms control is raised by Gray, who argues that the narrow interpretation emphasizes the importance of the negotiating process whereas the broad interpretation accepts virtually any activity that is concerned with the

⁸⁴ Schelling, *Arms and Influence*, 253.

⁸⁵ Kenneth Waltz has argued that the proliferation of nuclear weapons could only contribute to international security as lesser states could not possess the strategic capability necessary to disrupt the nuclear equilibrium; Scott Sagan, and Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate*, (New York: W.W. Norton and Company, 1995), 42-45. Scott Sagan points out that the biggest difficulty with concept of proliferation as a means of promoting security is that the risk of the emergence of a preventative war during the transitional or procurement stage of proliferation is significant, 56.

management or use of weapons as arms control.⁸⁶ In other words, the narrow interpretation is one that adheres to a fairly literal reading of arms control agreements that are reached through the negotiation process. By contrast, the broad interpretation of arms control is one that emphasizes the control or management of armaments in order to ensure that they contribute to the prevention of war. This distinction will become significant later when the issue of missile defence deployment and the ABM Treaty is considered.

In the post-Cold War era arms control is no longer strictly about agreements, but rather it is about the *control of arms*, with an emphasis on the ends rather than the means of arms control. By taking the narrow interpretation of arms control, one would argue that, as a negotiated agreement between two states, the ABM Treaty is a useful tool in the prevention of war between the U.S. and Russia, and so must be strictly observed. However, a broad interpretation of arms control would lead one to question the continued utility of the Treaty in the post-Cold War security context. As Martin has suggested, the fact that the employment of armed force is only useful to a degree does not mean that it can not, or should not be used.⁸⁷ It is generally agreed that it is extremely difficult, if not impossible, for a non-proliferation regime to be totally effective.⁸⁸

⁸⁶ Gray, 8-9.

⁸⁷ Lawrence Martin argues that "Because beliefs both popular and expert about the utility and moral acceptability of force condition the ways in which it is maintained and wielded, the debate about its usefulness is itself an important element in the balance of power", 1.

⁸⁸ Garnett, 215; Gray, 9; Gray also sites the historical example of Japan and Germany in 1933, both of which were parties to arms control regimes at the time, neither of which were prevented from acquiring arms when the perceived need arose, 188.

Gray has suggested that the impracticability of arms control can be attributed to five paradoxes of arms control theory.⁸⁹ The first and most significant of these flaws is the paradox that the need to prevent war suggests that one is imminent, and that therefore the resort to arms control is counterintuitive. On the other hand, Gray argues that when arms control is a sensible option it is likely to be irrelevant because war would not be imminent. This derives from the basic assumption that no direct correlation exists between the existence of weapons and the occurrence of war.⁹⁰ The problem for Gray is that arms control fails to address the political issues that are the motivating factors for war.⁹¹ As an example of how this paradox reveals itself, Gray suggests that the Strategic Arms Reduction Talks could never have been possible during the Cold War. Interestingly, one can see logical similarities between this and the above-mentioned paradox of deterrence theory, which essentially is that the threat of the use of weapons will prevent their use.

The second paradox is that, according to arms control theory, the potential for war triggers efforts to facilitate cooperation and peace through arms control. This, of course, assumes that both sides have a desire to cooperate with each other; a strange phenomenon that could only be counted on during the Cold War. Barring this desire to cooperate war would seem to be pretty much inevitable, thus rendering the effects of arms control irrelevant.

⁸⁹ Ibid, 17-22.

⁹⁰ Ibid.. 6. Henry Bienen adopts a similar argument when he writes that military power does not necessarily equate with political influence, "America: The Firsters, The Decliners, and the Searchers for a New American Foreign Policy" in The Post-Cold War: Diagnoses and Prognoses, Richard Leaver and James L. Richardson, Eds. (St. Leonards, Australia: Allen and Unwin, 1993), 166. See also, James L. Payne, Why Nations Arm, (Oxford: Basil Blackwell, 1989), 231.

⁹¹ Ibid., 184.

The third paradox identified by Gray is that formalized arms control negotiations can threaten attempts at peaceful co-existence by politicizing military-technical issues. Gray warns that in such a circumstance, the possibility exists that arms control may become an end in and of itself. The danger of course, is that by politicizing issues that are peripheral to diplomatic relations, arms control may generate additional sets of problems on which states can disagree. It is interesting, of course, that this is the criticism leveled against arms control during the 1970s by Croft. One could argue that the ABM Treaty politicized a technological capability that, in practice, could not possibly have posed a credible threat to the offensive capability of either the U.S. or U.S.S.R. In doing so a fierce debate was initiated that continued in the form of the SDI debate in the 1980s and has persisted as the Ballistic Missile Defence (BMD) debate in the 1990s, with no sign that a satisfactory bilateral resolution to the problem will emerge in the near future.

The fourth problem with arms control theory is the risk that arms control may come to be seen as sort of a panacea for international peace and security. Gray warns that such a view of arms control would be no more useful than the hawkish belief that a robust military capability represents a cure-all answer to the world's problems. One could argue that Gray is splitting hairs to a certain extent here, as this problem relates to the previously mentioned concern that arms control could become an end in and of itself.

The final problem with arms control theory identified by Gray is that it is partially dependent on the arms race paradox; a concept that he suggests is

derived from game theory. According to Gray, the problem is that arms control ultimately will be undermined by the fear of the potential vulnerability that may result from unilateral restraint in the procurement and deployment of armed forces that exists between competing states.

It seems to be clear that if proliferation control is going to have any chance of making a meaningful contribution to the maintenance of international security, it must be generally acknowledged that the concept of arms control has to widen to include the employment of armed force in specific circumstances in order to prevent or impede the proliferation of weapons to states that might later represent a threat to the general order within the international system. Gray's assessment that Germany represented a threat in 1914 and 1938/39 was not due to its possession of arms, but rather because it pursued a policy of the employment of those arms against its neighbours is compelling.⁹²

It is important to realize that Gray's argument is not that there is no role or utility for arms control. He only suggests that arms control must adjust to a changing political reality.⁹³ One could argue that in his assertion that no correlation exists between weapons and the cause of war, Gray has adopted somewhat of an oversimplified understanding of the complexity of the causative factors that contribute to the decision to engage an adversary militarily, though his point that weapons should not be considered as an absolute causative factor is well taken. Schelling and Halperin have suggested that,

⁹² *Ibid.*, 64.

⁹³ *Ibid.*, 227-233.

the size and character of military forces are an important determinant of national fears and anxieties, and of the military incentives of our potential enemies.⁹⁴

While Gray argues that a well armed state with no belligerent intentions does not represent a threat to its neighbours, it is equally true that a potentially aggressive state that has been stripped of its capacity to wage war also does not represent a particularly grave threat to its neighbours security. It has already been established that the basis for Gray's argument that arms control can not succeed is the fact that states faced with the perceived need to arm will always find a way to do so. In light of the relatively narrow interpretation of arms control to date this is a valid criticism. However, with the broadening of the concept of arms control in the post-Cold War era to include punitive and preemptive counterforce military operations against transgressors of arms control regimes, a new period in which there is greater potential for the realization of the goals of arms control has emerged.

Conclusion

Although the Cold War provided a unique role for arms control to play, which in turn helped to develop the theory and practice of arms control in a certain direction, it should not be assumed that the same role exists for arms control to play in the post-Cold War era, at least not to the same extent. Croft cites the work of Kahn in acknowledging that the utility of Cold War arms control was a function of the common interests between the U.S. and U.S.S.R. in the aversion of annihilation, an aversion to the high cost of arms production, and an

⁹⁴ Schelling and Halperin, 4; see also, Eugene Carroll, "Nuclear Weapons and Deterrence" in The Choice: Nuclear Weapons Versus Security, Gwyn Prins, Ed. (London: Chatto and Windus – The

aversion to an accidental nuclear exchange caused by “lax operational practices for nuclear forces.”⁹⁵ The role for arms control during the Cold War derived from a realization that East-West military relations rested on the paradoxical foundation of the tension between conflict and opposition versus a mutual interest in war avoidance.

This paradoxical foundation is the key to understanding the post-Cold War security context, in which it is much more difficult to establish the grounds of a mutual interest in war avoidance.⁹⁶ This, of course, is due to the easing of tensions between the former Soviet Union and the United States and its allies. While recent events such as the NATO bombings in Yugoslavia and some of the problems in implementing the KFOR peacekeeping mission demonstrate the fact that Russia does not exist in complete harmony with western interests and ideals, one would be hard pressed to argue that the level of tension generated by such incidents compares to the level of tensions during the Cold War. It seems that in the current context it is taken for granted that neither side intends to initiate a nuclear exchange without a very good reason, and that military involvement in the affairs of neighbouring states does not qualify as a good reason, at least not as long as that involvement does not directly undermine the security of the nuclear principles.

In the absence of an international security context in which there is a firmly established mutual disincentive to engage in armed conflict, it may be no

Hogarth Press, 1984), 10.

⁹⁵ Ibid., 34.

⁹⁶ Charles W. Kegley Jr., and Gregory A. Raymond, A Multipolar Peace? Great-Power Politics in the Twenty-First Century, (New York: St. Martin's Press, 1994), 5.

longer entirely up to the U.S., Russia, or any other industrialized states to choose whether or not they will engage in various levels of armed conflict. Certainly the precedents set by the 1991 Gulf War as well as the 1995 and 1999 NATO air strikes in Bosnia-Herzegovina and Kosovo respectively indicate that advanced industrial states may be drawn into conflict whether they want to get involved or not.

One wonders then, why the leaders of such lesser developed states as Iraq and Yugoslavia are seemingly unafraid and undeterred from taking aggressive action in support of their own interests. The answer is, quite simply, that the credibility of a deterrent threat is much more difficult to establish in the context of conventional armed conflict. A great deal of the difficulty in establishing deterrent credibility may be attributable to the difficulties associated with distinguishing between inter-state and intra-state conflict in the periphery, and with determining who should be held responsible for certain actions.⁹⁷

It is clearly inconceivable that any advanced industrial state would employ nuclear weapons in a conflict with a non-nuclear state, if not for moral reasons, then for fear of setting an unwelcome precedent. This, of course, is not to mention United Nations Security Council Resolution 225 and the provisions of the Non-Proliferation Treaty, which provide a guarantee of security for non-nuclear states against nuclear states. That means that states must rely on the threat of the use of conventional forces to deter unwelcome activity on the part of other states. Unless the security of state "A" is directly threatened, it is extremely difficult to determine how far state "B" might expect to be able to "push the

envelope” before soliciting a response from state “A.” The apparent reluctance of states to commit to the use of force only compounds this problem. The failure of the Gulf War coalition to commit to the overthrow of Hussein’s regime in Iraq, the failure of the U.S. to remain committed to operations in Somalia, and the repeated failure of the U.S. and NATO to follow through on threats to use force in the Balkans do not meet one of the most important requirements of deterrence theory, which is to communicate the will, as well as the capability and intent, to carry out a threat in response to a specified transgression.

The implication of this broadening of the concept of arms control is that when traditional applications of arms control fail, states need to be prepared to engage transgressors and, if necessary, employ force to control the destabilizing proliferation or deployment of arms. While the prospect seems daunting, the consequences of failing to respond to this need may be more severe. As Hedley Bull said, “[i]t is better to recognize that we are in darkness than to pretend that we can see the light.”⁹⁸ Basically, Bull proposes that civilized values are becoming harder to maintain, but that it remains necessary to attempt to maintain them.⁹⁹

Given the emphasis of twentieth century arms control regimes on the control of nuclear weapons, their components, and their delivery systems, it is only logical that an examination of the implications of the broadening of arms control for these issues be examined. As has already been mentioned, the most

⁹⁷ Ravenhill, 74-75.

⁹⁸ Hedley Bull, The Anarchical Society: A Study in Order in World Politics, (New York: Columbia University Press, 1977), 308.

contentious debate surrounding the application of military force to the question of nuclear security pertains to the limitations imposed on missile defence capabilities by the 1972 ABM Treaty. It is only logical that some consideration of the Treaty be given to ensure that it continues to promote international security in the post-Cold War era. Furthermore, it is important to realize that it may be necessary to revise the Treaty if it is to continue to contribute to security and stability in the post-Cold War era.¹⁰⁰

⁹⁹ Bull, "Force in international Relations: The Experience of the 1970s and Prospects for the 1980s", 33.

¹⁰⁰ Gray, 218.

Chapter Two

The Origins of the Anti-Ballistic Missile Treaty: *Cold War Arms Control and Strategic Weapons Development*

Throughout the Cold War the issue of the deployment of a missile defence system in the United States was extremely contentious. The debate revolved around the relationship between Secretary of Defence Robert McNamara's conceptualization of strategic stability and deterrence, which rested on the concepts of assured destruction and mutual vulnerability. Those who were in favour of ballistic missile defence (BMD) deployment argued that the development of the Soviet strategic offensive capability would soon threaten the credibility of the American retaliatory capability. Those who were opposed to deployment argued that the deployment of a BMD system in the U.S. would only cause the Soviets to intensify their production of strategic offensive arms in order to compensate.

Labrie has argued that the development of defensive strategic technology such as missile defence systems, and the development of offensive strategic technology represented primarily by multiple independently-targeted re-entry vehicles (MIRVs) gave rise to the contending concepts of the strategy of the offensive and the strategy of the defensive in the management of the Cold War strategic relationship between the U.S. and the Soviet Union.¹⁰¹ As noted earlier, Zurhellen suggests that the significance of the 1972 ABM Treaty is that it defines

¹⁰¹ *SALT Handbook: Key Documents and Issues 1972-1979*, Roger Labrie, Ed. (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979), 5.

the basis of deterrence in arms control and establishes it in policy.¹⁰² That is to say that the ABM Treaty can be seen as an effort to grapple with the problems of technological innovation and the preservation of deterrence through strategic stability. It is in this way that the ABM Treaty can be seen as defining the basis of deterrence in arms control. Furthermore, as a binding agreement in international law with provisions for verification mechanisms, the ABM Treaty also established the basis of deterrence in arms control in the national security policy of the United States and the Soviet Union. The question that this thesis explores, is whether or not the ABM Treaty ought to remain a binding agreement in international law, given that the current international political situation is so drastically different from the one in which the Treaty was drafted.

This chapter examines specific issues surrounding the origins of the 1972 Anti-Ballistic Missile Treaty. The period examined begins with the earliest conceptions of missile defence technology in the mid-1950s and ends with an analysis of the political implications of the 1972 ABM Treaty. This analysis is intended to provide an understanding of the political issues surrounding the early development of missile defence capabilities and an appreciation of the influence of the strategic context of U.S.-Soviet relations throughout the period. In so doing, it demonstrates that arms control, in the form of the SALT negotiations and the ABM Treaty, sought to preserve the strategic balance between the U.S. and the U.S.S.R. This chapter also illustrates the fact that strategic stability is not

¹⁰² Zurhellen, J. Owen Jr., "Arms Control: The Record of the 1970's and the Outlook for the 1980's" in *New Directions in Strategic Thinking*, Robert O'Neill and D.M. Horner, Eds. (London: George Allen and Unwin, 1981), 248-249.

based on the relative military value of strategic forces, but on the perceived political-strategic value of those forces.

The Early Years, 1944-1972

The need for an ability to defend against incoming missiles was first felt in 1944 when the Germans launched their V-2 rockets against Britain.¹⁰³ At the time technological limitations were such that no defence was possible. It would also seem reasonable to suggest that the limited threat posed by the V-2, and the subsequent end of World War Two, made the deployment of missile defence technology seem like an unnecessary diversion of scarce resources at a time when Western governments were under pressure to rebuild civil infrastructures and revive struggling European economies. This perception changed with the emergence of inter-continental ballistic missile (ICBM) technology in the 1950s. The launch of Sputnik I by the Soviet Union on 4 October 1957 demonstrated the ability of the Soviet Union to produce rocket systems capable of delivering nuclear weapons to targets in the United States, thus posing a direct threat to U.S. national security. This represented the first move in the direction towards strategic parity between the Soviet Union and the United States as it meant that American targets were as vulnerable to Soviet missiles as Soviet targets were to American missiles and long range bombers.¹⁰⁴

¹⁰³ Benson D. Adams, Ballistic Missile Defense, (New York: American Elsevier Publishing Company Inc., 1971), 17.

¹⁰⁴ It should be noted that both the Soviet Union and the United States took part in the development of ballistic missiles throughout the 1950s. The primary impetus for Soviet development was the inability of their bomber force to pose a credible threat to the United States, T.A. Heppenheimer, Countdown: A History of Space Flight, (New York: John Wiley and Sons Inc., 1997), 60-61.

Once the ability of Soviet missiles armed with nuclear warheads to reach the continental United States became a reality, efforts to develop a practical defence against ballistic missiles were intensified.¹⁰⁵ The unique characteristic of ICBMs encouraged the intensification of research and development into a functional ballistic missile defence system. This characteristic was their ability to be launched, transit along their ballistic flight path, and deliver their nuclear payload on target in under an hour. In addition to being a much faster way of delivering nuclear weapons to their targets than by conventional aircraft, ICBMs also posed the problem of being much more difficult to intercept with surface to air missile (SAM) systems and jet fighters. The basic contribution of ICBMs to the strategic relationship between the U.S. and the U.S.S.R. was that they dramatically increased the speed at which a major nuclear exchange could occur, and made defence against that attack much more difficult.

In an effort to address the threat posed by the speed at which an ICBM attack could be effected, several means of attempting to deal with ICBMs were developed. In addition to missile defence, these means include the development of anti-satellite (ASAT) weapons, which could target satellites on which weapons systems were dependent; satellite surveillance systems to provide information on the enemy's activities; and various arms control agreements to limit the development of offensive and defensive nuclear technology. In this last group particular attention was given to technologies that operated, or in some way related to systems that operated, in space.

¹⁰⁵ Adams notes that work was begun on Nike-Zeus, the first American BMD system concept, in 1956, only a few months before the first successful ICBM flight-test, 239.

In addition to technological responses to developments in the increasingly complex strategic relationship between the U.S. and the Soviet Union, attempts at arms control were also used in an effort to enhance the stability of Soviet-American relations.¹⁰⁶ Salkeld attributes the modest success of early attempts to employ arms control in the management of superpower relations during the Cold War to an erroneous assumption about the relationship between the possession and deployment of arms, and the causes of war. By assuming that arms proliferation necessarily would lead to the outbreak of war, early Cold War era theorists and arms control negotiators tended to emphasize non-proliferation to the exclusion of considerations of strategic stability.¹⁰⁷ Between 1946 and 1952 the Atomic Energy Commission and the Commission on Conventional Armaments accomplished very little in the way of nuclear arms control as a result of Soviet-American disagreement over inspection procedures and the development of norms for information exchange. In an effort to work more efficiently the two Commissions were amalgamated into the Disarmament Commission in 1952. However, little progress continued to be made.¹⁰⁸

One might assert that there was an association between this extremely ineffective period of arms control during the Cold War and the fact that the American policy of extended deterrence was crudely articulated and lacked

¹⁰⁶ Robert Salkeld has argued that the major arms control agreements following World War II were all based on the Geneva Disarmament Conference. Among these agreements he includes the 1959 Antarctic Treaty, 1963 Limited Nuclear Test Ban Treaty, 1967 Outer Space Treaty, and the 1970 Nuclear Non-Proliferation Treaty, all of which were efforts to discourage the proliferation of nuclear weapons and their introduction to previously weapon-free environments. Salkeld, War and Space, (New Jersey: Prentice-Hall Inc., 1970), xv.

¹⁰⁷ Leon Sloss, "The Strategists' Perspective" in Ballistic Missile Defence, Ashton Carter and David Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984.), 34.

¹⁰⁸ Salkeld, 16.

credibility, due to the fact that it was not based on the principles of mutual deterrence and conflict stability.¹⁰⁹ Once the Soviet Union had obtained a credible retaliatory strike capability, the American policy of massive retaliation was undermined by the lingering question of whether or not an American president would ever be willing to trade Washington or New York for Paris or London in a nuclear exchange. During this period, much of the emphasis in arms control was on disarmament, while the threat of massive retaliation was the core of the deterrence posture.

In February 1947 the British Government informed the U.S. State Department that it would no longer contribute funds to counter either the Communist threat to Turkey or Soviet funding of Communist insurgencies in Greece. On 12 March 1947 President Harry S Truman asked Congress for \$400 million in funds for military and economic aid to Turkey and Greece to compensate for the withdrawal of British funds. When the request was approved and Truman authorized the aid packages on 22 May, he issued a statement to the effect that Communist expansion would not be allowed to proceed unabated. This policy has come to be referred to as the Truman Doctrine.¹¹⁰ This was a significant development as the formal adoption of the policy of containment was the means by which direct confrontation between east and west was most likely to occur. For this reason the development of a sound policy of nuclear deterrence based on conflict stability and war avoidance was key.

¹⁰⁹ John Garnett, "Disarmament and Arms Control Since 1945" in Strategic Thought in the Nuclear Age, Lawrence Martin, Ed. (Baltimore: Johns Hopkins University Press, 1979), 187.

¹¹⁰ Stanley Hochman, and Eleanor Hochman, Dictionary of Contemporary American History, (New York: Signet, 1993), 524.

In keeping with the spirit of the Truman Doctrine, President Eisenhower's Secretary of State, John Foster Dulles, announced in January 1954 that any attempt by the Soviet Union to take aggressive action in an effort to further Communist expansion would be met by a massive U.S. nuclear retaliation.¹¹¹ The preponderance of American nuclear power over Soviet power and the ability to deliver warheads to designated targets made the initial adoption of the doctrine of massive retaliation feasible. However, this meant that there could be no correlation between arms control, strategic stability, and nuclear deterrence.¹¹² This was an acceptable state of affairs only as long as the Soviet Union lacked a credible retaliatory strike capability against the United States.

The launch of Sputnik I on 4 October 1957 was more than a propaganda victory for the U.S.S.R. as it gave the Soviets a means of delivering a significant number of strategic weapons against the Continental United States.¹¹³

Consequently, the space race and the arms race were in full swing within three

¹¹¹ Ibid, 311. The following month the USAF issued a recommendation for the development of a ballistic missile program. The plans were shelved, along with those for various other military space operations. This would mark the beginning of a long history of American reluctance to openly associate space exploration with military operations. Official U.S. space policy has long rested on the position that the only legitimate military use of space is in the areas of reconnaissance, communications, navigation, and weather. Salkeld, 131-132. In the same year the Air Force did manage to get one project off the ground. The WS-117L was the first dedicated military space program. WS-117L was a reconnaissance satellite that was first conceived at the end of World War Two, however work on the project proceeded very slowly until 1957. Paul B. Stares, *Space Weapons and U.S. Strategy: Origins and Development*, (London: Croom Helm, 1985), 22.

¹¹² Thomas Schelling, and Morton Halperin, *Strategy and Arms Control*. (New York: The Twentieth Century Fund, 1961), 2-3.

¹¹³ While President Eisenhower did not initially give the impression that he was too concerned about the implications of the Sputnik launch for strategic stability, the seriousness of the situation would soon be acknowledged. It is important to note that on 11 November 1957 the Democratic Advisory Council issued a policy statement that identified the control of space as being militarily important and the enhancement of Soviet space operations capability as being potentially destabilizing. Salkeld, 133-134.

months of the launch of Sputnik.¹¹⁴ It is important to note that during this time there was a great deal of inter-service rivalry within the American military for shares of the defence budget. As a result, all three branches were active in making proposals for the development of missile defence technology. However, the competition was most severe between the Army and the Air Force. The Army perspective on strategic issues in general was that U.S. national interests could best be served by the balanced acquisition of offensive and defensive strategic forces. By contrast, the Air Force philosophy was based on the belief that deterrence could best be maintained by the acquisition of a qualitative and quantitative offensive superiority.¹¹⁵ Clearly, neither position adequately accounted for the concept of strategic balance between forces, though one might argue that the army position came the closest by virtue of its support of balance within a given force structure. As Adams suggests, the Air Force position is somewhat conducive to arms racing as it favours the accumulation of offensive arms such as ICBMs in order to guarantee a second strike capability over taking steps to defend ICBM facilities against a counterforce first strike.¹¹⁶

On 9 January 1958 the Soviets made a formal request for a summit conference on nuclear weapons development and the expansion of the arms race. Three days later President Eisenhower responded by suggesting that a dialogue between the two nations ought to be based on the idea of the peaceful use of space. The Soviets interpreted the American response as an effort to negate their

¹¹⁴ Ibid, 122-123. Paul Stares notes that as a result of the Sputnik launch, the U.S. space program grew significantly between 1957-1960, 57.

¹¹⁵ Adams, 239.

¹¹⁶ Ibid, 240.

retaliatory strike capability, which was almost totally dependent upon ICBMs and space-based technology, as opposed to a long-range bomber delivery force.¹¹⁷

The Soviet Union in turn suggested that a solution needed to be reached that would provide an equal guarantee of security for both sides. Salkeld argues that, in an effort to achieve this, the Soviet Union would use the demilitarization of space as leverage in attempting to have American military bases in Europe, the Middle East, and North Africa shut down.¹¹⁸ In fact, the Soviet Union formally declared these objectives in the United Nations General Assembly on 12 November 1958 and at the Ten Nation Disarmament Conference on 4 April 1960.¹¹⁹ The primary Soviet concern with respect to the foreign basing strategy of the Americans was that shorter-range ballistic missiles launched from these sites in Europe provided an opportunity for the west to launch a quick decapitating strike. The Soviet position was that the placement of these missiles could threaten their ability to mount a substantial retaliation.

In the absence of a cogent understanding of the interoperability of arms control and deterrence, the superpowers attempted to manage their strategic relationship as best they could by responding to the influences of technological

¹¹⁷ At the time the Soviets were placing a great deal of stock in the potential effectiveness of the Orbital Bombardment System, which, in theory, would have enabled them to launch nuclear warheads from a space-based platform. Salkeld, 122. Later constraints on the weaponization of outer space established by the 1967 Outer Space Treaty would force the Soviet Union to reconceptualize their orbital bombardment program, resulting in the formal announcement of the Fractional Orbital Bombardment System (FOBS) in 1968.

¹¹⁸ *Ibid*, 122.

¹¹⁹ It is worth mentioning here that Salkeld pursues an interesting argument with regards to the use of space as a legitimate military theatre. Salkeld attempts to ascribe a military utility to nuclear weapons by suggesting that the weaponization of space may in fact contribute to strategic stability. He contends that since technological developments are making it increasingly difficult to ensure the mutual vulnerability of strategic systems on earth, and since space is the only environment vast enough to accommodate nuclear warfare, the development of space-based strategic systems is worth considering. Salkeld, 59-69.

innovation on the strategic environment. Adams contends that while the need for missile defence was generally acknowledged by the mid-1950s, it was less clear as to whether or not the deployment of a BMD system would enhance or degrade U.S. national security.¹²⁰ This ambiguity would even persist well into the 1960s when the emphasis of Cold War arms control turned to an effort to manage the delicate strategic relationship between the superpowers.

Missile Defence Development, 1957-1967

Adams divides the Cold War into two periods for the purpose of analyzing the development of the missile defence debate. The first is a period of non-deployment, from 1957 to 18 September 1967. The second is a period of ballistic missile defence deployment, beginning in September 1967. In order to appreciate the significance of the development of missile defence technology, policy, and the ABM Treaty itself, it is necessary to examine the broader strategic context in which the debate over deployment took place.

At the same time that the U.S. government was pushing for an agreement on the peaceful use of space it was simultaneously examining a joint BMD and ASAT program introduced by the Advanced Research Project Agency (ARPA).¹²¹ In 1956 work began on the first American BMD system, Nike-Zeus. In 1961-1962 Nike-Zeus was already demonstrated to be about 66 percent accurate.¹²² This respectable success rate caused supporters in Congress and in the military to push even harder for the system's deployment. However, all testing had been

¹²⁰ Adams, 239.

¹²¹ Although BMD systems have an ASAT capability, ASAT systems are not necessarily BMD capable. Consequently, the similarity of the technology and the fact that both may be used to

done under controlled range conditions, and deployment was further delayed due to a lack of confidence by some in the Defence Department of the system's ability to perform under realistic battle conditions. Thus the official policy developed by the Kennedy Administration was to continue to support BMD research and development, but not to authorize the deployment of any systems. It is also worth noting here that American BMD systems appeared not to concern the Soviet Union to any great extent at this time.

On 15 March 1962 Nikita Krushchev boldly announced that the Soviet Union had the ability to attack the United States from all angles with a space based orbital bombardment capability, and that American missile defence systems were a waste of money because they could not possibly provide an effective defence.¹²³ Of course, if the Soviet Union were really as confident about their strategic offensive capability as Krushchev made out, it seems strange that they would have also felt the need to make the bold move of placing IRBMs in Cuba. It is hard to imagine that Krushchev would have taken such a potentially antagonizing step against the United States if he didn't feel that it would enhance the Soviet offensive position to such a degree that the Americans would be forced to negotiate for their withdrawal. It is interesting to note that the announcement

degrade the ability of the enemy to destroy its targets warrants some discussion on this chapter, since both contributed to the broader context of the origins of strategic defence.

¹²² Ibid., 239-240

¹²³ The Soviets continued to raise the spectre of their Orbital Bombardment system throughout the 1960's. In November 1965 *Tass* confirmed that the three stage Soviet Scrag rocket was capable of delivering an orbital device. Then in 1967, two days before the signing of the Outer Space Treaty, the Soviets tested an orbital system that would reportedly provide only three minutes warning from launch to deorbit to detonation. Finally, in 1968, *Tass* confirmed that the SS-9 Scarp missile could be used in either an ICBM role or as part of the Fractional Orbital Bombardment System. Salkeld, 125-128. The development of FOBS was made necessary by Article IV of the 1967 Outer space Treaty, which prohibited the placement of weapons into earth orbit. FOBS

of the Soviet Orbital Bombardment capability, Krushchev's dismissal of American missile defence development, and American ASAT and BMD developments all coincided with the conception of the MIRV configuration for the Minuteman missile in 1962-63. By providing the ability to engage multiple hard targets with the launch of a single missile, the Americans made a significant change to their strategic relationship with the Soviets. The introduction of the counterforce targeting strategy would become a key issue in Cold War arms control and the ABM Treaty.¹²⁴

The actual debate over BMD deployment in the United States began in earnest in 1959, at which time Congress favoured deployment while the Eisenhower administration opposed it. In the following year the Army was pushing for deployment while Congress had switched over to the administration's point of view in deciding to delay deployment. In 1963 the U.S. Senate made a decision to freeze spending on Nike-Zeus pending a proposal to develop a newer and more effective Nike-X system. Supporters of the new system argued that Nike-X represented a significant technological development over Nike-Zeus. The latter used a Zeus rocket and was supported by multiple radar systems including forward acquisition radar, local acquisition radar, and missile tracking radar, as well as a target intercept computer.¹²⁵ The Nike-X system also used a much more sophisticated phased array radar system and added a short range or terminal defence capability by backing up the long range Zeus interceptor with the short

represented an attempt to get around this restriction by being designed to deorbit its warheads before the launch vehicle had completed a full earth orbit.

¹²⁴ Ronald L. Tammen, *MIRV and The Arms Race: An Interpretation of Defence Strategy*, (New York: Praeger Publishers, 1973), 99.

range Sprint interceptor rocket.¹²⁶ The system would therefore provide a layered defence capability and represented the birth of the “shoot-look-shoot” missile defence strategy. The term “shoot-look-shoot” refers to the ability to attempt an initial intercept at long range, track the continued trajectory of an incoming warhead that was missed by the long range interceptor, and attempt a terminal range intercept.¹²⁷

Interestingly, the development of the Nike-X system in 1963 coincided with American success in defeating a 1962 Soviet appeal to the UN to outlaw the surveillance of earth from space.¹²⁸ This was an ability that the Americans had developed to a far superior degree than the Soviets. As a result of this technological disparity the Soviets claimed that their national security was unfairly compromised. Not only did the Americans reject this proposal, but, by the fall of 1963 they had reached an agreement with the Soviet Union banning nuclear weapons from outer space.¹²⁹ This agreement was an important step towards addressing the concerns of those who believed that the Soviet Orbital Bombardment system was a significant threat to U.S. security.

In June 1958 ARPA introduced “Project Defender” and requested that the Air Force research and development Command initiate feasibility studies on

¹²⁵ Adams, 240.

¹²⁶ William Schneider Jr., “Missile Defense Systems: Past, Present, and Future” in Why ABM? Policy Issues in the Missile Defense Controversy, Holst and Schneider, Eds. (New York: Pergamon Press, 1969), 5-6.

¹²⁷ A terminal range intercept refers to an interception of the target warhead after it re-enters the earth’s atmosphere. This is also referred to as an endoatmospheric intercept. By contrast, an exoatmospheric intercept occurs in outer space, while the warhead is in the mid-course of its ballistic path.

¹²⁸ Stares, 59.

¹²⁹ Ibid, 90.

ASAT.¹³⁰ The project became so large that NASA was eventually brought in to support ARPA on ASAT and BMD research. The involvement of the civilian agency in defence research projects would be part of a long history of blurring the line between military and civilian space research and operations.

The first ASAT test occurred between March 1958 and October 1959. “Project Bold Orion” was originally conceived as an air launched BMD system, but was later adapted for an ASAT role, further testifying to the similarity of ASAT and BMD technology. In July 1962 ASAT tests were conducted on an island in the Pacific, and by 1963 plans were being made for the deployment of a ground based ASAT system using nuclear tipped missiles.¹³¹ President Johnson finally announced the development of an American ASAT capability in September 1964.¹³² The development of ASAT technology was intended to allay fears that a potential Soviet Orbital Bombardment capability placed the U.S. at a significant technological disadvantage.

Interestingly, Stares points out that even after the Soviets announced their Fractional Orbital Bombardment System (FOBS) in 1967, U.S. commitment to the development of a practical, functioning ASAT capability remained minimal.¹³³ Indeed, it seems clear that while money was being spent on a number of research and development programs, there was little direction provided from the government with regard to the military and political strategic utility of such a

¹³⁰ *Ibid.*, 107.

¹³¹ Stares notes that even the U.S. Navy submitted an ASAT proposal during this time, 108-109. He also makes note of the fact that concept work had begun on directed energy weapon ASAT systems, using laser light and microwave energy, as early as the early 1960's. Funding for ASAT programs was quite broad based between 1957-1968 with the Air Force and Navy committing funds for a number of different ASAT concepts, 111.

¹³² Salkeld, 147.

technology. The notion of the deployment of an ASAT capability at the time lacked a clearly defined concept of operations. The public declaration of the ASAT capability and the simultaneous minimization of resources to develop the program provide a good example of how much of the effort that went in to preserving strategic stability related more to the perceptions of threat and vulnerability than to actual threat or vulnerability.¹³⁴ Nevertheless, along with the development of various delivery systems for offensive weapons and BMD systems, ASAT technology formed an important part of the Cold War strategic environment in which arms control theory was developed and applied.

Although the political and economic commitment to ASAT development was relatively low, publicly ASAT represented the main focus and highest profile activity of United States military space operations related to strategic defence during the Cold War.¹³⁵ Stares has made note of how curious it is that the development of an ASAT capability did not encounter anywhere near the same amount of resistance as did missile defence technology, either from within the United States or from the Soviet Union. This in spite of the fact that both systems were designed to perform an identical function; that is, to prevent warheads from reaching their targets.

He suggests that perhaps the lack of objection to the development of ASAT technology has something to do with the fact that an arms race in space never really developed, as both sides pursued the development of different

¹³³ Stares, 93.

¹³⁴ Stares suggests that ASAT proposal may have been little more than a ploy to acquire funding for BMD systems through the back door. That both ASAT and BMD systems relied on similar

technologies.¹³⁶ Once again, the acceptance of such an interpretation would seem to imply that notions of strategic stability were based not on the real strategic value of certain systems, but on a perception of their strategic value, which was determined by the level of competition in their development and deployment between the superpowers. This thesis would seem to be supported by the fact that the U.S. was less compelled to address the issue of the reported development of a Soviet ASAT capability in 1968 than it was the issue of FOBS, which in fact represented a less significant threat to the strategic balance.¹³⁷

From Development to Deployment

In 1965 the Johnson Administration came under increasing pressure to deploy some form of the Nike-X system. To delay any longer would have provided political fodder for the Republican Party to use in the next election.¹³⁸ Simply put, the Democrats could not afford to be seen as doing nothing to protect the American public from a nuclear attack by the Soviets.

One of the reasons for delaying deployment of the Nike systems was attributable to the concern that deployment would antagonize the U.S.S.R. and threaten the emerging détente. Secretary of Defence McNamara was reportedly convinced that missile defence was a costly and ineffective affair that would likely encourage a build up of Soviet offensive arms, and cause an intensification of the arms race.¹³⁹ A primary consequence of this could be that the issue of

technologies, including missile interceptors, makes this a plausible theory. Indeed, a Nike-Zeus ASAT variant called MUDFLAP was developed in 1962. Stares, 118-119.

¹³⁵ Salkeld, 19.

¹³⁶ Stares, 20.

¹³⁷ Ibid, 105.

¹³⁸ Adams, 241.

¹³⁹ Ibid. 242.

armaments and strategic stability could become further politicized, and thus threaten any possibility of improving political relations between the two countries.

McNamara felt that the condition of the emerging *détente* in Europe meant that there was a reduced likelihood of Soviet-American conflict there.¹⁴⁰ This led him to believe that the arms race between the two countries was just beginning to slow down. His reluctance to deploy a robust, Soviet oriented BMD system was based on his desire to take advantage of the diplomatic gains that had been made and provide for American security by creating a diplomatic environment in which the use of nuclear weapons would never be a serious consideration, rather than one in which the possibility of their use necessitated the development of a defensive capability.¹⁴¹

One of the ways it was feared that BMD would threaten the emerging *détente* was that the Soviets might see American strategic missile defence as a threat to their own security. It was believed that this would cause the Soviets to view a pre-emptive first strike, before an effective missile defence system could be raised, as the surest means of preserving their own national security. However, this argument would seem to be particularly problematic given Krushchev's statement in 1962 that the U.S. was wasting its money on BMD systems that could pose no threat to Soviet Strategic capability. It is also a strange argument on the grounds that it seems to suggest that the Soviet Union would have willingly

¹⁴⁰ It should be noted that the term *détente* was not formally adopted until after 1968. Prior to this the Soviet concept of peaceful co-existence was the more common term of reference for the warming of relations between east and west.

¹⁴¹ Ibid, 242-243.

and intentionally initiated a nuclear holocaust to avoid being placed at a strategic disadvantage *if* the circumstances arose necessitating the use of nuclear weapons.

The suggestion that BMD deployment could be so destabilizing as to lead to a nuclear exchange is further undermined by the American reaction to Soviet BMD deployments, which occurred as early as 1966.¹⁴² The Americans concluded that no area defence system against ballistic missiles could realistically be expected to frustrate a concerted effort by either of the superpowers to saturate its enemy's territory with a high volume of nuclear warheads.¹⁴³ If Soviet deployment was not deemed a threat to U.S. security, it seems to be a bit of a stretch to assume that American deployment would have been interpreted as a threat to Soviet security. This realization by both American and Soviet strategic planners also undermines the rather fanciful argument, presented by Barnaby and Boserup, that a BMD capability might instill a false sense of security, resulting in a smaller incentive to persevere in diplomatic methods of conflict resolution.¹⁴⁴

The goal of the Johnson administration to avoid the deployment of a U.S. BMD system was to engage in the practice of unilateral arms control, while allowing the Soviets to deploy a BMD system as well as to build up their ICBM force. It was felt that these were necessary steps in helping the Soviet Union to achieve strategic parity with the U.S. and thus guaranteeing stability and the

¹⁴² Ibid, 242. Adams notes that the very deployment of Soviet BMD systems can be seen as an indication of the abject failure of the American attempts at unilateral arms control through its policy of non-deployment.

¹⁴³ Ernest J. Yanarella, The Missile Defense Controversy: Strategy, Technology, and Politics, 1955-1972, (Lexington: The University Press of Kentucky, 1977), 121.

¹⁴⁴ C.F. Barnaby, and A. Boserup, "The Implications of the Deployment of Anti-Ballistic Missile Systems" in Implications of Anti-Ballistic Missile Systems, Barnaby and Boserup, Eds. (New York: The Humanities Press, 1969), 213.

maintenance of the deterrent equation. However, Soviet weapons' development continued well beyond the level of strategic parity.

It seems clear that unilateral U.S. policy of exercising restraint in the deployment of BMD systems and in the use of space as a strategic environment in general was ineffective.¹⁴⁵ Salkeld notes that American efforts were not mirrored by the Soviet Union, as evidenced by the deployment of the Galosh missile defence system around Moscow in 1966.¹⁴⁶ He goes on to suggest that not only did the Soviet Union take advantage of voluntary American restraint, but that it forced the U.S. to divert resources to the costly war in Vietnam. Salkeld contends that through their modest investment in North Vietnam, the Soviet Union caused the U.S. army to become preoccupied in South-East Asia while they were free to focus on the development of their own strategic forces.¹⁴⁷ Adams maintains a similar position and suggests that perhaps the continued development of the Soviet strategic capability may be attributable to a failure on the part of the Soviet Union to comprehend the subtlety of the American gesture of unilateral restraint.¹⁴⁸

Another concern was that greater offensive capability would become the common response to BMD deployment, and cause an increase in the intensity of the arms race.¹⁴⁹ This is also a tenuous argument based on the fact that the

¹⁴⁵ Thomas Wolfe, The SALT Experience, (Cambridge, Mass.: Ballinger Publishing Company, 1979), 5.

¹⁴⁶ Salkeld, 158.

¹⁴⁷ Ibid, 160.

¹⁴⁸ Adams, 243.

¹⁴⁹ Kahn, p. 290. Michael E. Sherman, "Missile Defense and Non-Proliferation: Friends or Enemies?" in Why ABM? Policy Issues in the Missile Defense Controversy, Hoist and Schneider Eds. (New York: Pergamon Press, 1969), 213; Yanarella, 127-128. Barnaby and Boserup are also proponents of this position, 210-212.

immensity of the U.S. and Soviet strategic arsenals was such that any qualitative increase would have been irrelevant due to the redundant capability of these forces to inflict destruction. Sherman raises a valid point when he argues that conventions such as the NPT would in fact limit the extent to which deployment could spark a resurgence of the arms race.¹⁵⁰ Sherman even suggests that the sharing of BMD technology with non-nuclear signatories of the NPT could have a further stabilizing effect on international security.¹⁵¹ It is also worth mentioning, as Yanarella has, that the U.S. deployment of a BMD system designed to negate a counterforce attack could be interpreted as a sign of an American commitment to a policy of no first use.¹⁵²

The result of the various pressures placed on the Johnson Administration was the announcement of the deployment of Sentinel on 18 September, 1967 and the arrival of the period of deployment. Sentinel took advantage of developments in missile defence technology, including improvements to the Zeus rocket system, and using perimeter acquisition radar and missile site radar to guide long-range Spartan and short range Sprint interceptors to their targets.¹⁵³ It is also worth mentioning that on 3 November 1967, Secretary of Defence McNamara announced the deployment of Over the Horizon (OTH) radar systems, which would provide about fifteen minutes warning of the approach of any Soviet orbital

¹⁵⁰ Sherman, 208.

¹⁵¹ Ibid, 217; Charles M. Herzfeld, "Missile Defense: Can it Work?" in Why ABM? Policy Issues in the Missile Defense Controversy, Holst and Schneider, Eds. (New York: Pergamon Press, 1969), 36-40.

¹⁵² Yanarella, 136.

¹⁵³ Edward Luttwak, and Stuart Koehl, The Dictionary of Modern War, (New York: Harper Collins Publishers, 1991), 497.

bombardment satellite.¹⁵⁴ This is approximately the same amount of warning time that the Ballistic Missile Early Warning System (BMEWS) could provide for BMD systems against an ICBM attack. It seems clear that in the fall of 1967 the U.S. decision to deploy strategic defensive systems involved a comprehensive concept of the range of Soviet threats that needed to be addressed. However, McNamara was still concerned that the deployment of Sentinel would cause the Soviets to expand their own missile defence system.

The U.S. tried to avert these concerns in its deployment of the Sentinel system by identifying a light Chinese ICBM attack of no more than 50 missiles as the principle threat which Sentinel was intended to address.¹⁵⁵ In December 1965 evidence emerged that supported the thesis that China would become a significant ICBM threat by the mid-1970s. Sentinel was described as a light area defence system, emphasizing defence against a countervalue attack by its deployment around 25 major American cities. The thinness of the defence that Sentinel provided was another reason used to justify its deployment, as it could not be interpreted as a threat in any way to the strategic balance between the U.S. and U.S.S.R. Furthermore, it was felt that Sentinel would provide a useful defence against accidental launch and other ambiguous ICBM threats. This fact betrays the political motivation behind its deployment. Adams suggests that as a low-

¹⁵⁴ Salkeld, 150-151. The U.S. had established two ground based ASAT systems in the Pacific but had ceased testing them by 1970. By 1975 only one of the systems remained operational, but the potential for refurbishment and redeployment remained. Stares, 19.

¹⁵⁵ Adams, 241. It was anticipated that the Chinese would have a primitive ICBM capability by about 1975; Schneider, 7-8; Yanarella, 132.

cost, low-risk system capable of generating political capital, Sentinel was an obvious choice for early BMD deployment in the Johnson Administration.¹⁵⁶

While great pains were taken not to antagonize the Soviets with the deployment of Sentinel, Adams suggests that, in fact, the Sentinel deployment was a response to the continued build up of the Soviet strategic arsenal.¹⁵⁷ He argues that the failure of the American strategy of unilateral restraint had been made clear by 1966 and that the deployment of Sentinel gave the U.S. the ability of upgrading a fielded BMD capability to meet a Soviet threat, should that need emerge. According to Adams the deployment of Sentinel was a political compromise with four purposes.¹⁵⁸ The first was to take the issue of missile defence away from the Republican Party in the 1968 presidential campaign. The second was to undermine the committee hearings chaired by Senator Henry Jackson. Jackson was an outspoken critic of the numerous delays in the decision to deploy a BMD system in the U.S. The third reason for the deployment of Sentinel was to demonstrate that the U.S. had the capability of fielding a BMD system that could address a Soviet strategic threat should the need arise. Finally, Adams suggests that Sentinel was deployed in order to placate the Joint Chiefs of Staff, who had grown very disenchanted with McNamara's defence policy as a result of American involvement in the Vietnam War.

The decision to go ahead with the Sentinel program, however, was contingent upon justifying the abandonment of the Nike system that had been

¹⁵⁶ Adams, 245. Similarly Barnaby and Boserup acknowledge that any BMD deployment would likely be politically motivated and backed by a strategic rationale, 230; Yanarella, 140.

¹⁵⁷ Adams, 244.

¹⁵⁸ Ibid, 245.

invested in so heavily. This was accomplished in 1965 when it was announced that Nike-X would be shelved due to the fact that the Soviets might view it as potentially destabilizing. The “thin” defence capability represented by the Sentinel system provided the rationale for abandoning Nike-X in spite of the substantial financial investment that had been made in it. The length of time required for a Chinese ICBM threat against the U.S. to materialize meant that a Chinese oriented BMD system could be phased in gradually without antagonizing the Soviet Union.¹⁵⁹ Furthermore, it was believed that the delay provided by the amount of time the Chinese would require to acquire their ICBM capability would provide enough time to improve relations with the U.S.S.R. and assuage any concerns they might have about the deployment of a thin BMD system.

The limitations of early BMD tracking and guidance systems meant that direct impact intercept could not be relied on to destroy incoming warheads. Consequently, interceptors were also armed with nuclear warheads, which would detonate when the interceptor came within a certain proximity of an incoming warhead, and destroy it through radiation bombardment.¹⁶⁰ Not surprisingly, it was the American public that first expressed resistance to the deployment of these systems near large population centres. The concern was that the blinding flash of nuclear detonation outside of the atmosphere would have adverse effects on these populations.¹⁶¹ Given the lack of an alternative to nuclear tipped interceptors at the time, this line of reasoning appears to be more idealistic than practical as it

¹⁵⁹ Ibid., 241.

¹⁶⁰ Schneider, 3; Barnaby and Boserup, 224; Salkeld, 7.

fails to account for the adverse effects of the blinding flash, among other things, of a nuclear warhead detonated directly above an American city. Nevertheless, scientists and other participants with political motivations in the BMD debate adopted this line of argument and Sentinel was scrapped within 16 months.¹⁶² This public outcry against the deployment of Sentinel was later joined by academics and other professionals in the areas of defence and foreign policy, who argued that as a system designed to protect American cities, Sentinel could be seen by the Soviets as a threat to the credibility of their retaliatory strike capability.¹⁶³

One month after the Sentinel program was abandoned, a new deployment program entitled Safeguard was announced. Safeguard moved away from an emphasis on city, or area defence to one of point defence of hard targets, namely Minuteman ICBM silos. Furthermore, no effort was made to conceal the fact that Safeguard was not oriented towards a light Chinese threat, but was intended to guarantee a second strike capability by defending U.S. missiles from a Soviet counterforce first strike.¹⁶⁴ This reorientation of American BMD systems is associated with a change in the perceived role of missile defence from the Johnson Administration to the Nixon Administration. According to Adams, BMD became little more than a tool for providing the Americans with leverage in the

¹⁶¹ This position may be attributable to the general disenchantment of the American public with the military, which began to emerge in the 1960's in response to U.S. involvement in the Vietnam War. For Kahn this was an indication that the civil-military split was in fact growing, 289.

¹⁶² Adams, 246.

¹⁶³ Ibid, 245.

¹⁶⁴ Schneider, 9; Adams, 246; Barnaby and Boserup suggest that the cancellation of Sentinel and implementation of Safeguard was a result of the fact that the claim that the former was oriented against China was not credible. The authors site a lack of will and ability on the part of the Chinese to launch an ICBM attack against the U.S. as support for this position, 217.

SALT negotiations.¹⁶⁵ He posits that the deployment of Safeguard in defence of the deterrent forces was meant to send a message to the Soviet Union that first strike action would not ensure a Soviet victory, a message that Sentinel deployment may have been too subtle to convey. This would lead to the realization that arms control represented the best means of preserving the strategic balance and maintaining relative stability.

Credibility is offered to this hypothesis by the fact that Secretary of Defence Robert McNamara's announcement of the deployment of Sentinel on 18 September 1967 came just ten days after American overtures to engage in arms reduction talks with the Soviets failed to generate any interest.¹⁶⁶ Work began on the deployment of Safeguard in March, 1969 and completed in 1972. However, exactly one day after the Safeguard BMD site was brought "on-line" at Grand Forks, it was deactivated. The development of MIRV technology, and the ability of the U.S. to swamp Soviet BMD systems with incoming warheads, was provided as a technical and economic reason for abandoning Safeguard.¹⁶⁷ It seems strange to argue that the U.S. government would have invested as much into the development and deployment of Safeguard as it did, while at the same time developing an offensive capability that would make the defensive capability redundant. Even the meager foresight of government bureaucracy can not be used as an explanation for what seems to have been a huge blunder in strategic planning.

¹⁶⁵ Adams, 248-249. It is worth noting that as early as 1969 Herman Kahn and others suggested that BMD would have to be marketed as a tool for facilitating arms control in order to garner support for it, Kahn, 293; Sherman, 206.

¹⁶⁶ Yanarella, 138.

Deployment and the ABM Treaty

A more likely explanation would be that with the signing of the ABM Treaty on 26 May 1972, the U.S. no longer saw a need for an operational BMD system.¹⁶⁸ The ABM Treaty established and imposed qualitative and quantitative limits on the technology and deployment of missile defence systems.¹⁶⁹ Under the Treaty the U.S. and U.S.S.R. were limited to the use of ground-based interceptor and radar technology. Both sides were initially permitted to deploy BMD systems at two sites; however, this was later amended to one site in the 1974 Protocol, with 100 launchers and 100 interceptors at each site. Limits were also set on the number of radar systems that could be dedicated to each site, as well as to the proximity of those radars to their sites.

The origins of SALT go back to 21 January 1964 when Lyndon Johnson suggested a freeze on the procurement of both offensive and defensive weapons, as a follow on to the Limited Nuclear Test Ban Treaty. According to Wolfe, negotiations were initiated as a direct result of Johnson's instructions to Ambassador Llewellyn Thompson to begin making inquiries about Soviet interest in setting limits on BMD deployments in early 1967.¹⁷⁰ Wolfe also asserts that Johnson's instructions to Thompson were based on a suggestion made by Robert McNamara in December 1966 that the U.S. ought to pursue such negotiations in order to sidestep the seemingly inevitable decision to deploy a missile defence system.

¹⁶⁷ Luttwak and Koehl, 497.

¹⁶⁸ Ibid, 499.

¹⁶⁹ Ibid, 36.

¹⁷⁰ Wolfe, 1-2.

Talks were initiated early in 1967 between Chairman of the Soviet Council of Ministers, Alexei Kosygin, and President Johnson. This first set of negotiations revealed that the Soviets did have some interest in a joint limitation of offensive and defensive arms. However, the Johnson administration soon discovered that the Soviets were unwilling to make a serious commitment to substantive negotiations. As mentioned above, the Americans responded by announcing the deployment of Sentinel on 18 September 1967. By the following summer the U.S. announced both the deployment of Sentinel and the testing of the MIRV delivery system.¹⁷¹ These announcements would soon stimulate the emergence of a debate within the U.S.S.R. about the value of engaging in an arms control agreement with the U.S.

On 27 June 1968 the Soviet Union finally expressed interest in participating in a discussion on the matter. The first round of talks was to be announced on 21 August of that year. However, the Soviet invasion of Czechoslovakia on 20 August caused a delay. By the time circumstances were right to get the talks on track the presidency had changed hands and the incoming Nixon administration was not as sold on the notion of SALT as the Johnson administration was. Nixon took until 25 October 1969 to assess his SALT policy. Negotiations finally began in Helsinki on 17 November 1969. The result of the assessment of the Nixon administration was the view that SALT could be used effectively for the management of the power relationship between the U.S. and

¹⁷¹ Ibid, p. 2.

U.S.S.R., and that BMD and MIRV technology could be used as leverage in those negotiations.¹⁷²

In 1968 when it became clear that the U.S. would deploy a BMD system and develop a MIRV capability, the Soviet Union was encouraged to participate in meaningful negotiations. The delay in initiating negotiations provided just enough time for the development of BMD and MIRV technology to a point at which the Soviet Union deemed their security to be at risk by not cooperating in an agreement to limit strategic offensive and defensive arms. The ABM Treaty was finally signed by Richard Nixon and Leonid Brezhnev on 26 May 1972 and represented a statement to the effect that mutual relations between the two superpowers were to be conducted on the basis of peaceful co-existence.¹⁷³

However, in their negotiations the Soviet Union was most interested in stopping the deployment of the Safeguard system, which was far superior to Galosh.¹⁷⁴ In December 1970 the Soviets even suggested that negotiations should focus on an ABM agreement and set aside the discussion of an agreement on offensive arms for SALT II. The American negotiating team was opposed to this as its primary concern was the Soviet offensive build up and the threat represented by the SS-9 heavy ICBM program.¹⁷⁵ The formalized link between ABM and the Agreement on Offensive Arms was established on 20 May 1971.¹⁷⁶ Thus the premise of SALT I for the Americans was to cut off an increase in

¹⁷² *Ibid.*, 4.

¹⁷³ *Ibid.*, 8.

¹⁷⁴ *Ibid.*, 2.

¹⁷⁵ The SS-9 was considered a particularly acute threat because in a MIRV configuration it had the accuracy and destructive yield to take out hardened Minuteman sites in a disarming first strike. John Newhouse, Cold Dawn: The Story of SALT, (New York: Holt, Rinehart and Winston, 1973), 20.

Soviet offensive forces that would otherwise occur in response to BMD deployment. Many feel, however, that the lack of sufficient emphasis on the limitation of offensive forces in the forms of MIRV and SLBM weapons systems threatened to undermine the entire SALT regime and certainly brought the practical utility of the ABM treaty into question.¹⁷⁷

The ABM Treaty and Strategic Stability

Stevens has argued that support for the ABM treaty was based on expectations of how it would affect perceptions of the strategic balance between the Soviet Union and the United States.¹⁷⁸ He suggests that the central focus of all the arguments against BMD deployment was that the technology represented a form of hostile defence that degraded the effectiveness of the enemy's first strike and enhanced the retaliatory capability of the defender by preserving its strategic second strike forces. Conversely, if BMD were to be used in conjunction with a first strike, it would threaten the retaliatory capability of the enemy, as its strategic nuclear forces on the ground would have been targeted in a counterforce attack and those missiles that it could launch in retaliation would be shot down by the BMD system. As such, it was generally felt that BMD represented a fundamental threat to the integrity of the deterrent relationship between the United States and the Soviet Union.

The suspicion of the destabilizing character of BMD systems characterized the overall climate of the Treaty negotiations. Consequently, the

¹⁷⁶ Ibid, 26; Wolfe, 9-10.

¹⁷⁷ Ibid, 15-16.

¹⁷⁸ Sayre Stevens, "The Soviet BMD Program" in Ballistic Missile Defense, Ashton Carter and David Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 182.

purpose of the treaty was to prevent the development of a territorial defence capability against strategic attack. As Schneiter notes, the Treaty then goes on to make certain exceptions to these limitations, which makes an allowance for the deployment of a strictly limited BMD system that may be used as a balance against the enemy's strategic forces.¹⁷⁹

Perhaps the greatest problem with the Treaty is the fact that it was insufficiently specific in defining certain key terms. The definition of "ABM test mode" is one such definition.¹⁸⁰ The term is related to the concern that pre-existing SAM systems would be upgraded so that their interceptors and/or radars would be capable of targeting incoming ballistic missiles. The precise definitions of what an ABM system is, as well as what system development, which is provided for by a clause that allows for the modernization of existing components and the development, but not necessarily the deployment of new systems, are also a little ambiguous.¹⁸¹ Without a means of precisely defining the parameters of the Treaty even the most rigorous of verification mechanisms would be of very limited value. The degree of latitude in the interpretation of the Treaty provided by these ambiguities threatens its ability to satisfy its objectives and therefore threatens to undermine the relevancy of the entire SALT regime. As the crowning achievement in Cold War arms control efforts, the compromise of SALT could very well lead to a reconsideration of other Cold War era agreements such as the

¹⁷⁹ George Schneiter, "The ABM Treaty Today" in *Ballistic Missile Defense*, Ashton Carter and David Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 222.

¹⁸⁰ *Ibid*, 223.

¹⁸¹ *Ibid*, 228-229.

1967 Outer Space Treaty and other agreements relating to the limitation of strategic offensive arms.¹⁸²

As Stevens suggests, the credibility of the ABM Treaty is contingent upon the nature and degree of the development of Soviet strategic arms relative to the American arsenal.¹⁸³ However, it is important to realize that the actual military threat capabilities of the two countries were less important than the perceived political-strategic capabilities. The aforementioned failure of the American practice of unilateral arms control meant that while the U.S. was exercising restraint in the deployment of a BMD system in order to assist the Soviets in achieving strategic parity, the Soviets continued to build their offensive capability while simultaneously deploying the Galosh BMD system around Moscow. Thus the relevancy of the ABM treaty was contingent on the perception of the relative offensive and defensive capabilities of the U.S. and the U.S.S.R., and how they influenced the two countries' strategic relationship.

For this reason, the negotiation of the ABM Treaty and the Interim Agreement on Strategic Offensive Arms were inherently related to each other.¹⁸⁴ Wolfe contends that in addition to relying on the interdependence of offensive and defensive limitation, SALT requires a climate of détente in order to maintain its relevancy.¹⁸⁵ Wolfe writes,

agreements that may have helped to lubricate Soviet-American political relations at a given temporal juncture may not have served to satisfy perceived strategic needs.¹⁸⁶

¹⁸² Ibid, 244.

¹⁸³ Stevens, 183.

¹⁸⁴ Schneiter, 221.

¹⁸⁵ Wolfe, 243.

¹⁸⁶ Ibid, 244.

In so doing he acknowledges that a connection does not necessarily exist between the impact of arms control on the relative military capabilities of two countries and the role of arms control in influencing political relations between two countries. The ABM Treaty, therefore, represented a compromise between the American goal of strategic stability, which was based on the assumption of common values with the Soviet Union, and the Soviet Union's desire to protect their strategic gains and maintain their ability to remain competitive with the U.S.¹⁸⁷ Given the polarized nature of the American goal of stability and the Soviet goal of advantage it merely stands to reason that the ABM Treaty and the SALT regime in general could serve as little more than a symbol of the two countries willingness to submit to peaceful co-existence. As such it is necessary to question whether or not the ABM Treaty has remained an appropriate symbol for the purpose of characterizing U.S.-Soviet relations.

The subsequent signing of SALT II in Vienna on 18 June 1979 did not meet with Senate ratification. This resulted in a renewed attempt at arms control with the Strategic Arms Reduction Talks in 1981. One of the greatest stumbling blocks presented to the affirmation of START was the Soviet demand, and the U.S. reluctance, to prohibit the development of the Strategic Defence Initiative (SDI) program. Indeed, Schneiter argues that in practice the ABM Treaty and the START regime may not have had a significant impact in the character of either side's BMD forces.¹⁸⁸ However, by addressing the issues that pertained to the perception of stability, ABM and SALT served to strengthen bilateral relations in

¹⁸⁷ Ibid, 248.

the 1970s and represented a meaningful contribution to the détente that predominated that decade. As such it can be argued that arms control, at least for a limited time, did contribute to the condition of strategic stability between the superpowers.

Conclusion

The emergence of the debate over missile defence that occurred in the 1960s and continued through the 1970s revolved around the relationship between strategic stability and nuclear deterrence. Throughout this period the influence of Secretary of Defence Robert McNamara was particularly significant. Under McNamara, U.S. nuclear deterrence policy shifted emphasis from a crude doctrine of massive retaliation to one of mutual assured destruction and flexible response. This state of affairs contributed significantly to the stability of Soviet-American relations during the Cold War.

The introduction of BMD and MIRV technology to the strategic equation complicated matters somewhat. Prior to their introduction it was sufficient to ensure that both sides had the offensive capabilities necessary to satisfy the conditions of mutual deterrence. Strategic planners such as McNamara and his staff were faced with the challenge of balancing offensive and defensive strategic systems against each other, while still trying to maintain conflict stability.

The 1972 ABM Treaty was established as a means of placing quantitative and qualitative constraints on the development and deployment of strategic missile defence systems by both sides. It is important to bear in mind the fact that the ABM Treaty was one aspect of the broader SALT I agreement, which, in

¹⁸⁸ Ibid, 243.

theory, was also intended to place constraints on offensive strategic weapons. However, in practice, SALT I failed to establish substantial offensive limitations. As has already been discussed, Croft associates this failure to the larger phenomenon of a shift in the emphasis of arms control, in which agreements were pursued for their own sake and for the political capital that could be gained from them, rather than for the purpose of managing the strategic relationship between the United States and the Soviet Union. This represents the emergence of an emphasis on the narrow interpretation of arms control over that of the broad interpretation, that would also come to characterize the debate over the Strategic Defence Initiative in the 1980s.

Chapter Three

Arms Control in the 1980s: SDI and Strategic *Déjà Vu*

In a Presidential Address to the nation, entitled “Peace and National Security”, on 23 March 1983, Ronald Reagan concluded his remarks with a statement of his administration’s intent to take the necessary measures to alter American strategic doctrine from an offensive posture of assured destruction to a defensive posture of assured survivability.¹⁸⁹ In order to achieve this assured survivability capability, Reagan proposed the initiation research into the development of a sophisticated missile defence system, which could render nuclear weapons “impotent and obsolete.”¹⁹⁰ Though Reagan’s speech only made reference to strategic ballistic missiles, it implied a broader prerogative for the Strategic Defence Initiative (SDI). This implication was later reinforced by Casper Weinberger who later claimed that the administration was concerned with all strategic nuclear threats to the U.S.¹⁹¹ However, in the subsequent feasibility studies that were commissioned in the summer of 1983 emphasis was strictly placed on efforts to counter strategic ballistic missiles.

The assumption that SDI would be able to emasculate a Soviet first strike would become the basis of the argument that SDI proponents used in support of their claim that the system would facilitate a fundamental change in the way that

¹⁸⁹ Robert L. Pfaltzgraff Jr., “Space and Security” in International Security Dimensions of Space, Uri Ra’anana and Robert L. Pfaltzgraff Jr., Eds. (Harden, CT: Archon Books, 1984), 266.

¹⁹⁰ It is also worth noting that the development of the MX-Peacekeeper ICBM was an important corollary to SDI in terms of U.S. efforts to compel the Soviets to enter into serious negotiations regarding the reduction of strategic offensive arms. David Schwartz, “Assessing Future Prospects” in Ballistic Missile Defence, Ashton Carter and David Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 352-353.

stability was maintained in the U.S.-Soviet strategic relationship. It was also an important part of the rationale that opponents of SDI developed to support their argument that strategic defence would be a destabilizing factor in superpower relations. A notable exception to this general rule is Toomay, who cautiously asserted that, while there is no guarantee that SDI can be totally effective, it would be worthwhile to invest in R&D in order to make a proper determination of the proposed systems' feasibility.¹⁹² For Toomay, to kill SDI in intellectual debate would undercut the potential that technology may have to contribute to the management of strategic relations.

The overall significance of Reagan's speech was that it challenged the U.S. scientific community to develop missile defence technology to an unprecedented level that would allow for a change in U.S. nuclear security policy.¹⁹³ The announcement effectively implied a change from an offensively oriented policy of assured destruction, to a defensive policy of assured survival. In order to provide a rationale for such a dramatic move, Reagan invoked an old argument of missile defence advocates that tried to take advantage of the moral high ground. This was provided by the fact that the old doctrine of assured

¹⁹¹ Donald L. Hafner, "Assessing the President's Vision: The Fletcher, Miller and Hoffman Panels" in Weapons in Space, Franklin Long, Donald Hafner, and Jeffrey Boutwell, Eds. (New York: W.W. Norton and Company, 1986), 93.

¹⁹² John C. Toomay, "The Case for Ballistic Missile Defense" in Weapons in Space, Franklin Long, Donald Hafner, and Jeffrey Boutwell, Eds. (New York: W.W. Norton and Company, 1986), 236-237.

¹⁹³ Herbert F. York, "Nuclear Deterrence and the Military Uses of Space" in Weapons in Space, Franklin Long, Donald Hafner, and Jeffrey Boutwell, Eds. (New York: W.W. Norton and Company, 1986), 17.

destruction was one in which the citizens of the U.S. and the U.S.S.R. were held hostage by each side.¹⁹⁴

The debate over SDI in the 1980s was essentially a continuation of the debate over ballistic missile defence (BMD) that had occurred in the 1960s and 1970s. The debate itself continued to rest on the issues of mutual deterrence and strategic stability. As discussed below, the failure to account for the changes in the political environment in the late 1970s and early 1980s, which were brought on by the Soviet invasion of Afghanistan, the election of Ronald Reagan, and the end of détente, lent a dubious character to the debate over SDI. This fact, combined with the nature of the technology involved in SDI, served to bring attention to the significance of the difference between the narrow and broad interpretations of the ABM Treaty.

Proponents of SDI argued that the continued imbalance in strategic offensive arms in favour of the Soviet Union represented a substantial risk to U.S. national security interests due to the Soviet ability to make a massive and disarming counterforce first strike. This is the basis for the broad interpretation of the Treaty. By taking this position, supporters of SDI attempted to make use of Agreed Statement "D," which was a provision in the Treaty that called for discussions on the development and testing of system components for strategic defences based on Other Physical Principles (OPPs), but did not explicitly prohibit them. Technology such as high-energy lasers, microwave, and particle beams fall into the category of OPPs. They could be used in any number of capacities in strategic defence, from detection to tracking to intercept.

¹⁹⁴ *Ibid*, 27.

Advocates of SDI sought to bolster their position with the moral argument that it is fundamentally wrong for states to hold their citizenry hostage in a political confrontation, and the suggestion that cooperation in defensive procurement could encourage a resort to cuts in strategic offensive arms as a means of achieving a balance of forces.¹⁹⁵ As such, the argument in favour of SDI rested on the notion that a strategic defensive system could be developed and deployed and that it would provide near total protection against a massive first strike against strategic military targets.

This contrasts with the position taken by opponents of SDI, which represented the narrow interpretation of the Treaty. They tended to argue that the key to strategic stability was in arms control, through the pursuit of further offensive constraints under the Strategic Arms Reduction Talks (START) regime, rather than by delimiting strategic defences. It can be argued that they adhered to a narrow interpretation of arms control and the ABM Treaty in particular, in so far as they pushed for the negotiation of limitations that would restrict the development and deployment of system components based on OPPs. Opponents of SDI also made a specific point of recalling provisions from the 1967 Outer Space Treaty (OST), the ABM Treaty, and others, in order to prevent the deployment of space-based systems or components of systems. This brought about the important fact that the SDI debate raised the significance of the role of outer space in strategic defence to an even greater extent than the earlier debate over BMD did.

¹⁹⁵ Robert Bowman, Star Wars: A Defence Insiders Case Against the Strategic Defense Initiative, (Los Angeles: Jeremy P. Tarcher Inc., 1986), 71.

In the specific context of the ABM Treaty, the narrow vs. broad debate rested on the interpretation of Article V and Agreed Statement D, as they pertained to Article II. In an effort to simplify this arrangement some discussion of the details of the treaty is necessary.¹⁹⁶

Article II of the Treaty provides a working definition of ABM systems and their components. ABM systems are defined as those designed to “counter strategic ballistic missiles or their elements in flight trajectory.” System components defined by Article II are limited to ABM interceptor missiles, ABM launchers, and ABM radars. It is particularly significant that reference to ABM interceptors is exclusively limited to “interceptor missiles,” and, furthermore, that ABM launchers are defined as “launchers constructed and deployed for launching ABM interceptor missiles.” Article V of the Treaty expressly prohibits the development, testing, and deployment of “ABM systems or components which are sea-based, air-based, space-based, or mobile land-based.” Agreed Statement D establishes that, in the event that

ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles, ABM launchers, or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty.

Those who adhere to a narrow interpretation of the ABM Treaty argue that Article V of the Treaty clearly prohibits the development and deployment of space-based strategic missile defence capabilities. They further suggest that

¹⁹⁶ For greater detail as to the contents of the Treaty than is provided immediately below, consult the attached appendices I and II.

Agreed Statement D specifies that systems or components based on other physical principles that are developed in the future must be subject to limitation under the terms of the Treaty. However, those who adhere to the broad interpretation of the Treaty argue that Agreed Statement D merely requires that both parties enter into discussions on the limitation of systems or components based on other physical principles, should they emerge in the future. They do not cede the point, however, that those discussions must result in the limitation of such systems.

By examining the context of the debate over SDI, this chapter demonstrates that in the 1980s strategic doctrine and arms control continued to be a function of the perceptions of threat from the political perspective, rather than from a practical military analysis of actual threats. This fact will be made clear through a critique of the arguments for and against the development and deployment of a space-based missile defence system or components thereof.

The Genesis of Star Wars: SDI and the Revival of the Missile Defence Debate

In an effort to ensure that the SALT I regime would achieve a balanced control over both offensive and defensive weapons systems, the U.S. delegation issued Unilateral Statement A of the ABM Treaty on 9 May 1972. The Statement declared that the American delegation wished to emphasize the importance of “achieving agreement on more complete limitations on strategic offensive arms, following an agreement on an ABM Treaty and on an Agreement on certain measures with respect to the limitation of strategic offensive arms.” The Statement goes on to indicate that the Soviet delegation expressed similar beliefs and aspirations during the course of negotiations. As such, the American

delegation declared: “[i]f an agreement providing for more complete strategic offensive arms limitations were not achieved within five years, U.S. supreme interests could be jeopardized.” In doing so, the U.S. delegation effectively inserted an “or else” clause into the SALT agreement, which established the legitimacy of a previously declared means by which it could release the United States from its Treaty obligations.

The greatest problem with SALT I was that it both prevented the U.S. from acquiring the means to provide adequate protection for its own ICBMs through the construction of more elaborate defences, and it failed to place constraints on the Soviet offensive force.¹⁹⁷ That no effort was made to redeploy Safeguard in spite of this overwhelming failure is testimony to the fact by the mid to late 1970s arms control in the United States was dominated by those who took the narrow view, preferring limitations for their own sake rather than keeping the broader issue of strategic stability in mind.

In fact the weakness of the argument in favour of the narrow interpretation of arms control is also made evident in SALT II. Negotiations on SALT II began in November 1972 in accordance with Article VII of the Interim Agreement on the Limitation of Strategic Offensive Arms. The purpose of SALT II was to establish a long term agreement creating equal numbers of strategic delivery vehicles between the United States and the Soviet Union, and imposing certain qualitative restrictions in an effort to guarantee future strategic stability. The proposed agreement pertained specifically to ICBMs, SLBMs, heavy bombers,

¹⁹⁷ Pfaltzgraff, Robert L. Jr., “Space and Security” in International Security Dimensions of Space, Uri Ra’anan and Robert L. Pfaltzgraff Jr., Eds. (Handen, CT: Archon Books, 1984), 266-267.

and MIRV technology. What made SALT II so impractical was that it pretended that qualitative and quantitative parity between the two superpowers strategic offensive forces were the only factors relevant to the maintenance of strategic stability. In fact, strategic stability was a function of the relative relationships between offensive capability, strategic targeting requirements, and the defensive capabilities, both active and passive, of both sides. To suggest that by imposing aggregate limits of 2400 ICBMs, SLBMs, and heavy bombers, and 1320 MIRVs, SALT II could promote strategic stability is absurd. Such a strategy towards arms control does not account for divergences in the number of targets that each side might need to engage in order to represent a sufficient credible deterrent threat. Nor does it account for the kind of targets that would need to be engaged, which in and of itself has some bearing on the kind and quantity of warheads and delivery vehicles that would have to be tasked for them. It is true that both sides had completed strategic target assessments prior to negotiations, and may have even shared some of this information with each other. However, the emphasis on numerical parity leads one to wonder what the relationship was between the force levels proposed in SALT II and the actual deterrent requirements of Soviet and American Strategic offensive forces.

By October 1977 no new agreement had been reached and negotiations for the SALT II program were proceeding very slowly. Thus the previously declared grounds for the U.S. repudiation of the Treaty had been met.¹⁹⁸ In spite of this, the United States under President Jimmy Carter declined either to abandon the

¹⁹⁸ Keith B. Payne, "Introduction and Overview of Policy Issues" in Laser Weapons in Space: Policy and Doctrine, Keith B. Payne, Ed. (Boulder: Westview Press, 1983), 12-13.

ABM Treaty or to redeploy Safeguard or any other missile defence system.

Though the SALT II agreement was signed in Vienna on 18 June 1979, it was withdrawn from Senate consideration. President Carter requested this action on 3 January 1980 in response to the Soviet invasion of Afghanistan. The failure to establish more complete controls over strategic offensive arms under the SALT regime resulted in a renewed attempt at arms control with the Strategic Arms Reduction Treaty (START). Obstructions to the negotiation and implementation of START would also present themselves. One of the principal impediments was the Soviet demand, and the US reluctance, to prohibit the development of the Strategic Defense Initiative (SDI) program.

On 20 August 1981 the Soviets introduced a Draft Treaty on the prohibition of the stationing of weapons of any kind in outer space to the United Nations General Assembly.¹⁹⁹ The Soviet proposal called for a general ban on the positioning of all weapons, including those using conventional high explosives and systems based on OPPs such as lasers and particle beams, in space. The proposal was a result of Soviet concerns over improvements in American ASAT capabilities. Talks over the Soviet proposal soon broke down however when the Soviet Union insisted on including the space shuttle as a potential ASAT weapon platform.²⁰⁰ At the UNGA meeting in November 1981 several Western European

¹⁹⁹ Hafner, Donald L., "Assessing the President's Vision: The Fletcher, Miller and Hoffman Panels" in *Weapons in Space*, Franklin Long, Donald Hafner, and Jeffrey Boutwell, Eds. (New York: W.W. Norton and Company, 1986), 85.

²⁰⁰ This was particularly problematic for the Americans as article 3 of the Soviet proposal allowed for the destruction of non-compliant systems. Hafner, 89. According to O. V. Bogdanov, the Soviets were simply seeking an agreement from the Americans that would prevent the shuttle, or any reusable launch vehicle, from carrying weapons of any kind. He suggests that by proposing the Draft Treaty the Soviets were attempting to head off an impending arms race in space that would be difficult to control once it had begun. Bogdanov, "Banning All Weapons in Outer

countries suggested that the agenda of the spring 1982 session include discussions geared towards preventing an arms race in space and prohibiting ASAT development. The Soviet Union responded by issuing a counter proposal of a discussion on a general ban on weapons in outer space. While both the American and Soviet proposals for the agenda of the spring session of the UNGA in 1982 were passed, there was little hope that the discussions would lead to an agreement of any substance. From the outset the Americans called the Soviet position hypocritical since the Soviets themselves had an ASAT capability already deployed. The Americans also brought attention to the fact that the Soviets had a long history of trying to deploy various weapon systems in space, including the 1981 docking of the Cosmos 1267 to the Salyut 6 space station.²⁰¹

Some opponents of SDI argued that the Reagan administration was attempting to solve a political problem with technical means. York notes that there is a long history of states making security problems worse by relying on technological innovation to provide a solution to political problems.²⁰² Others, such as Tirman, took the position that because all systems would be “less than perfect,” SDI could not hope to fulfill the mission described in President Reagan’s speech.²⁰³

Space” in Outer Space – A New Dimension of the Arms Race, Bhupendra Jasani, Ed. (SIPRI, 1982), 327-328.

²⁰¹ The Americans claimed that Cosmos 1267 carried several miniature homing vehicles aboard, designed to perform an anti-space craft role. Hafner, “Assessing the President’s Vision”, 86-87.

²⁰² According to York, a linear progression of technological developments that only served to further complicate inter-state relations can be traced from the origins of air power, to air defence and nuclear weapons, to ballistic missiles, to BMD and MIRV technology, to improvements in the accuracy of strategic offensive systems leading to a significant counterforce first strike capability. 30.

²⁰³ John Tirman, “The Politics of Star Wars” in Empty Promise: The Growing Case Against Star Wars, John Tirman, Ed. (Boston: Beacon Press, 1986), 33.

In 1980 Secretary of Defense Harold Brown had already announced publicly that the U.S. ICBM force was on the verge of vulnerability to a massive Soviet first strike. According to Gray this trend was recognized as early as 1974, when the DoD issued National Security Decision Memorandum 242, which called for a move from a countervalue targeting strategy, which emphasized the targeting of soft targets such as cities, towards a counterforce strategy that made room for more limited strike options.²⁰⁴ Thus the groundwork for a shift in U.S. strategic doctrine had been laid long before Reagan came to power.

Payne has argued that the Soviet offensive build up was taken as a sign that the Soviet Union was unconcerned about the concept of crisis stability and that it fostered the idea that the U.S.'s first priority needed to shift towards a concept of force survivability.²⁰⁵ According to Payne's argument, the Soviet Union employed a counterforce targeting strategy. Given such an emphasis, he suggests that the assured survivability of a given number of American strategic offensive forces would negate any Soviet temptation for pre-emptive attack, as the United States would be guaranteed to have the ability to counter attack.

Kirkpatrick claimed that a return to an emphasis on strategic defence and the deployment of a space-based system was inevitable.²⁰⁶ For Kirkpatrick, BMD provided an opportunity to make a rare shift in the national security policy of the

²⁰⁴ Colin Gray, "The Strategic Nuclear Policy of the Reagan Administration: Trends, Problems, and the Potential Relevance of Space Based Laser Weapons" in Laser Weapons in Space: Policy and Doctrine, Keith B. Payne, Ed. (Boulder: Westview Press, 1983), 217.

²⁰⁵ Payne, 6; Wallace E. Kirkpatrick, "Space and ICBM Defence: U.S. and Soviet Programs, With Special Emphasis on Boost Phase and Midcourse Ballistic Missile Defence" in International Security Dimensions of Space, Uri Ra'anana and Robert Pfaltzgraff Jr., Eds. (Hamden, CT: Archon Books, 1984), 59.

superpowers. He believed that by reducing the value of offensive nuclear weapons, such a system would “contribute to a rational” for reducing the size of nuclear arsenals. Clearly this stands in absolute opposition to the claim made by opponents of BMD, that a defensive emphasis only encourages offensive proliferation in order to compensate.²⁰⁷ In stating that BMD has the ability to reduce the value of offensive weapons Kirkpatrick makes the assumption that such a system could be developed and deployed, that would provide a sufficiently robust defence as to guarantee the survival of a retaliatory strike capability, even after a massive first strike.

Schneider makes a similar contention when he says that the Soviet Union’s ICBM capability caused the notion of strategic defence to be overshadowed by the concept of strategic deterrence in the Soviet Union.²⁰⁸ He goes on to repeat the claim that SDI was a response based on moral grounds, to the fact that the citizens of nuclear states are “at the front” so to speak, and are only about 30 minutes away from total annihilation during a time of crisis. Schneider maintains that even if SDI proves to be incapable of providing the citizens of a given country with a leak proof umbrella against nuclear attack, it can protect a country’s retaliatory forces and its command, control, and communications (C³) capabilities. In so doing, he argues, SDI has the potential to promote deterrence stability.²⁰⁹ While Schneider’s analysis appears to be fairly

²⁰⁶ Ibid, 69.

²⁰⁷ Tirman, 31-32.

²⁰⁸ Barry R. Schneider, “Space Based Lasers and the Evolution of Strategic Thought” in Laser Weapons in Space: Policy and Doctrine, Keith B. Payne, Ed., (Boulder: Westview Press, 1983), 182.

²⁰⁹ Schneider acknowledges that, in reality technological problems severely limit the influence that a space-based laser missile defence system may have on the force structure and strategic doctrine

logical, such a strategy only enhances deterrence when the side deploying the defensive system would otherwise be at a strategic disadvantage in offensive arms. Where one side has an offensive advantage or where rough parity exists, the deployment of a comprehensive, near leak proof system would only serve to unbalance further the strategic relationship.

It is important to remember that the emphasis of SDI was in providing a credible hard target defence, which would enhance the security of citizens living in and around soft target areas through its contribution to deterrence stability. Payne suggests that the deployment of BMD forces in defence of cities would have represented a serious misallocation of resources since the Soviet Union was unconcerned with the vulnerability of American cities.²¹⁰ Given the unique strategic advantage that they enjoyed at the time, the Soviet Union was more interested in the vulnerability of American strategic offensive forces. By combining a quantitative advantage in offensive forces with a counterforce targeting strategy against unprotected American forces the Soviet Union was able to tilt the strategic balance slightly in its favour, just as the American had in the 1950s and early 1960s.²¹¹ Therefore, the key to maintaining a credible deterrent threat in the face of a Soviet strategic advantage was to improve the survivability of U.S. strategic forces rather than to maintain societal vulnerability. According to Payne, a comprehensive missile defence capability for American ICBMs represented the only way to achieve the ultimate goal of arms control: the

of either superpower, 183-184. See also; P.J. Nahin, "Orbital BMD and the Space Patrol" in Outer Space – A New Dimension of the Arms Race, Bhupendra Jasani, Ed. (SIPRI, 1982), 243; Gray, "The Strategic Nuclear Policy of the Reagan Administration", 218.

²¹⁰ Payne, 7.

avoidance of war.²¹² Once again, the argument in favour of SDI assumes a near total defence capability.

Some proponents of missile defence suggested that a BMD system that integrated the use of a space-based laser would contribute to deterrence stability not by its actual defence capability *per se*, but by its ability to induce the Soviet Union to return to the negotiating table by threatening the credibility of its first strike capability. Reference was made to systems such as Sentinel, which historically encouraged the Soviets to negotiate an arms control agreement by threatening their counterforce capabilities.²¹³ That this was such an effective strategy is interpreted as being indicative of the fact that Soviet strategic doctrine was based on an assessment of its ability to fight and win a war against NATO forces, from limited conventional to full scale nuclear conflict. Counterforce targeting and the ability to wipe out a significant number of American strategic ballistic missile forces to degrade seriously its retaliatory capability were essential elements of this doctrine. While this was the Soviet strategy, this model of the way SDI could contribute to stability also assumes a very high level of technological capability. It is one of the curious characteristics of the missile defence debate from the late 1960s to the 1980s, that elements both within the Soviet Union and the United States continued to make this assumption, and moreover, it seems to have actually had some influence in getting both sides to engage in arms control negotiations.

²¹¹ Bowman, 71.

²¹² Payne, 1.

²¹³ *Ibid*, 8-9.

Some advocates of SDI, such as Nahin, have even argued that by moving war into outer space, life on earth might become inherently safer. This argument is based on the observation that most targets in “space war” would be property intensive, rather than human.²¹⁴ Opponents of this position argue that a “clean” war in space might undermine deterrence by being too tempting to resist. The idea that space war could enhance stability also ignores the extremely high probability that it would be impossible to contain hostilities in outer space, and that at some point they would be redirected towards terrestrial targets.

Payne suggests that because space-based components of an SDI system would be particularly vulnerable to ASAT technology, such a system would appear fairly high on the target priority list of the Soviet Union.²¹⁵ In essence he suggests that by inserting SDI as a priority on the Soviet target list, which would be done to maximize Soviet offensive potential, the U.S. could reduce the feasibility of a surprise Soviet attack. This once again assumes that the Soviet Union would deem the SDI system to represent a sufficient threat to its offensive capability to warrant that it be targeted and degraded prior to a massive ICBM launch.

As Tirman notes, a space weapons regime could lead to nuclear war rather than to better deterrence due to the complexity of the interdependence of space-

²¹⁴ Nahin, 241-242.

²¹⁵ Payne, 5. Colonel Charles Heimach proposed a similar, though costly and impractical, solution to the vulnerability of American space assets. He suggested that the U.S. could place so many satellites in orbit that the Soviet’s could not possible target enough of them to make a difference in American warfighting capability. While this approach could, in theory, work, it would surely prove to be prohibitively expensive. Thomas Karas, The New High Ground: Systems and Weapons of Space Aged War, (New York: Simon and Schuster, 1983), 168. It is however important to note that some advocates argued that SDI could be interpreted as a means of building a winnable economic rivalry with the Soviet Union for the United States, Tirman, 30.

based systems and national security requirements on earth.²¹⁶ The emergence of the difficult question of the “control of space” also emerges when one begins to consider the implications of establishing a military space regime. The problems pertaining to the notion of sovereignty and national security that are associated with the idea of the control of space would almost certainly have been sufficient to degrade seriously relations between the U.S. and the Soviet Union had it been tabled for open discussion as part of the SDI debate.

Bowman has argued that proposed SDI systems are not comprised of weapons systems that are strictly defensive in nature, as are Anti Aircraft guns and shore batteries. Instead, he claims that space-based weapons could potentially be directed against terrestrial targets in an offensive mode.²¹⁷ Such a capability provides a likely transition from “Star Wars” to ground wars.

It is also clear that space war could hopelessly complicate the debate over which types of weapons are and are not permitted for deployment. As Goedhuis suggests, one such example would involve a reinterpretation of the definition of weapons of mass destruction. After all, when employed in an ASAT role for example, it might be argued that weapons are incapable of “destroying masses,” thus creating a whole new area of debate.²¹⁸ The challenges faced by both the U.S. and the Soviet Union in maintaining a workable level of strategic stability were severe enough without complicating them any further by indulging in this kind of adventurism.

²¹⁶ Ibid, 126-127.

²¹⁷ Significantly, Bowman was the Director of the USAF SDI program between 1976-1978, 73.

Some opponents of SDI claimed that a comprehensive defensive capability would lead to crisis instability as described by the theory of reciprocal fears of preemption.²¹⁹ According to this theory, the possession of a substantial counterforce first strike capability as well as a comprehensive SDI capability by the U.S. would encourage the U.S. to make a preemptive first strike if it felt it could win a nuclear war against the Soviets. This capability would, in turn, compel the Soviet Union to preempt the Americans with an attack of their own. Payne correctly dismisses these arguments as untenable since they assume, first, that the Soviet Union would be fearful of the offensive capability of the Americans to degrade seriously its own retaliatory capability and, second, that the Soviet Union's first strike would be capable of neutralizing U.S. forces.²²⁰ This second assumption seems particularly contradictory to the theory of reciprocal fears of preemption as it implies that the American SDI system would not pose a serious threat to the ability of Soviet strategic forces to reach their targets.

In his criticism of SDI, Karas has argued that, in fact, both active and passive defences jeopardize MAD by limiting the "assured destruction" capability that the other side relies on as a deterrent threat. According to Karas, "The psychology of the balance of terror has made it more and more difficult for

²¹⁸ D. Goedhuis, "What Additional Arms Control Measures Related to Outer Space Could be Proposed" in *Outer Space – A New Dimension of the Arms Race*, Bhupendra Jasani, Ed. (SIPRI, 1982), 308.

²¹⁹ Payne, 1; George Rathjens, and Jack Ruina, "BMD and Strategic Stability" in *Weapons in Space*, Franklin Long, Donald Hafner, and Jeffrey Boutwell, Eds. (New York: W.W. Norton and Company, 1986), 252.

²²⁰ Payne also notes that, during the early 1980's the United States had, at best, a limited counterforce strike capability, able to destroy only about 30% of Soviet SS-17's, SS-18's, and SS-19's, and that an SDI system could not reasonably be expected to destroy all of the remaining 70%, 3-5.

democracies to accept the risks of employing force at any level.”²²¹ Karas’ argument is weakened by two assumptions. The first is that a balance in strategic offensive capability already exists. In making this assumption Karas forgets that SDI was a response to that imbalance in the first place. Second, he assumes that the defensive capability will be technologically capable of threatening the enemy’s assured destruction capability.

Others, such as Garthoff, suggest that rather than pursuing a doctrine based on strategic defence, national security would be better served by making an effort to improve political relations and encourage more discussions on arms control, perhaps even the joint development of a BMD system.²²² This position can be associated with the above-mentioned argument that those who support SDI are essentially trying to solve a political problem by purely technical means.²²³ What both arguments miss is the fact that if diplomatic negotiations or other political means were effective in managing the relationship between the superpowers in the first place, neither side would ever perceive the need to resort to a defensive strategic doctrine to ensure its own security or to compel the other side to negotiate.

Schneiter also made this assumption when he argued that, in the absence of the ABM Treaty, which would almost certainly be dissolved if a comprehensive SDI system were developed and deployed, it would be much more

²²¹ Thomas Karas, The New High Ground: Systems and Weapons of Space Aged War, (New York: Simon and Schuster, 1983), 189; Peter Clausen, “Transition Improbable: Arms Control and SDI” in Empty Promise: The Growing Case Against Star Wars, John Tirman, Ed. (Boston: Beacon Press, 1986), 198-199.

²²² Raymond L. Garthoff, “BMD and East-West Relations” in Ballistic Missile Defense, Ashton Carter and David Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 328-329. See also, Clausen, 201.

difficult to place constraints on strategic offensive arms.²²⁴ By now it should be quite clear that the assumption that SDI would provide a near leak proof defence against nuclear attack is a common one made by those who argue that it would be a severely destabilizing element in U.S.-Soviet strategic relations. The importance of the distinction between the perception of SDI as a virtually leak proof umbrella against nuclear attack and the reality of SDI as a comprehensive, layered missile defence program, which, though very effective, could not provide adequate protection against a concerted nuclear attack, can not be overstated. All arguments for and against development and deployment rest to one degree or another on the way SDI has been commonly perceived, rather than on what was, and is, technically feasible.

In spite of the fact that the grounds for American abrogation of the Treaty had been established in 1977, no mention was made in the Treaty Reviews of November, 1977 and December, 1982 of any intentions to revise or withdraw from the Treaty. In fact both the United States and the Soviet Union reaffirmed their commitment to the ABM Treaty, even though an imbalance in strategic offensive arms existed and the prospects for reaching an agreement to resolve the problem were few and far between. Equally significant is the fact that, throughout this period, the Soviet Union continued its pursuit of strategic offensive advantage, while President Reagan continued to stand behind his statement of intent to develop and deploy an SDI system. Clearly, during this

²²³ Karas, 192.

²²⁴ Schneiter, 244.

period an obvious need to amend, if not dissolve, the ABM Treaty in order to support American strategic policy objectives existed.

Jones has argued that the reason space-based systems were not a big part of the Treaty Review in 1982, is that they were seen as “far future” systems not likely to impact heavily on strategic relations between the superpowers.²²⁵

However, given that Reagan delivered his famous speech in March 1983, it seems likely that some in his administration would have been considering this technology in December, 1982. Jones also suggests that the fact that the Soviet Union had a “relatively near term” space-based laser missile defence capability meant that the Americans chose not to table the issue of removing constraints on such systems until they could further develop their own.²²⁶ Assuming the Americans did in fact suspect the Soviets of being close to developing a Star Wars type capability, this hypothesis might hold up. However, given that the Soviet Union was placing an emphasis on the development of its offensive capability and that Reagan announced his SDI plan within three months of the Treaty Review, this too seems unlikely.

Technical Considerations in the Strategic Defence Initiative

Initial responsibility for intensive research and development on SDI was given to a group headed by James Fletcher called the Defense Technology Study Team (DTST); one of three groups initially asked to conduct a feasibility study on

²²⁵ Alan M. Jones Jr., “Implications of Arms Control Agreements and Negotiations for Space Based BMD Lasers” in *Laser Weapons in Space: Policy and Doctrine*, Keith B. Payne, Ed. (Boulder: Westview Press, 1983), 71-72. See also; Goedhuis, 306; Karas, 175.

²²⁶ Thomas Karas has argued that resistance to the development of new arms control agreements pertaining to space was partially attributable to a concern within the U.S. space community, that with an agreement in place, Congress would assume Soviet compliance and decide not to support funding for measures that would ensure the survivability of American space assets, 174.

SDI in the Summer of 1983. Franklin Miller headed a second inter-agency group whose feasibility report was the only one that was not declassified.²²⁷ The third study was done by Fred Hoffman's Future Security Strategy Study Team, whose declassified report was only slightly shorter than the classified version at twelve pages in length. While the contents of the Miller report are unknown, it seems clear that the report provided the Reagan administration what it needed to proceed with the vigorous research and development of SDI. Interestingly, while the Fletcher and Hoffman reports do not dismiss the possibility of developing such a system, neither do they suggest that success would be likely.

Hafner has suggested that the reports were carefully worded so as not to embarrass the President by declaring that his great hope for future peace and stability was a technological impossibility.²²⁸ In order to accomplish this, the Fletcher report devised a conceptual outline of a multi-tiered defence system capable of boost phase intercept (BPI), mid-course intercept, and terminal phase intercept.²²⁹ As Hafner points out however, the report makes proficient use of evasive language such as "meaningful levels of defense" in reference to mid-

²²⁷ According to Hafner, responsibility for making SDI happen eventually went to the Miller group as the other two were disbanded after the summer of 1983, "Assessing the President's Vision", 96.

²²⁸ *Ibid.*, 93.

²²⁹ Boost Phase Intercept refers to the destruction of the missile in that portion of its flight, which occurs at and immediately after launch. During this period the primary rocket, or booster, will fire for between three to six minutes for ICBM's and two to three minutes for SLBM's, providing the missile with the necessary thrust to begin its flight. Mid-course intercept occurs as the missile traverses the middle part of its ballistic flight path. During this period the missile reaches its apex and therefore interception may occur in space, depending on the range and trajectory of the missile. At some point during the mid-course flight the missile may deploy decoys and other penetration aids to confuse BMD systems and enhance the probability of the warhead reaching its target. This is also the period during which multiple warheads may debus from their carrier and begin to deorbit. Finally, terminal phase intercept refers to the interception of incoming warheads after they have re-entered the earth's atmosphere and have begun their final descent to their target area. Interception during this period of missile/warhead flight is extremely difficult owing to the fact that the inbound projectile is moving very quickly, is quite small due to the jettisoning of

course and terminal phase defence capabilities, and “effective defense” in reference to BPI. When it comes to providing an empirical assessment of real intercept capability, the report hypothesizes that a leakage rate of ten percent for each phase of intercept would result in an overall success rate of ninety-nine point nine percent. However, as Hafner says, this assessment is not based on any technical analysis but is merely a mathematical fact based on the arbitrary selection of ten percent as the leakage rate.²³⁰ Hafner goes on to assert that some people have claimed that the classified version of the Fletcher report indicated that a success rate of ninety-nine point nine percent was absolutely not feasible.

The Hoffman report represented a variation on the theme introduced in the Fletcher report by outlining a multi-tiered defence system, which could be deployed in stages, starting with an Anti-Tactical Ballistic Missile (ATBM) capability and moving on to deployment of mid-course and BPI systems. Slightly more pessimistic than the Fletcher report, the Hoffman study group determined that a maximum efficiency of ninety-four percent could be expected for such a system. As such, the report did not support Reagan’s vision of an SDI capability that would revolutionize American strategic doctrine because even a six percent leakage rate would inflict an excessive amount of damage.²³¹

In spite of the fact that the reports were somewhat contradictory in their conclusions and did not explicitly state that the development of an SDI system with a near total defence capability was feasible, Secretary of Defense Casper

primary and possibly secondary rocket boosters, is likely being assisted by several penetration aids, and may have a somewhat irregular flight path due to atmospheric effects.

²³⁰ Hafner, “Assessing the President’s Vision”, 94.

²³¹ Ibid, 97-98.

Weinberger in his summaries of the Fletcher and Hoffman reports and in his own general report, left the impression that a general consensus had been reached on the feasibility of such a system.²³² Thus the rationale was established for the pursuit of research and development of SDI, or as it was referred to in the popular press, “Star Wars.”

SDI was intended to provide a virtually impregnable defense of the continental United States against strategic nuclear attack by deploying integrated detection and interception units in outer space. Depending on the sensitivity of the detection system and the height of its orbit, SDI could, theoretically, provide an effective defense against an ICBM attack launched from anywhere in the world. The basic concept of the SDI system consists of five sections each responsible for a different aspect of the program.²³³ The first, Surveillance Acquisition Discrimination and Kill Assessment (SADKA), was responsible for the development of both earth and space-based sensor systems. Directed Energy Weapons (DEW) oversaw the development of weapons systems based on “other physical principles,” such as the use of lasers and particle beams. Kinetic Energy Weapons (KEW) was the section responsible for the development of weapons systems based on interceptor missiles and electromagnetic acceleration weapons (a.k.a. “Rail Guns”). Battle Management/Command, Control, and Communications (BM/C³) was responsible for the development of computer hardware, software, and communications needed to complete the integration of all the elements involved in SDI. And finally, the Survivability and Critical

²³² *Ibid*, 92.

Technologies department was tasked with identifying and defeating possible Soviet countermeasures to SDI.

In order to have any hope of meeting the demands of BPI a strategic defence system had to have at least some of its components, the weapon system in particular, based in space.²³⁴ This problem arises as a result of the brevity of the boost phase of ballistic missile launch. In less than six minutes an SDI system has to be able to detect missile launch, identify it as a threat, track the missile as it ascends towards space, defend itself from countermeasures designed to destroy it, and finally engage the target with its weapon system.

Furthermore, in order to ensure that the interceptor weapon can reach its target before it changes its trajectory and enters the mid-course portion of its ballistic flight, it is desirable to employ a weapon system based on what the ABM Treaty refers to as other physical principles.²³⁵ This means that rather than using interceptor missiles to shoot down a ballistic missile in boost phase, SDI would likely have to employ a laser or particle beam type weapon.²³⁶ While the use of components based on other physical principles is subject to discussion under Agreed Statement D and Articles XIII and XIV of the Treaty, the need to place

²³³ Edward Luttwak, and Stuart Koehl, The Dictionary of Modern War, (New York: HarperCollins Publishers, 1991), 568.

²³⁴ Hans Bethe, Jeffrey Boutwell, and Richard Garwin, "BMD Technologies and Concepts in the 1980s" in Weapons in Space, (New York: W.W. Norton and Company, 1986), 63-64.

²³⁵ *Ibid*, 55-56.

²³⁶ The use of lasers to destroy ballistic missiles with an SDI system would involve either direct attack from a space-based weapons platform or indirect attack, in which a ground based laser would be fired and reflected off of large mirrors placed in space. Infrared chemical lasers, electrically driven ultraviolet lasers and free-electron lasers would destroy their targets by burning a hole through their protective skin. X-ray lasers could destroy their targets by generating a shock wave that would disrupt essential components in the missile's guidance and control system. The draw back of x-ray lasers is that they can not be used with mirrors, nor can they be fired from very long ranges. For further details on laser, particle beam and other technology in SDI see Bethe, Boutwell, and Garwin, 60-65.

significant components in space posed the most significant threat to the continued utility of the ABM Treaty in managing U.S. Soviet relations during the 1980s.

Unlike missiles in the launch phase of their flight, missiles in mid course are very difficult if not impossible to detect with space-based satellites due to their rather low infrared signature.²³⁷ In order to track missiles in mid-course flight, it is necessary for the SDI system to illuminate them, either with laser designators or radar signals. However, the ability of strategic offensive weapon systems to deploy decoys and make use of smoke and other means of obscuring detection and tracking systems dramatically reduces the ability of SDI to distinguish legitimate targets from decoys, continue to track them, and ultimately destroy them before they enter the terminal phase of their flight trajectory.

Tracking missiles in the terminal phase of their flight trajectory is much easier than in the mid-course phase of flight. Improvements in radar technology and computer processing speed have been particularly significant in making identification and tracking during terminal phase flight much easier.²³⁸ The effects of the earth's atmosphere cause decoys, which are lighter than real warheads, to enter the atmosphere and descend to earth at a slower rate than warheads. Therefore it is relatively easy to identify the warheads and task an interceptor to destroy them. While some countermeasures are possible for warheads in terminal flight, such as the ability to alter course at high speed thereby changing trajectory or by exploding in the atmosphere before they can be intercepted, the greatest challenge to terminal phase intercept is in determining

²³⁷ Ibid, 57-58.

²³⁸ Ibid, 58-60.

how to integrate it effectively as part of a broader system. The problem lay in the fact that if deployed to defend cities and other such soft targets the terminal defence systems needs to be one-hundred percent effective if it is to have any value whatsoever.²³⁹ On the other hand, if deployed to defend missile silos and other such hard targets, a certain amount of losses will be acceptable, thereby reducing the demands placed on the system. Since developing and deploying a perfect terminal defence system would be prohibitively costly, even if it were technologically possible, deployment as part of the layered defence capability of SDI necessitates that an emphasis be placed on the defence of strategic forces. In addition to the financial and technical problems that stood in the way of the further development and deployment of the strategic defence initiative, the rather significant problem of system compliance with the ABM Treaty was an important issue that needed to be acknowledged. The implications of these circumstances for strategic doctrine and arms control will be discussed below.

Implications of the ABM Treaty for the Debate over SDI

The complexity of the task assigned to SDI required the development of highly advanced military technologies to ensure mission success. The obstacle that the 1972 ABM treaty presented to the development of these technologies was central to the debate over SDI that emerged in the 1980s, and persists in the debate over National Missile Defence (NMD) today. As has already been discussed, the Soviet Union's advantage in strategic offensive arms created a very unique problem for the United States. In order for President Reagan's proposed Star Wars plan to have any hope of representing a credible counter-balance to the

²³⁹ Ibid, 60.

Soviet missile threat, SDI would have to incorporate extremely costly, and very advanced technologies, most of which had only been developed to the conceptual or experimental stage. Moreover, it was generally acknowledged that the pursuit of an intensive research and development agenda of these technologies could threaten to compromise the ABM Treaty in specific and the utility of arms control in the management of conflict in general.²⁴⁰ Given that the ABM Treaty was the principal bilateral agreement between the superpowers and that it was widely regarded as instrumental in the strengthening of relations in the 1970s and helped to prevent the total deterioration of relations throughout the 1980s, the development of a solution to the situation was of paramount importance.²⁴¹

According to Schneider, the successful amendment of the ABM Treaty could be interpreted, as a tremendous boost for the status of arms control as it would demonstrate that even a long term arms control regime could be capable of changing to reflect new developments in the political-strategic context.²⁴² This can be characterized as an example of the broad interpretation of arms control. Conversely, Schwartz employs the narrow interpretation when he claims that the amendment of the Treaty in order to facilitate the deployment of an effective system for defending the MX-Peacekeeper ICBM would serve to undermine the diplomatic utility of arms control, and thus threaten to compromise all Cold War arms control agreements between the superpowers.²⁴³ Apparently Schwartz places greater value on the principle of “sticking to an agreement,” even if it has

²⁴⁰ Payne, 9-11; A.M. Din, “The Prospects for Beam Weapons” in Outer Space – A New Dimension of the Arms Race, Bhupendra Jasani, Ed. (SIPRI, 1982), 238.

²⁴¹ Schneider, 243.

²⁴² Ibid, 245.

outlasted its utility, than he does on ensuring that strategic stability is preserved. In any event, it seems clear that he has failed to recognize the Clausewitzian principle that, as the social and political context changes over time, so does the nature and character of conflict, and that, as the character of conflict changes, so must the means of managing it.

The question of how the development and deployment of SDI would affect Soviet-American strategic relations and the role played by arms control in the management of those relations was easily the most contentious issue in the debate over SDI. While on the surface it appears as though the debate over SDI in the 1980s revolved around the same set of issues as the debate over missile defence deployment in the 1960s and 1970s, there is one important difference with respect to the relationship between the debate and arms control. Whereas the early debate over BMD was seemingly resolved by the ABM Treaty, which established the relationship between arms control and deterrence in national policy, the debate over SDI called in to question the value of the ABM Treaty as a means of preserving stability between the United States and the Soviet Union.

While Gray does tend to over-emphasize the Soviet propensity to seek advantage in arms control negotiations relative to the American tendency to do the same, his assessment of arms control is useful in examining the debate over SDI in the 1980s.²⁴⁴ Generally speaking, Gray presents a perspective of the arms control process in which agreements are entered into for domestic political reasons, more so than for military/strategic reasons, in relative ignorance of how

²⁴³ Schwartz, 353.

the theories of arms control, deterrence, strategic stability, and the causes of war interact with each other. These factors combined with asymmetrical bargaining power, the skill of individual negotiators, the habit of contracting parties to try to seek some sort of advantage (if only in the form of leverage for future negotiations), and a general lack of consensus on a strategy for making arms control work, pose a significant challenge to the ability of arms control agreements to meet their three principal objectives.²⁴⁵

As Gray points out, the vagaries of the language in the nine arms control treaties and agreements pertaining to space that were developed between 1963 and 1979 subjects them to legalistic analyses, which open these agreements to a variety of potentially contentious interpretations.²⁴⁶ It is generally acknowledged that, under these treaties and agreements the following activities are prohibited: the deployment of nuclear weapons in space; the development, field testing and deployment of space-based interceptor missiles or space-based components based on other physical principles against strategic missiles or their components in flight; the replacement of conventional BMD system components with new ones based on OPPs; and the operational deployment of a fixed ground based laser and

²⁴⁴ Colin Gray, American Military Space Policy: Information Systems, Weapon Systems and Arms Control, (Cambridge, Mass.: Abt Books, 1982), 75-78.

²⁴⁵ The three principle objectives of arms control according to Gray are: to reduce the risk of the occurrence of war, to reduce the level of damage in war, and to reduce the costs of defence readiness in anticipation of war, 76.

²⁴⁶ The nine agreements identified by Gray are: the Limited Test Ban Treaty (1963), Outer Space Treaty (1967), International Telecommunications Convention, Hotline Modernization Agreement (1971), Accidental Measures Agreement (1971) and Prevention of Nuclear War Agreement (1973), ABM Treaty (1972), Interim Agreement on the Limitation of Strategic Offensive Arms (1972), Convention and Registration of Objects Launched into Outer Space (1975), and finally, the Treaty on the Limitation of Strategic Offensive Arms (1979), which was never ratified. Ibid, 79-80.

its components.²⁴⁷ However, laboratory research and testing of components for space-based missile defence systems in an ABM mode, the development and testing of space-based laser components for purposes other than ABM mode testing, the development, testing and deployment of a space-based laser ASAT capability, the development and testing of fixed land-based BMD lasers, the augmentation of BMD system components with ones based on other physical principles, and the “substantial partial testing of components for space-based BMD lasers while prohibiting full system testing and deployment of such systems,” were all permitted at the time.²⁴⁸

The wide variety of activities that are not expressly prohibited by agreements, and therefore are implicitly permitted allow for the development of technology related to the construction of mobile land-based BMD systems such as the Sentry system, as well as to technology used in space-based laser systems.²⁴⁹ Both of these types of developments are permitted by the Treaty as long as development and testing occurs in a fixed ground based mode.²⁵⁰ The greatest threat to this aspect of the Treaty eventually came in the form of the proposed Low Altitude Defence System (LoADS), which was a mobile land-based theatre defence system intended to be able to accommodate whatever basing strategy would be determined for the new MX-Peacekeeper ICBM. Not only did LoADS

²⁴⁷ Jones, 48-49; Gray, *American Military Space Policy*, 81. Article IV of the Outer Space Treaty provides that “States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner”.

²⁴⁸ The term “ABM mode testing” refers to the testing of a system or its components in a mode that would determine its capability to identify, track, and destroy a strategic ballistic missile as defined in the Treaty.

²⁴⁹ The Sentry system was initially conceived as part of a layered defence capability under the SDI program, however, development was never fully completed.

violate the Treaty by being a mobile land-based system, but it also called for three interceptors and one radar to cover each ICBM, whereas the Treaty only allowed for a total of 100 interceptors and 20 radars.²⁵¹

While the vague language of arms control agreements serves the important purpose of allowing states “room to move” with respect to “gray area” activities that they deem important to their national security, some problems do arise. The chief problem with the legal loopholes that are created by the ambiguous language used in the ABM Treaty and other arms control agreements, is that by allowing for the limited research and development of certain kinds of technology, they contribute to an environment of mistrust in which each party suspects the other of being on the verge of “break out.” The fear that the other side will suddenly break out of its treaty obligations and take advantage of technological breakthroughs achieved through research allowed for by loopholes in the treaty seriously undermines the purpose of arms control. Ironically these loopholes are often included to provide each side with an opportunity to conduct research in order to create a hedge against break out by the other. As each side becomes more fearful of breakout, or, as in the case of SDI, as one side begins to feel that it is disadvantaged by the existing arms control regime, it may begin to research and develop technologies which may or may not fall under the purview of the agreement, or which are explicitly prohibited, but which that side determines is essential to preserving its national security.

²⁵⁰ Jones, 66-67.

²⁵¹ Schneiter, 249-250.

A prime example of this is the Homing Overlay Experiment (HOE), which was a proposed system component for SDI. HOE was intended to provide a mid-course intercept capability backed up by a terminal defence capability in a more comprehensive SDI system. By using space-borne long wave infrared sensors to assist in the detection and tracking of missiles in mid-course flight HOE provided a homing capability for SDI interceptors. However, a great deal of confusion existed over whether or not HOE was Treaty compliant because, while it performed its function in space, both the sensors and the interceptors were launched from the ground.²⁵² Thus it was not clear whether or not HOE should be classified as a space-based BMD system, which would have compromised the ABM Treaty, or if it should be classified as a fixed ground based system. The fact that it could have also been technically classified as an ASAT system complicated matters further.

Several such definitional questions contributed to the intensity of the SDI debate during the 1980s. The distinction between the military and non-military use of space, and the broader definition of the “peaceful” use of space were particularly contentious issues. As Gray suggests, one might define the use of space for “peaceful purposes” as the use of military space operations to support deterrence stability, thereby promoting a condition of peaceful co-existence between the superpowers.²⁵³

²⁵² Jones, 55-57.

²⁵³ Gray, *American Military Space Policy*, 78-81. It is generally accepted that reconnaissance, navigation, weather, and communications systems represent some military space operations that are essential to the preservation of peace on earth. See, Donald L. Hafner, “Anti-Satellite Weapons: The Prospects for Arms Control” in Outer Space – A New Dimension of the Arms Race, Bhupendra Jasani, Ed. (SIPRI, 1982), 315.

This is an extremely important issue as it bears not only on the ABM Treaty, but on the Outer Space Treaty (OST) as well. It has been argued that the OST establishes the peaceful use of space in policy by invoking its status as part of the “common heritage of mankind.” According to Goedhuis this is not the case as the scope of the Outer Space Treaty is rather limited.²⁵⁴ The Treaty recognizes the common interest of man in the peaceful use of space; however, other than placing constraints on a variety of military activities on the moon and celestial bodies, as well as on the stationing of nuclear weapons and weapons of mass destruction in space, there are no legal obligations in the Treaty that mandate strictly peaceful activity.

Furthermore, like the ABM Treaty, the OST does not provide a precise definition of “peaceful use of space.” The Soviets traditionally equated the peaceful use of space with non-military related activity for the purposes of negotiations. As Goedhuis suggests, the fact that the Soviet Union “pretends that all its satellites serve peaceful purposes” implies that it views military space activities, which it does not publicly acknowledge, as being non-peaceful.²⁵⁵

The definition of space-based systems was also problematic as an agreement on where “outer space” begins was also lacking at the time. The United States generally adhered to a definition that understood that any object that was in orbit could be considered to be space-based, even if it were still subject to earth’s gravity.²⁵⁶ Conversely the Soviets proposed an air space/outer space boundary at either 100-110 km or 90-130 km above sea level, with the proviso

²⁵⁴ Goedhuis, 299.

²⁵⁵ Ibid, 300.

that systems in transit to or from space would gain the right of innocent passage through sovereign air space.²⁵⁷ The Americans resisted such a demarcation on the grounds that a lack of one in the past had never proven to be a problem and that no problem existed that could be solved by such a demarcation. They also felt that the boundary defined by the Soviets was somewhat artificial as it had no relation to any scientific data. The primary implication of such an arbitrary barrier was that it might cause non-orbital SDI components to be deemed to be operating in space and therefore not Treaty compliant.

The precise definition of a strategic ballistic missile is also not made clear in the ABM Treaty. As Alan Jones points out, this lack of clarity bears heavily on the meaning of “testing in an ABM mode,” which is one of the Treaty constraints.²⁵⁸ According to the American definition, a strategic ballistic missile is one, which has longer range, and greater payload, as well as other distinguishing features from theatre range ballistic missile systems. The Soviet definition is equally vague, though somewhat more inclusive, as it refers to systems with the ability to strike their targets from the site of their operational deployment, regardless of the specific features of the missile system. In essence then, the Soviet definition was a reflection of the Soviet interest in trying to eliminate the foreign basing strategy of the United States by accounting for those short and medium range missiles deployed in Europe.²⁵⁹

²⁵⁶ Jones, 58.

²⁵⁷ Ibid, 59.

²⁵⁸ Ibid, 60.

²⁵⁹ Ibid, 61.

Conclusion

In many ways the controversy surrounding SDI was identical to the one that surrounded the debate over the deployment of a missile defence system in the 1960s and 1970s. In both instances an assumption was made based on the gross over estimation of the actual ability of the relevant systems to defend against a significant strategic nuclear attack. Those who made this assumption were primarily academics and bureaucrats engaged in the fierce debate over whether or not these systems would be interpreted as provocative by the Soviets. Those who were in favour of deployment argued that a missile defence capability of some sort was needed to counterbalance the advantage that the Soviets had acquired in strategic offensive arms. They claimed that SDI would accomplish this by degrading the effectiveness of an actual Soviet attack. It was hoped that such a capability would not have to be tested in a nuclear war, but that it would compel the Soviets to seek a strategic balance through negotiations. Those who were opposed argued that deployment would cause the Soviets to lose confidence in the credibility of their deterrent threat, thereby encouraging them to act preemptively, as though they would willingly blunder in to a nuclear exchange rather than seek a negotiated solution to a perceived strategic disadvantage. This was the same disadvantage by the way that the Americans had faced for several years yet still did not try to incinerate the Kremlin. In any event, both the arguments for and against were heavily dependent on the model of a BMD/SDI system with a sufficiently miniscule leakage rate that they could guarantee the preservation of an adequate number of strategic weapons for use in a punishing retaliatory strike.

Following is a statement that clearly illustrates how ridiculous the rationale behind the debate really was:

It may be true that today it is “easier” for the Soviet Union to attack the United States with nuclear weapons than it would be if a missile defence (of any kind) were in place. But the price of an added measure of risk, since attacking the United States is already a suicidal act, is extremely high – high not merely in dollars or rubles, but in strategic stability.²⁶⁰

Statements such as this have contributed to the generally perplexing character of the debate over BMD and SDI. The word “easier” is a convenient euphemism that obscures, but does not contradict, the argument that the Soviet Union’s advantage in strategic offensive arms created a situation in which it might be tempted to preempt the U.S. with a disarming first strike in a time of intense crisis. The same sentence concedes the assumption that it is possible that a missile defence system could provide an effective defence against such a strike. The second sentence then contradicts the first by implying that the Soviets could not threaten the American retaliatory capability by characterizing such an endeavour as suicidal. Finally, the addendum that the deployment of a defence system would have a high cost in strategic stability again disregards the fact that such a system is intended to address the pre-existing strategic offensive imbalance, which itself threatens to compromise strategic stability.

As Garwin has noted, even if a defensive system could effectively cope with the overwhelming number of decoys and penetration aids that it would surely face, only one percent of Soviet nuclear warheads would be required to destroy

²⁶⁰ John Tirman, and Peter Didisheim, “Lethal Paradox: The ASAT-SDI Link” in Empty Promise: The Growing Case Against Star Wars, John Tirman, Ed. (Boston: Beacon Press, 1986), 126.

the nation.²⁶¹ This point leads to the bizarre argument proffered by advocates of missile defence that it will induce the opponent to participate in arms control negotiations. One would think that, notwithstanding a defensive system that is more than ninety-nine percent effective, missile defence would not be very effective in inducing the Soviets to negotiate.²⁶² Indeed, given the economic costs involved it would make more sense, from a military-strategic perspective, to simply build more offensive weapons. The development of the MX-Peacekeeper was a step in this direction. However, given that no basing decision was made until 1986 and even then only 50 were deployed, MX can be seen as little more than a gesture of American willingness to close the missile gap “the old fashion way.”

Clearly, the only explanation for the perpetuation of such a transparently nonsensical debate is that issues pertaining to how the military-strategic effectiveness of missile defence systems contribute to stability have been of secondary importance at best, when they are a factor at all. Clausen concluded that, “[t]he incoherence of U.S. arms control policy reflects above all the administration’s own ambivalence and divisions on this subject.”²⁶³ For Clausen, SDI was about competitive advantage, not stability. He suggested that the goal of reaching a decision on the systems feasibility study by the early 1990s would lead

²⁶¹ According to Garwin, one small rocket booster is capable of deploying as many as 100 decoys. He also notes that the detonation of even a few nuclear warhead would create a new and uncertain environment in which defensive systems would have to perform. Richard L. Garwin, “The Soviet Response: New Missiles and Countermeasures” in Empty Promise: The Growing Case Against Star Wars, John Tirman, Ed. (Boston: Beacon Press, 1986), 145-146.

²⁶² Robert Bowman has suggested that it was the offensive potential of SDI, rather than its defensive capabilities that eventually encouraged the Soviets to seek a negotiated agreement on arms limitation, 81-82.

²⁶³ Clausen, 201.

to an aggressive approach to the research development of related technology that would not account for the ABM Treaty or for the political relationship between the superpowers. As Clausen remarked, the consideration of these factors is essential to achieving a cooperative transition from a doctrine of assured destruction to one of assured survival.

Similarly, Bowman argued that not only could SDI not assist the arms control process, but that the arms control process itself did not seem to be about strategic stability. He cites the START and INF agreements as good examples of how arms control was used as a placebo to assuage public concerns about relations with the Soviet Union, rather than as a tool for improving political relations.²⁶⁴ According to Bowman, SDI was the tool of the radical right in American politics for pursuing military superiority so that the U.S. could dictate the international political agenda to the Soviets, something the Americans had been unable to do since 1962.²⁶⁵ He goes on to suggest that many of the allegations of Soviet transgressions of various arms control agreements were either renewals of old accusations that had already been investigated and dismissed, or total fabrications.²⁶⁶ These allegations were an important part of SDI proponents' argument in favour of backing out of the ABM Treaty in order to preserve national security interests.

York once postulated that, in spite of the fact that SDI might prove to be very costly and ineffective, it could be sold on an administration that was relatively ignorant of the implications of the gap between technological

²⁶⁴ Bowman, 58-59.

²⁶⁵ Ibid, 59.

effectiveness and political-strategic utility.²⁶⁷ He suggested that, should this happen, it would prove to be a prime example of what President Eisenhower warned of when he said that there was a risk of scientific research and discovery becoming a dominant factor in the determination of public policy through the influence of the scientific technological elite.

This byzantine interpretation of the forces behind missile defence R&D is supported by Bethe *et al*, who noted that, in FY 1986 3.7 billion dollars was requested for SDI R&D, an increase of one-hundred-sixty percent from the previous year.²⁶⁸ They also note that former Secretary of Defence James Schlessinger commented that increases in such spending typically did not exceed thirty-five percent, and that something on the order of 1.5 to 2 billion dollars would provide ample resources for R&D. It was also projected that by FY 1989 the R&D budget would be closer to 7.5 billion dollars, approximately sixteen percent of the entire DoD R&D budget. As Bethe *et al* pointed out, the possibility existed that by 1989 so much would have been invested into SDI that it would have been politically and perhaps economically impossible not to follow through with the project. However, a thorough investigation of the economic forces behind the push for missile defence in the United States is well beyond the scope of this thesis.

York's prediction that the continuation of the missile defence debate in isolation from the real considerations of the gap between technological effectiveness and political-strategic utility would lead to the deployment of a

²⁶⁶ *Ibid*, 62-63.

²⁶⁷ York, 31.

strategic defence capability may have been “on the money,” so to speak.

Although the following chapter argues that a potential role for a strategic defence capability is quickly emerging, that role has been created through the work of the very scientific technological elite, whose influence President Eisenhower warned of in the late 1950s. The preponderant influence of those who accepted the broad view of the ABM Treaty and the need to develop extremely sophisticated, highly accurate, systems has meant that missile defence in the United States, from its inception, has been very “Big Business.”

The fitting of strategic defence to the emerging role facilitated by scientific and technological developments will mean that, in the future, missile defence will become even bigger business. Perhaps the collapse of the Soviet Union and the end of the Cold War were necessary for the increased commitment of the United States to missile defence development. Indeed, one might enter into a chicken or the egg argument, as to whether the end of the Cold War enabled the current development of Theatre and National Missile Defence systems, or whether the support of the Reagan administration for SDI, and increased defence spending in general, forced the Soviet Union to give up their economic struggle against the west. In any case, the end of the Cold War had the overall effect of bringing the political and strategic context in line with the debate over missile defence, rather than the debate falling in line with political and strategic considerations.

In the current debate over Theatre and National Missile Defence deployment, real strategic considerations between the U.S. and Russia are

²⁶⁸ Bethe, Boutwell, Garwin, 68-69.

peripheral at best. This has brought about a set of circumstances which favours the position of those who accept the broad interpretation of the ABM Treaty and clears the way for the commitment of economic and human resources to system development and deployment.

Chapter Four

Arms Control and Ballistic Missile Defence After the Cold War

The release of George Lucas's most recent opus in the "Star Wars" saga, however coincidental, provides an extremely appropriate analogy for an analysis of the current debate over missile defence and arms control. It is common knowledge that Ronald Reagan's Strategic Defence Initiative received the popular tag "Star Wars" as a result of the fantastic imagery of laser weapons in space that were designed to counter the weapons of the "Evil Empire." In "Episode One: The Phantom Menace," young Anakin Skywalker represents "the phantom menace", an evil destructive force destined to emerge from a boy whose natural power makes him a potential champion of righteousness. One could argue that the current status of the ABM Treaty in the context of the missile defence debate offers a strange parallel. A new threat, which BMD systems are intended to address, has emerged, yet the constraints imposed by the ABM Treaty represent a menacing hindrance to the ability of BMD systems to address adequately the threat.

Since the end of the Cold War the debate over the development and deployment of missile defence systems has not waned. In fact, one might argue that the 1991 Gulf War, which coincided with the collapse of the Soviet Union, reinvigorated the debate. The media attention that was paid to Iraq's Scud attacks on Saudi Arabia and Israel and the use of the Patriot anti-missile system introduced the concept of ballistic missile defence to a generation that was largely unfamiliar with it.

However, the post-Cold War debate is slightly different than the debates over ABM and SDI during the Cold War. Both of the earlier debates revolved around a single type of weapon system whose primary purpose was to defend against a strategic ballistic missile attack against the United States of America. The question of the impact of deployment on strategic stability and nuclear deterrence also weighed heavily in these debates. Ultimately, arms control in the form of the 1972 Anti-Ballistic Missile Treaty was used as a means not to prevent BMD deployment, but rather to place constraints on its deployment so that a limited defensive capability could be achieved without compromising the delicate strategic balance between the U.S. and the Soviet Union.

In the current context, however, two distinct types of missile defense systems have been tabled for development in the United States. The first, and least controversial, is theatre missile defence, which is intended to provide a non-strategic, limited area, or point, defence capability for U.S. troops and their allies deployed in a theatre of conflict. The second is referred to as national missile defence, which is to be capable of providing coverage for all 48 contiguous states, as well as Hawaii and Alaska. Furthermore, although NMD is currently only intended to provide a defence against a limited ballistic missile attack, the potential exists for such a system to be enhanced to the point of providing a robust strategic defence. For the purposes of this thesis, the debate surrounding national missile defence is the most pertinent as it relates more closely to the implications of the ABM Treaty in the Post-Cold War era. Another important distinction about the current debate is the significant role that BMD systems may play in the

defence of the space-based interests of the United States and its allies. The implications of this role for the preservation of the international system in the post-Cold War era are discussed in the following section.

The political and technological changes that have occurred since the end of the Cold War have dramatically altered the context of the international security environment. Some might argue that with the dissolution of the Soviet Union and the commitment of the U.S. and Russia to cooperative engagement and various confidence building measures, the U.S. and its allies no longer face a credible nuclear threat. Indeed, they might suggest that proponents of Post-Cold War BMD are trying to fight a “phantom menace.”

This chapter demonstrates that in this changed environment, there is emerging a new kind of threat which advanced missile defence systems can be used to address. Consequently, the role of missile defence in the post-Cold War era has also changed. Due to the dramatic changes in the political and strategic context that have occurred since the end of the Cold War, it is unreasonable to expect, or even hope, that the restraints on the development and deployment of missile defence systems imposed by the ABM Treaty can continue to be relevant today.

The Changing Character of the Ballistic Missile Defence Debate

The two broad concepts that are prevalent in the current BMD literature are theatre missile defense (TMD), and national missile defense (NMD). Before a coherent discussion on the topic is possible, the distinction between TMD and NMD must be made clear. TMD refers to a missile defense system with a limited

defensive footprint, or area of defendability.²⁶⁹ The range of a TMD system is limited to between ten kilometers and a few hundred kilometers. This is due, in part, to the range limitations inherent in certain types of interceptors, but also due to the capacities of ground based radar (GBR) guidance and tracking systems, which are currently used in TMD systems. NMD systems, as the name implies, possess a much larger area of defendability. These are achieved by better performance capabilities of interceptors, or kill vehicles, and may be significantly enhanced by the deployment of space-based tracking and guidance systems in the near future.²⁷⁰

A great deal of debate surrounds the deployment of BMD systems, particularly those capable of providing an NMD, because the technology required to make these systems effective could compromise the 1972 Anti-Ballistic Missile (ABM) treaty signed between the Soviet Union and the United States. An attempt was made to address some of these problems by the Missile Defense Act of 1991, which tried to clarify some of the technical issues relating to the testing and development of interceptors. While the ABM treaty was drawn up in the Cold War and reflects the security concerns of that environment, contemporary security threats bear very little resemblance to those of the Cold War. Some agreement has been reached between Moscow and Washington that missile defense may be a worthwhile pursuit, and that the ABM treaty may have to be reviewed in the future. Nonetheless, they have been unable to reach a consensus regarding deeper

²⁶⁹ It is important to realize that TMD and NMD are American concepts based on the American strategic situation. Clearly, in the case of a geographically small country such as Israel, A BMD system technically classified as a TBM system could have the potential to provide a strategic national missile defence capability.

Treaty amendments that would allow for the development and deployment of more robust NMD systems.

In 1997 the Ballistic Missile Defense Organization (BMDO) submitted a budget proposal to Congress for FY 1997-99 in which spending on missile defense research, development, testing, and evaluation (R&DTE) would exceed \$5.3 billion. Of those resources, approximately thirty-one percent, or \$1.7 billion, were allocated to NMD systems.²⁷¹ The BMDO budget proposal for FY 1998-2000 is even more ambitious. The new budget calls for slightly over \$10.2 billion for missile defence R&DTE, with a little less than \$2.9 billion dedicated to NMD.²⁷² In January 1999, Secretary of Defence William Cohen announced that the Defence Department would be allocating even more funds to TMD and NMD in an effort to meet growing ballistic missile threats.²⁷³ The Cohen budget announcement called for an increase in spending of \$6.6 billion to NMD, bring the total NMD commitment to \$10.5 billion through FY 2005. Thus, barring a dramatic change in policy from an incoming administration, funding for NMD throughout the next couple of years will continue to account for roughly one-third of the total BMD budget.²⁷⁴ The remainder of the funds will go towards the

²⁷⁰ It should be noted that endoatmospheric and exoatmospheric interceptors can be used in either TMD or NMD systems.

²⁷¹ "BMDO Annual Report to Congress", (1997), B18-B23. It should be noted that these statistics do not include the costs associated with RDT&E on space-based detection and tracking systems, or on Air Force missile defense systems. They also do not account for procurement costs.

²⁷² "The Ballistic Missile Defense Fiscal Year 1999 Budget", (Washington, D.C.: BMDO Fact Sheet PO-99-01, 1999).

²⁷³ Office of Assistant Secretary of Defence (Public Affairs), New Release, "Cohen Announces Plan to Augment Missile Defence Programs", (No. 018-99, 20 January, 1999).

²⁷⁴ *The Military Balance 1998/99*, (London: IISS, Oxford University Press, 1998), 18.

development and procurement of TMD systems, several of which are currently under development.²⁷⁵

The Air Force contribution to TMD is restricted to the development of an airborne detection and Boost Phase Intercept (BPI) capability. The concept of BPI was first developed in 1958 with Project Defender.²⁷⁶ Early work made it clear that the use of a GBI was simply not a realistic option for intercept during the boost phase of ballistic missile flight, due to the fact that it only lasts for between three and six minutes. Unless a GBI is located near the ballistic missile launch site the window of opportunity for BPI is not great enough to allow for detection, tracking, target designation, and intercept.

BPI is regarded as a highly attractive option within missile defense for at least three reasons. First, a ballistic missile still in its boost phase has not yet burned up all of its fuel and is very vulnerable to destruction. Second, the enemy will suffer any nuclear, biological, or chemical fallout caused by the destruction of a missile in its boost phase. Third, BPI guarantees that a missile is destroyed before it has the opportunity to disperse either its MIRVs or its penetration aids. Work is being done to develop systems, which accomplish the interception through the use of Directed Energy Weapons (DEW), such as lasers and particle beams. However, more conventional Kinetic Energy Weapon (KEW) missile

²⁷⁵ Among these systems are the Patriot Advanced Capability 3 (PAC 3), High Endo-atmospheric Defensive Interceptor (HEDI), Navy Area Defence (NAD), Navy Theatre Wide (NTW), Theatre High Altitude Area Defence (THAAD), and NATO Medium Extended Air Defense System (MEADS).

²⁷⁶ Luttwak, and Koehl, 77.

interceptors are also under consideration.²⁷⁷ One airborne platform currently under development for BPI is the Boeing B747-400 aircraft.²⁷⁸

The potentially enormous defensive footprint of an airborne BPI system dictates that one could effectively serve as a substantial component of a national missile defense system. As has already been indicated, NMD is distinct from TMD in its ability to defend a larger territory against ballistic missile attack. Technologically, at its base level NMD will incorporate elements such as GBIs, GBR, an early warning satellite system known as the Space-Based Infrared System (SBIRS) High, advanced early warning radars, Forward-Based X-Band Radars (FBXBs), and Battle Management/Command, Control, and Communications (BM/C³). A second level of development would incorporate other radar systems and a lower orbit SBIRS system, also known as “Brilliant Eyes,” or the Space and Missile Tracking System (SMTS), to facilitate detection and tracking functions.²⁷⁹ Brilliant Eyes is a space and missile tracking system designed to detect ballistic missile launch and track incoming warheads before they can be detected by GBR. The system is composed of twenty-four satellites in low earth orbit (LEO), which are responsible for target discrimination and the cueing of GBRs. The greatest challenge to NMD in this respect is the integration of the various interceptor and detection systems into a single, efficient BMD system that does not violate the ABM treaty.

²⁷⁷ Ibid, 94.

²⁷⁸ Fergusson, James, “Defense Against Ballistic Missiles: Options and Implications” in Ditchley Conference Report No. D97/3, (March 1997), 3.

²⁷⁹ “US Ballistic Missile Defense Programs”.

The principle argument against continued R&DTE on NMD is that although a bona fide need exists for TMD in the current context, the costs which proponents of NMD associate with its development and deployment are disproportionately greater than the threat which it is intended to counter at the present. The policy of the Clinton administration on NMD seems to concur with this position. The 1998-99 budget allocation for NMD was scheduled to be about \$963 million.²⁸⁰ This funding is intended to continue research into the feasibility and systems requirements of NMD so that should a legitimate threat to US security emerge, a more intensive development and procurement plan can be undertaken. Moreover, the threat that the current NMD program is intended to address is that of a limited strategic ballistic missile attack against the U.S., rather than a massive assault as some models of the Strategic Defense Initiative (SDI) were based on.

Ballistic Missile Defence and the Protection of Critical Space Systems

One could argue that a reliance on space and space-based technology represents a common interest among advanced industrial states by virtue of the mutual vulnerability that emerges from the integration of these systems. The common interests that are created in this way go beyond the simple bilateralism that characterized the Cold War by including all states that rely on space based systems for economic and security needs. By accounting for the effects of globalism and the importance of multilateralism this position is much more reflective of the realities of the Post Cold War period than the ABM Treaty, which, in spite of being revised to include former Soviet Republics, is still an

²⁸⁰ *The Military Balance, 1998/99*, 18.

agreement drawn up to address security concern in a largely bilateral conflict.

Until recently outer space has not been a medium in which large scale interests of corporations and nation states have existed concurrently. However, in the current context, the global economy, and by extension international relations, are being affected at an unprecedented level by space technology.

The United States Space Command recently published its Long-Range Plan: Implementing USSPACECOM Vision for 2020, (LRP 2020). The plan is meant to compliment the Joint Vision 2010 (JV 2010) pamphlet published by the U.S. DoD, which outlines defence department initiatives to ensure that full integration of U.S. forces is achieved by 2010.²⁸¹ This initiative is essentially a response to the emphasis on a doctrine of joint force, which seems to have emerged since the American invasion of Grenada and the passing of the Goldwater-Nichols Department of Defense Reorganization Act of 1986.

LRP 2020 is a document that describes U.S. Space Command's plan for ensuring that all of the systems under its control will be able to function smoothly in joint force operations, and in fact to assist in the command and control of those operations. One of the most interesting issues raised in LRP 2020 is that the cost of accessing space is too prohibitive for the military to remain predominant in that field. The plan proposes that the rapid commercialization of space be allowed to continue, and that Global Partnerships be established in order to ensure that the cost of space operations remain reasonable. The plan acknowledges that, as a result of this strategy, the U.S. economy will be tightly linked to space and so must be protected.

LRP 2020 is based on an assumption of what six aspects of the future strategic environment will look like.²⁸² These aspects account for political, economic, technological, military, space, and foreign threat considerations. Given the relevance of these assumptions about the future strategic environment, and their concomitant implications for the role of BMD, and therefore, by extension, the status of the ABM Treaty, it is worth examining them in a little detail.

The plan assumes first and foremost that the United States will remain a global power and that no significant military threat will emerge in the near term. However, it does warn that non-state actors including drug cartels, crime syndicates, terrorists, NGOs, and multi-national corporations, will all play more important roles in the conduct and outcome of international relations. It is also assumed that resort will be made to temporary alliances more frequently as a means of dealing with whatever international crises may emerge.

Economically the plan anticipates a world economy that is increasingly dependent on information and information processing. In this respect the economic future envisaged by LRP 2020 resembles very closely that outlined by Davis.²⁸³ The result of this reliance on information will be that other nations, some of which were previously weaker, and MNCs will begin to rival the U.S. in economic power. With the appearance of larger and larger economic alliances and the growth in the wealth of MNCs, the gap between the “haves” and “have-nots” will increase dramatically.

²⁸¹ USSPACECOM, Long Range Plan: Implementing USSPACECOM Vision for 2020, (1998), 8.

²⁸² *Ibid.*, 1-10.

LRP 2020 is based on a concept of the future in which commercial interests will drive technological breakthroughs, particularly in space and related technologies. Advances will lead to increased information “connectivity,” enabling more and more people to “get in on” the benefits of market expansion. The rapid acceleration of technological development is expected to have an impact on strategic as well as economic matters, necessitating a new emphasis on stealth technology in order to help preserve the combat life expectancy of costly weapons systems.

The military future envisaged by LRP 2020 is one in which the U.S. will be the only power with a substantial force projection capability. U.S. force structure will be based on a concept of massed effects rather than mass forces. This involves an increase of the lethality of weapons systems and flexibility of their platforms. The most probable source of vulnerability to U.S. forces will be from asymmetrical attack, most likely manifesting itself in a precision attack on the information systems network required to coordinate high-tech militaries. The U.S. will have to be able to function effectively in a coalition type arrangement, but should also retain the ability to carry out unilateral actions.

LRP 2020 also prepares for a future in which space will be dominated by multi national commercial interests rather than by American and Russian military interests, and space capabilities will proliferate globally. The global economy will be integrally linked to space commerce, just as battlefield success will be linked to the control of space. The result of this phenomenon will be a

²⁸³ Davis describes a shift in the emphasis of the global economy from an industrial based to an information based infrastructure, “An Information-Based Revolution in Military Affairs” in

convergence of the military and commercial space sectors. Issues of sovereignty and the right to access space will become primary concerns in international relations, thus making space operations increasingly important to society at large.

Most importantly for the purposes of this thesis, LRP 2020 also calls attention for the need to protect U.S. and friendly systems from attack by foreign threats. Threats can range from signals interception to jamming to destruction. Space power can not be of any use to the warfighter if it can not defend itself from attack. It seems clear that a role for missile defence in protecting space-based assets in particular and the stability of the international system in general exists. Before one can discuss ABM Treaty implications for this role, it is necessary first to understand what that role may be.

The foundation of LRP 2020's strategy for developing twenty-first century space power doctrine is based on four operational concepts. These form the conceptual infrastructure around which the doctrine of space power will be built, and help to determine how it will be applied to safeguard American interests. The four operational concepts introduced by LRP 2020 are Control of Space, Global Engagement, Full Force Integration, and Global Partnerships.²⁸⁴

Control of Space (CoS), as an operational concept, is concerned with ensuring access to space as a means of supporting other military operations, as well as denying the same access to adversaries in time of war. The goal is to be able to maintain and replenish satellite constellations at will in order to maintain Dominant Battlefield Awareness (DBA) of space. By doing this it will be

Strategic Review, (Winter 1996), 43-51.

²⁸⁴ USSPACECOM, 11-14

possible to detect, track, and neutralize threats to those systems and ensure freedom of operations in space, thus facilitating Global Engagement (GE).

GE is defined as global surveillance, global missile defence, and the application of force from space. The goal of GE is to develop the ability to respond to any crisis around the world at any time. Global surveillance is a necessary element, which will allow for the detection of significant incidents such as missile launches world wide, and facilitate faster deployment times. In addition to being able to detect ballistic missile launch and other signs of conflict, global surveillance is also intended to provide an enhanced level of support to other military operations in near real time. Part of the crisis response mandate of GE is the detection, tracking, and destruction of ballistic missiles. The threat posed by ballistic missile is not limited to targets on earth. Some classes of ballistic missiles may be used in an anti-satellite role, especially when armed with a nuclear warhead. By being able to counter this threat GE works in support of CoS, just as CoS enables the freedom of operation required by GE. A final aspect of GE has been dubbed force application. This refers to the ability to apply force from space based weapons platforms in terrestrial combat. Initial emphasis on force application seems to be on its potential as a strategic weapon.²⁸⁵

Full Force Integration is an operation concept that represents the union of space derived information and space-based forces with those from the land, sea and air. As Davis has suggested, the current revolution in military affairs is centered on the refinement of command and control systems.²⁸⁶ In essence FFI

²⁸⁵ Ibid., 12.

²⁸⁶ Davis, 51.

represents an effort to ensure that the right resources are made available for the right mission at the right time. This will be accomplished by the integration of information at a Joint Task Force Headquarters and the efficient dissemination of that information to warfighters in “the field.”²⁸⁷

The fourth operational concept utilized by LRP 2020 is Global Partnerships (GP). The concept of GP is designed to encourage cost sharing between the military and other organizations. The intended effect is to increase overall U.S. military capabilities, while simultaneously reducing the military’s share of the cost of space operations. GP is seen as a necessary step in procuring the resources necessary to support CoS, GE, and FFI.

The vulnerability of space-based systems on which the U.S. and its allies are dependent is a very real concern to the United States Government. As such, the operationalization of concepts such as CoS and GE is a question of “when” rather than “if.” Given that missile defence is an important part of the Global Engagement concept, it seems clear that the deployment of advanced missile defence systems, based either in whole or in part in space, are virtually inevitable. The inevitability of the deployment of some kind of advanced BMD system is also attested to by the substantial investment commitment that the U.S. government has made to various BMD programs. Consequently the ABM Treaty appears to be reaching the end of its life expectancy. In order for systems envisaged by LRP 2020 to be deployed, certain restrictions imposed by the Treaty would have to be lifted. Specifically those restrictions which limit or prevent the

²⁸⁷ James F. Dunnigan, Digital Soldiers: The Evolution of High-Tech Weaponry and Tomorrow’s Brave New Battlefield, (New York: St. Martin’s Press, 1996), 69, 90.

deployment of space-based interceptors and interceptors based on other physical principles will have to be revised or dropped.

The Changing Character of the International Security Environment

One of the most important facts that was demonstrated in the Gulf War is that there is a need to develop a sensible doctrine of space power that will serve to manage the enormous amounts of data collected by space based information systems. Without such a doctrine, the information collected by these systems will be of little or no use to the war fighter and space power would become rather hollow. Davis has described this as the information revolution, which he attributes to advances in computer and telecommunications technologies and other related innovations.²⁸⁸ At the heart of this revolution is the development of the ability to collect, analyze, and use more data than has ever been possible in the past. The implications are the ability to acquire an extremely high degree of situational awareness. In military and strategic terms this means the ability to mobilize resources and establish a presence in theatre, cut through the fog of war, anticipate and avert disaster, and take advantage of opportunities as they present themselves. In business terms it means the ability to access previously inaccessible markets (resource mobilization), respond quickly to market fluctuations (the fog of commerce), anticipate and avert disaster, and take advantage of opportunities as they present themselves.

Davis cites three important characteristics of this information revolution that mark the transition from an industrial to an information-based society.²⁸⁹

²⁸⁸ Davis, 43-45.

²⁸⁹ Ibid., 43.

The first is that it has set in motion forces that challenge the design of many institutions, including the military. The second is that it disrupts the hierarchies around which institutions are designed. The third is that it diffuses and redistributes power. The result of the revolution is a change in the very nature of the global economy. As Davis says, there has been a shift from an industrial base to an information base underlying global economics and international politics. Just as sea power and air power developed in a period in which industrialization brought profound changes to the way in which commerce was carried out, today space power is developing in the face of profound changes brought about by the information revolution.

Davis proposes that the apparent air of ambiguity that has characterized the global security context in the post-Cold War era parallels the transition to an information based society.²⁹⁰ By taking advantage of communications and information technology smaller organizations and individuals have been able to reach out and claim larger shares of the global market place for themselves. However, as the cost of technology increases, consortia begin to emerge, which are composed of different sized organizations all with different levels of influence, but all equally interdependent. The world of international trade and economy is no longer one in which highly structured corporations with clearly discernable links to national governments dominate. As Davis says, the current international environment more closely resembles an “amorphous mass” of divergent actors interconnected in a sophisticated network in which the primacy of national governments is less clearly demonstrated. The increased level of

connectivity of individuals and organizations with each other, and with the market itself, means that now more than ever, popular ideas of how information and space technology can best be applied are influencing their development.

The parallel in the world of defence and security appears in the collapse of strategic, operational, and tactical levels of thought and action.²⁹¹ The difficulty in pin-pointing a specific threat makes it difficult to adopt operational doctrines and structure forces in a manner that provides a meaningful defence of national interests. It is the very shapelessness of the global economy and the intermingling of corporate and national interests that creates this confusion. The age of sustained diplomatic crises between individual states may have already moved into the realm of the historian. Davis argues that in the future the U.S. will be involved in distant conflicts, which do not pose an immediate threat to national survivability.²⁹² Instead it will be drawn into conflicts where the fabric of the international system and its values are threatened. Both the Gulf War in 1991 and more recent NATO operations in the Balkans may support this theory.

In spite of persistent failures and high costs there are those who strongly advocate continued investment in the program. In fact, one can almost see the same public debate emerging over TMD and NMD today as occurred over ABM and SDI in the past. An editorial in the Wall Street Journal on 5 January 1999 came out strongly in favour of “a commitment to actually test, build, and deploy” a national defence capability in spite of recurrent problems with the Theatre High

²⁹⁰ Ibid., 51.

²⁹¹ Ibid., 51.

²⁹² Ibid., 47-48.

Altitude Area Defence (THAAD) program.²⁹³ Conversely, Lt. General Lester Lyles was quoted in the Washington Post as saying,

[w]hen we started all of these missile defence programs, they were done from a valid sense of urgency, but one thing that was not really factored into them was how to try to control the costs up front...Now we're beginning to see that we're going to have a huge, huge bill in the future for missile defence, and they may not be all affordable.²⁹⁴

For the most part the arguments have remained the same. Proponents want to field systems to address a perceived threat or vulnerability, and opponents seek to marginalize the threat, cite exorbitant developmental costs, and warn of resultant instability.

Post-Cold War Missile Defence and the ABM Treaty

The debate over BMD in the post-Cold War era stems directly from the debate surrounding SDI during the Cold War. Given the impact of the ABM treaty on both of these debates, it is necessary to understand the respective motives of the superpowers for signing on. For the Americans, missile defense was used as leverage to enter into an arms control agreement with the USSR. Arms control was deemed necessary because it was believed that it would facilitate détente and promote Soviet-American stability. The Soviet Union signed on to SALT I and the ABM treaty not because it viewed missile defense and weapons proliferation as destabilizing factors *per se*, but because it could not indefinitely out-produce the US in any kind of a strategic arms race.

²⁹³ Wall Street Journal, (Section: A, Page: 22, Column: 1, 5 January 1999). It should be noted here that, specific reference is made to THAAD rather than other programs such as the Navy's Navy Theatre Wide (NTW) or Navy Area Defence (NAD), only because a string of failures in the early testing of THAAD have it a high media profile, and raised questions as to the wisdom of continued funding.

²⁹⁴ Washington Post, (Section: A, Page: 4, Column: 1, 3 September 1998).

In 1972 it was becoming increasingly apparent that US ability to develop and deploy MIRV technology and ABM systems, could easily surpass that of the Soviet Union in the near future. This may best be attested by the American's one-day deployment of Safeguard, a system that took billions of dollars and years of research to develop and deploy. The inability of the Soviets to compete toe-to-toe with the US in weapons development persisted well into the 1980s. The Soviet Union's refusal to come to an agreement with the US in the START negotiations was attributable to their insistence that SDI should be prohibited; a condition with which the United States was not prepared to agree.²⁹⁵

It seems clear that, beginning at least as early as 1972, Soviet strategic defense planning policy was based on two concurrent strategies; to limit the American potential for innovation and new weapons development, while at the same time developing advanced weapons systems of their own to remain strategically competitive with the US. Gray goes so far as to suggest that the Soviets entered into arms control agreements in bad faith, and fully intended to proceed with non-compliant weapons systems of their own.²⁹⁶ At the end of the Cold War, both the US and the former Soviet Union were faced with a new security environment. Rather than facing an identifiable and relatively predictable opponent, both sides now faced an ambiguous threat. Global destruction by massive nuclear exchange was no longer a priority concern.

²⁹⁵ Luttwak and Koehl, 564.

²⁹⁶ Colin Gray, "Does Theory Lead Technology", in *International Journal*, (33:3, 1978), 506-523. See also; Sayre Stevens, "The Soviet BMD Program" in *Ballistic Missile Defense*, Carter and Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 185, 204. James Fergusson has also acknowledged the direct relationship between strategic defense and arms control; see, "The Implications of Ballistic Missile Defense for Non-Proliferation Efforts; A Canadian

Instead, political, economic, and social instability and regional conflict posed the greatest threat in the global security environment. As a result, greater emphasis began being placed on coalition building and other forms of diplomatic and military co-operation as means of effecting international conflict resolution.

As a result, Russian and American forces no longer stand ready to decimate each other. If Russian and American forces no longer see each other as principal threats to their respective security, there is a reduced need to continue the Cold War preoccupation with strategic stability. The passing of the Missile Defense Act and the subsequent attempts to amend the ABM treaty in order to facilitate the development of more sophisticated missile defense systems, and NMD systems in particular, represent a step in the right direction.²⁹⁷ By engaging in discussions geared toward treaty amendment, both sides are working to establish in policy, the fact that a new role for arms control has emerged in the post-Cold War era. Just as the ABM Treaty characterized the Cold War role of arms control by establishing the relationship between arms control and deterrence in policy, Treaty amendment will help to characterize the role of arms control in the current context. Fergusson, who argues that the impact of BMD depends, to a

Perspective", (Winnipeg: University of Manitoba, Centre for Defense and Security Studies, January, 1996), 15.

²⁹⁷ The Missile Defense Act (MDA), and the discussions that led up to it, helped to clarify the requirements for ABM Treaty compliance in systems currently under development. The maximum velocities of both targets and interceptors for Treaty compliance were defined and greater detail was provided with regards to the type of development and testing that is permitted. Perhaps most importantly, the MDA set a precedent for discussions that could lead to the modernization of the Treaty.

great degree, on the political and strategic nature of the security environment, confirms this point.²⁹⁸

The easing of tensions between the US and Russia might lead some to ask if there is still a role for missile defense in the current context. The answer is firmly and undoubtedly in the affirmative. In addition to the argument about the vulnerability of critical space-based systems outlined above, a number of terrestrial considerations need to be taken in to account as well. To use the Middle East as an example, one could argue that Saddam Hussein's Scud attack on Israel in 1991 represents a growing preference for the use of ballistic missiles as a means to cultivate armed conflict and contribute to regional instability. In this instance the real benefits of missile defense systems are not military, but political. The use of Scuds armed with conventional, or for that matter chemical and biological warheads if they had been used, to attack Israeli cities had limited potential to cause any real damage to the state of Israel.²⁹⁹ However the Scud did function as an effective weapon of terror, causing thousands of Israelis to flee their homes in the cities. Such social upheaval could have easily led to public pressure for the Israeli Defense Forces to be sent into retaliatory action against Iraq, which would have had significant political implications for the American-led coalition.

²⁹⁸ Fergusson, "The Implications of Ballistic Missile Defence for Non-Proliferation Efforts", 13-14.

²⁹⁹ Richard A. Falkenrath, "Theatre Missile Defense and the Anti-Ballistic Missile Treaty" in Survival the IISS Quarterly, (Winter 1994-95, 140-160), 144. Lt. General Donald Lionetti has remarked that Hussein viewed Israel as a strategic target in the Gulf War and that he used Scud missiles as a terrorist weapon to provoke Israeli retaliation in an effort to undermine Arab support for the coalition, "Achieving National Missile Defense" in Comparative Strategy, (12:1, 1993), 33.

Though proponents of missile defense often cite its tactical benefits as a justification for development, the real benefit of these systems, much like nuclear weapons, may be in their political value. As was the case in the Gulf War, a state, namely Israel, can exercise the option of restraint if it can demonstrate an ability to at least limit the vulnerability of its population to attack. If the population feels that it is totally unprotected and that its government is doing nothing to safeguard its citizens, pressure to take action will soon be generated.³⁰⁰ It is worth noting, however, that as more sophisticated ballistic missile technology becomes more readily available, its real tactical and strategic utility will rise. Under these circumstances the ability of BMD systems to destroy incoming warheads before they reach their intended targets will begin to play a greater military role.

There is no question that a threat still exists in the Middle East, and that in the future a rogue state, such as Iraq, may once again try to destabilize the region by drawing Israel into a conflict. *The Military Balance 1998/99* notes that the Middle East is the largest global arms market, ranking the highest in the world in per capita GDP defense spending.³⁰¹ In fact, defence spending in that region increased in 1997 despite a decline in oil revenues. This, combined with Iraq's persistence in stonewalling the efforts of the international community to verify its adherence to UN Security Council Resolution 687, which places constraints on its possession of Weapons of Mass Destruction (WMD) and ballistic missiles, provides good reason for a commitment to TMD.

³⁰⁰ Jonathan Shimshoni, *Israel and Conventional Deterrence: Border Warfare from 1953-1970*, (London: Cornell University Press, 1988), 135.

³⁰¹ *The Military Balance 1998/99*, 116-117.

However, given the far-reaching implications of the instability that could be caused by acts of aggression involving ballistic missiles, one could argue that TMD is an inadequate response to a potentially devastating threat. The high costs of forward basing TMD systems all over the world and the problems of deploying them in time to respond to a developing crisis limit the utility of TMD to the protection of forces deployed in the field. In order to respond rapidly to developing crises and intercept missiles that may be launched either accidentally or in a 'surprise' attack, a Global Engagement capability such as that outlined in the LRP 2020 appears necessary. Such a capability can not be achieved without having acquired a certain knowledge base derived from the development of NMD type systems. As has already been pointed out, this would require the lifting of constraints against the use of space-based interceptors and possibly on the use of interceptors based on other physical principles.

Iraq is not the only potential threat to regional stability in the Middle East. Gold notes that in spite of peaceful relations with Israel, Egypt continues to build its military.³⁰² He also suggests that many Middle Eastern states see a ballistic missile arsenal as a kind of "poor man's air force," and that the continued proliferation of weapons of mass destruction is particularly worrisome in this context. Gold also advocates Israel's missile defense program on the grounds that "ballistic missiles destabilize a deterrence equation that existed for a number of years in the Arab-Israeli military balance."³⁰³ Here Gold is referring to the fact that, in the past, Israeli air superiority has guaranteed Israel a deep strike

³⁰² Dore Gold, "Ballistic Missile Defense: An Israeli View", in *Comparative Strategy*, (12:1, 1993, 89-93), 89-91.

capability that its adversaries did not enjoy. Several other countries have also recently intensified their efforts to acquire increasingly sophisticated ballistic missile technology, including Iran, Israel, Libya, Syria, India, Pakistan, China, and North Korea.³⁰⁴

With the proliferation of missile technology, Israel stands to lose its advantage over its Arab adversaries. Even the antiquated FROG-7 (Free Rocket Over Ground), in use by the Egyptians and Syrians, with its 70 km range can, with proper positioning, strike targets in Israel.³⁰⁵ The roughly 18 SS-21 launchers and 28 Scud B and C launchers in Syria's possession pose an even greater threat, to say nothing of the Scud launchers that Hussein may still be concealing.³⁰⁶ It is clear that as long as leaders such as Saddam Hussein seek to acquire the ability to marry weapons of mass destruction with ballistic missile technology, and as long as regional tensions exist, the potential for instability leading to violent conflict is high.

The DoD was sensitive to the fact that in order to field an ABM compliant system a strenuous review of the objectives of that system would be necessary. This, of course, is due to the severe limitations that the conditions of the ABM treaty impose on the development of missile defense technology.³⁰⁷ In 1993 it responded by conducting a "Bottom-Up Review" of the current missile defense

³⁰³ *Ibid.*, 91.

³⁰⁴ *The Military Balance 1998/99*, 119-121, 151, 152, 171, 173.

³⁰⁵ Luttwak and Koehl, 237-238.

³⁰⁶ *The Military Balance 1996/97*, (London: IISS, Oxford University Press, 1998), 123, 147.

³⁰⁷ These technical limitations relate specifically to the speed of both interceptors and the ballistic missiles and re-entry vehicles they are intended to target. Limitations are also set on the type of interceptors (i.e.: KEW, DEW etc.) and sensor systems that can be used, as well as on the placement of the various components of missile defense systems. See; Ashton B. Carter,

environment.³⁰⁸ As a result of the Review DoD concluded that international or accidental attack of the continental United States by either the Former Soviet Union or China was highly unlikely. DoD also concluded that the ability of other states to acquire ballistic missile technology capable of threatening the continental United States was uncertain. Subsequent BMD policy is reflective of this assessment.

It has been suggested that the developmental costs of BMD could be offset through participation in co-operative research and development projects. Of course the principal participants envisioned in these projects are the United States and Russia. In fact the potential benefits of co-operative BMD development are enormous. In addition to cost sharing, the benefits of which may be marginal to the US given the state of the Russian economy, co-operation could be expected to expedite the process of amending the ABM treaty to allow for full advantage to be taken of available technology. Cooper posits that there is reason to be optimistic about the possibility of co-operative development with Russia and other states, but warns that co-operation must exist at the conceptual, military, and strategic levels.³⁰⁹ Senator Malcolm Wallop also advises that Russian interest in joint development demands an acknowledgment that the ABM treaty of 1972 is woefully out of date.³¹⁰

In addition to cost sharing and enabling the most productive use of available technology, essentially providing “more bang for the buck,” cooperative

“Introduction to the BMD Question” in Ballistic Missile Defense, Carter and Schwartz, Eds. (Washington, D.C.: The Brookings Institution, 1984), 12; Schneider, 246.

³⁰⁸ “BMDO Report to Congress”, B23.

³⁰⁹ Cooper, 29.

efforts at BMD development could help to foster global security. It is possible that in collaborating to develop strictly defensive weapons systems, divergent states might also subsequently seek to enter into comprehensive co-operative security agreements. By conjointly developing a defensive weapon system, states implicitly acknowledge a common interest in defense against a common threat, even if that threat is an ambiguous one. A co-operative development program already exists between the US and Israel who are jointly developing the Arrow exoatmospheric intercept system, and the Unmanned Assault Vehicle (UAV) Boost Phase Defense system.³¹¹

Conclusion

In its original inception BMD was viewed as a means of addressing a practical military threat posed by missile technology. Throughout the better part of the Cold War the United States was concerned that deployment of missile defense systems with the ability to defend either population centers or hard targets, such as missile silos, would antagonize the USSR and lead to the destabilization of the delicate strategic balance that was emerging between the two powers. The American position changed near the end of the Johnson administration.

Under Johnson in 1967, deployment of the Sentinel ABM system was authorized. Sixteen months later it was announced that Sentinel would be replaced by Safeguard, which took advantage of technological improvements in

³¹⁰ Senator Malcolm Wallop, "What SDI Consensus?" in *Comparative Strategy*, (12:1, 1993), 70.

³¹¹ David Mosher, "The Grand Plans" in *IEEE Spectrum*, (September, 1997), figure 1. This figure also represents the cost of acquiring the following systems: PAC 2 and 3 (Army), THAAD

missile defense. One day after Safeguard deployment was completed in 1975 the program was scrapped. Clearly the decision to deploy in 1967 was the result of intense political pressure being applied by the Republican Party. However deployment was executed with the objective of inducing the Soviet Union to agree to arms control agreements, and not merely as a response to political pressure. In turn, an attempt was made to employ arms control as a means of ensuring that the development of both offensive and defensive strategic weapons did not undermine conflict stability between the United States and the Soviet Union.

This is attested to by the 1972 signing of the SALT I accord of which the ABM treaty was an integral part. Soviet participation in arms control negotiations from SALT I to START have been attributed to the desire of the USSR to impede US weapons development programs while trying to proceed with their own systems development. This approach was intended to give the Soviets a “fighting chance,” so to speak, in competing with the US in an arms race. However, with the collapse of the Soviet Union and the end of the Cold War, concern over the comparative strategic strengths of the US and Russia has dissipated somewhat, due primarily to an easing of political tensions.

In the post Cold War era the control that the US and the USSR had exercised over their client states can no longer be relied upon to enhance regional stability and limit the occurrence of incidents of violent confrontation.³¹²

(Army), Navy Area Defence (Lower Tier), Navy Theatre Wide (Upper Tier), Airborne Laser (Air Force), Arrow (Israel/U.S.), and UAV Boost Phase Defence (Israel/U.S.)

³¹² Yaacov Bar-Simon-Tor, Israel, the Superpowers, and the War in the Middle East, (New York: Praeger, 1987), 256.

Regional instability resulting in the indiscriminate use of force as a means of conflict resolution is the most immanent security threat faced by states in an international system that increasingly emphasizes open access to resources and economic markets through the process of globalization.

In order to ensure that the economic, foreign, and security policies of the United States and other great powers remain relevant to the constantly changing texture of the international environment, it is instructive to recall the military theory of Carl von Clausewitz, discussed in Chapter One. The significance of Clausewitz, for the purposes of this thesis, is that he defines and explains the relationship between war, which can be more generically perceived in terms of conflict, and the political needs and objectives of the state. For Clausewitz, while the dependence of military structures on the condition of the state may cause the general character of war to change throughout time, the specific nature of war as both an act of policy and a political instrument unto itself does not change. In other words, it is possible that certain factors affecting the structure of the state and its relationship to other states within a system may dictate that, in one era, the character of conflict and war may tend to be very limited, with open hostilities being quite rare. Furthermore, changes in those circumstances may occur over time, bringing about a state of affairs in which conflict and war are more commonly characterized by the occurrence of open hostilities. However, regardless of what changes may occur regarding the character of conflict and war in successive historical periods, the essential nature of war, and various other

methods of conflict management, will always be to support and maintain the political interests of the state.

This immutable fact establishes the need to reassess the post-Cold War international environment to determine where state's interests lie. The problem with this is that it is extremely difficult to make sense of the complex network of relationships among developed, developing, and underdeveloped states. The problem is further compounded by the involvement of a variety of non-state actors, including, but not necessarily limited to, MNCs, NGOs, and various regional coalitions. Such a detailed examination is clearly well beyond the scope of this thesis. However, for the purposes of this thesis, it is sufficient to make the relatively general observation that the simultaneous emphasis of the post-Cold War era on regionalism and globalism has meant that, on some level, the interests of most states are in some way tied to those of other states within the international system. While one could argue that this has always been the case, an even more compelling argument can be made for the position that the recent technological developments which have contributed to "the information age" and the heightened global connectivity of states, organizations, and individuals, serve to accentuate the degree to which states' interests are tied together.

Having acknowledged this change in the way in which states relate with each other in the international system, it is necessary also to acknowledge the possibility that the general character of conflict and war may also have changed since the end of the Cold War. While the START regime and the CFE Treaty may represent confidence and security building measures that will help foster the

continued development of friendly relations between the U.S. and Russia, the absence of an intensely inimical political relationship between the two countries limits the significance of the overall impact of these and other Post-Cold War arms control agreements. This is not to say that arms control has no role in the current security context. However, the emphasis of arms control has shifted to the non-proliferation of weapons to states and criminal / terrorist organizations that may seek to use them to disrupt the stability of the international system. Arms control measures such as the Missile Technology Control Regime, the Chemical and Biological Weapons Conventions, the Comprehensive Test Ban Treaty, and the Non-Proliferation Treaty, among others, continue to play an important role in slowing the proliferation of dangerous technology to those who would use them irresponsibly.

Unfortunately arms control agreements can not be relied upon to the same extent as they were in the past to impose reliable quantitative and qualitative constraints on the spread of weapons technology. This is largely attributable to the fact that a deterrent relationship no longer exists between the United States and Russia. The state of affairs associated with mutual deterrence was one that gave both sides an incentive to cooperate with each other in the area of arms control. This cooperation helped to ensure that conflict stability was maintained and that nuclear war was averted. The overarching influence of both the United States and the Soviet Union throughout the world during the Cold War made it relatively easy to control conflict situations in such a way that they did not threaten to disrupt that stability.

In the current context, however, both the deterrent relationship and the overarching influence are absent. Today advanced industrialized states such as the U.S., Germany, Japan, and Canada have a great deal invested in the international system and therefore share a common interest in preserving the stability of that system. However, the threat of superpower intervention against states that threaten that stability is not what it was during the Cold War. For this reason states such as Iran, Iraq, and North Korea have less incentive to agree and adhere to international measures to restrict the flow of arms. Consequently, arms control in the Post-Cold War era is a “stop-gap” measure, rather than a “fool-proof” means of providing stability in the international system.

As a result of the current security context, a clearly defined role for BMD technology does exist. BMD has the potential to contribute to regional stability and global security in four ways. The first way in which BMD may contribute to regional and global security, is, by being able to protect the critical space-based systems that play such a vital role in the economic and security interests of all states, and particularly those advanced industrial states that have a higher stake in the stability of the international system. The second way is, by virtue of the fact that the capability to protect population centers and intervention forces will continue to allow states to commit to international peacekeeping and peacemaking operations in conflict situations throughout the world. The third way is that a BMD capability can act to enhance the range of retaliatory options available to a state that finds itself subject to provocation by ballistic missile attack. This provides a state with a realistic range of options, from restraint to massive

retaliation, in response to an attack. The fourth way is, by entering into cooperative development programs a situation emerges which may allow divergent states to enter into common security agreements which may further enhance global security.

Before BMD reasonably can be expected to make a meaningful contribution to international security it will have to be released from the constraints imposed by the 1972 Anti-Ballistic Missile Treaty. From its inception, the arguments for and against missile defence have remained largely the same. Proponents of BMD consistently cite the need to protect American citizens against a limited attack from strategic ballistic missiles, while opponents have argued that BMD deployment on a large scale would be provocative, thereby threatening strategic stability. That the issue of strategic stability and mutual deterrence between the U.S. and Russia no longer applies has already been made abundantly clear.

Current opponents of BMD argue that no threat exists to justify the development and deployment of National Missile Defence systems. The fact of the matter is though, that a threat is looming on the horizon. Aside from the very real problem of the proliferation of fissile materials and ICBM technology is the vulnerability of the space-based communications, navigation, surveillance, and reconnaissance systems on which the economies and security of the United States and all other advanced industrial states rest. To the shortsighted this “phantom menace” does not warrant either the amendment or abrogation of the ABM Treaty, or the required investment in NMD technology. However, if it takes until

the release of the final trilogy in George Lucas' "Star Wars" saga to realize the actual imminence of the threat and the need for space-based BMD systems, it will be to the detriment of the entire world.

Appendix I

TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON THE LIMITATION OF ANTI-BALLISTIC MISSILE SYSTEMS

Signed at Moscow May 26, 1972

Ratification advised by U.S. Senate August 3, 1972

Ratified by U.S. President September 30, 1972

Proclaimed by U.S. President October 3, 1972

Instruments of ratification exchanged October 3, 1972

Entered into force October 3, 1972

**The United States of America and the Union of Soviet Socialist Republics,
hereinafter referred to as the Parties,**

**Proceeding from the premise that nuclear war would have devastating
consequences for all mankind,**

**Considering that effective measures to limit anti-ballistic missile systems would
be a substantial factor in curbing the race in strategic offensive arms and would
lead to a decrease in the risk of outbreak of war involving nuclear weapons,**

**Proceeding from the premise that the limitation of anti-ballistic missile systems,
as well as certain agreed measures with respect to the limitation of strategic
offensive arms, would contribute to the creation of more favorable conditions for
further negotiations on limiting strategic arms,**

**Mindful of their obligations under Article VI of the Treaty on the Non-
Proliferation of Nuclear Weapons,**

**Declaring their intention to achieve at the earliest possible date the cessation of
the nuclear arms race and to take effective measures toward reductions in strategic
arms, nuclear disarmament, and general and complete disarmament,**

**Desiring to contribute to the relaxation of international tension and the
strengthening of trust between States,**

Have agreed as follows:

Article I

**1. Each Party undertakes to limit anti-ballistic missile (ABM) systems
and to adopt other measures in accordance with the provisions of this Treaty.**

2. Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to deploy ABM systems for defense of an individual region except as provided for in Article III of this Treaty.

Article II

1. For the purpose of this Treaty an ABM system is a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of:

(a) ABM interceptor missiles, which are interceptor missiles constructed and deployed for an ABM role, or of a type tested in an ABM mode;

(b) ABM launchers, which are launchers constructed and deployed for launching ABM interceptor missiles; and

(c) ABM radars, which are radars constructed and deployed for an ABM role, or of a type tested in an ABM mode.

2. The ABM system components listed in paragraph 1 of this Article include those which are:

(a) operational;

(b) under construction;

(c) undergoing testing;

(d) undergoing overhaul, repair or conversion; or

(e) mothballed.

Article III

Each Party undertakes not to deploy ABM systems or their components except that:

(a) within one ABM system deployment area having a radius of one hundred and fifty kilometers and centered on the Party's national capital, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers; and

(b) within one ABM system deployment area having a radius of one hundred and fifty kilometers and containing ICBM silo launchers, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, (2) two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the Treaty in an ABM system deployment area containing ICBM silo launchers, and (3) no more than eighteen ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars.

Article IV

The limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges. Each Party may have no more than a total of fifteen ABM launchers at test ranges.

Article V

1. Each Party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based.

2. Each Party undertakes not to develop, test or deploy ABM launchers for launching more than one ABM interceptor missile at a time from each launcher, not to modify deployed launchers to provide them with such a capacity, not to develop, test, or deploy automatic or semi-automatic or other similar systems for rapid reload of ABM launchers.

Article VI

To enhance assurance of the effectiveness of the limitations on ABM systems and their components provided by the Treaty, each Party undertakes:

(a) not to give missiles, launchers, or radars, other than ABM interceptor missiles, ABM launchers, or ABM radars, capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode; and

(b) not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward.

Article VII

Subject to the provisions of this Treaty, modernization and replacement of ABM systems or their components may be carried out.

Article VIII

ABM systems or their components in excess of the numbers or outside the areas specified in this Treaty, as well as ABM systems or their components prohibited by this Treaty, shall be destroyed or dismantled under agreed procedures within the shortest possible agreed period of time.

Article IX

To assure the viability and effectiveness of this Treaty, each Party undertakes not to transfer to other States, and not to deploy outside its national territory, ABM systems or their components limited by this Treaty.

Article X

Each Party undertakes not to assume any international obligations which would conflict with this Treaty.

Article XI

The Parties undertake to continue active negotiations for limitations on strategic offensive arms.

Article XII

1. For the purpose of providing assurance or compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.
2. Each Party undertakes not to interfere with the national technical means of verification of the other Party operating in accordance with paragraph 1 of this Article.
3. Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty. This obligation shall not require changes in current construction, assembly, conversion, or overhaul practices.

Article XIII

1. To promote the objectives and implementation of the provisions of this Treaty, the Parties shall establish promptly a Standing Consultative Commission, within the framework of which they will:

(a) consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous;

(b) provide on a voluntary basis such information as either Party considers necessary to assure confidence in compliance with the obligations assumed;

(c) consider questions involving unintended interference with national technical means of verification;

(d) consider possible changes in the strategic situation which have a bearing on the provisions of this Treaty;

(e) agree upon procedures and dates for destruction or dismantling of ABM systems or their components in cases provided for by the provisions of this Treaty;

(f) consider, as appropriate, possible proposals for further increasing the viability of this Treaty; including proposals for amendments in accordance with the provisions of this Treaty;

(g) consider, as appropriate, proposals for further measures aimed at limiting strategic arms.

2. The Parties through consultation shall establish, and may amend as appropriate, Regulations for the Standing Consultative Commission governing procedures, composition and other relevant matters.

Article XIV

1. Each Party may propose amendments to this Treaty. Agreed amendments shall enter into force in accordance with the procedures governing the entry into force of this Treaty.

2. Five years after entry into force of this Treaty, and at five-year intervals thereafter, the Parties shall together conduct a review of this Treaty.

Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from

the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

Article XVI

1. This Treaty shall be subject to ratification in accordance with the constitutional procedures of each Party. The Treaty shall enter into force on the day of the exchange of instruments of ratification.

2. This Treaty shall be registered pursuant to Article 102 of the Charter of the United Nations.

DONE at Moscow on May 26, 1972, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA:
RICHARD NIXON
President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS:
L. I. BREZHNEV
General Secretary of the Central Committee of the CPSU

Appendix II

AGREED STATEMENTS, COMMON UNDERSTANDINGS, AND UNILATERAL STATEMENTS REGARDING THE TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON THE LIMITATION OF ANTI-BALLISTIC MISSILES

1. AGREED STATEMENTS

The document set forth below was agreed upon and initialed by the Heads of the Delegations on May 26, 1972 (letter designations added):

Agreed Statements Regarding the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems

[A]

The Parties understand that, in addition to the ABM radars which may be deployed in accordance with subparagraph (a) of Article III of the Treaty, those non-phased-array ABM radars operational on the date of signature of the Treaty within the ABM system deployment area for defense of the national capital may be retained.

[B]

The Parties understand that the potential (the product of mean emitted power in watts and antenna area in square meters) of the smaller of the two large phased-array ABM radars referred to in subparagraph (b) of Article III of the Treaty is considered for purposes of the Treaty to be three million.

[C]

The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers.

[D]

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

systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty.

[E]

The Parties understand that Article V of the Treaty includes obligations not to develop, test or deploy ABM interceptor missiles for the delivery by each ABM interceptor missile of more than one independently guided warhead.

[F]

The Parties agree not to deploy phased-array radars having a potential (the product of mean emitted power in watts and antenna area in square meters) exceeding three million, except as provided for in Articles III, IV, and VI of the Treaty, or except for the purposes of tracking objects in outer space or for use as national technical means of verification.

[G]

The Parties understand that Article IX of the Treaty includes the obligation of the United States and the USSR not to provide to other States technical descriptions or blueprints specially worked out for the construction of ABM systems and their components limited by the Treaty.

2. COMMON UNDERSTANDINGS

Common understanding of the Parties on the following matters was reached during the negotiations:

A. Location of ICBM Defenses

The U.S. Delegation made the following statement on May 26, 1972:

Article III of the ABM Treaty provides for each side one ABM system deployment area centered on its national capital and one ABM system deployment area containing ICBM silo launchers. The two sides have registered agreement on the following statement: "The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers." In this connection, the U.S. side notes that its ABM system deployment area for defense of ICBM silo launchers, located west of the Mississippi River, will be centered in the Grand Forks ICBM silo launcher deployment area. (See Agreed Statement [C].)

B. ABM Test Ranges

The U.S. Delegation made the following statement on April 26, 1972:

Article IV of the ABM Treaty provides that "the limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges." We believe it would be useful to assure that there is no misunderstanding as to current ABM test ranges. It is our understanding that ABM test ranges encompass the area within which ABM components are located for test purposes. The current U.S. ABM test ranges are at White Sands, New Mexico, and at Kwajalein Atoll, and the current Soviet ABM test range is near Sary Shagan in Kazakhstan. We consider that non-phased array radars of types used for range safety or instrumentation purposes may be located outside of ABM test ranges. We interpret the reference in Article IV to "additionally agreed test ranges" to mean that ABM components will not be located at any other test ranges without prior agreement between our Governments that there will be such additional ABM test ranges.

On May 5, 1972, the Soviet Delegation stated that there was a common understanding on what ABM test ranges were, that the use of the types of non-ABM radars for range safety or instrumentation was not limited under the Treaty, that the reference in Article IV to "additionally agreed" test ranges was sufficiently clear, and that national means permitted identifying current test ranges.

C. Mobile ABM Systems

On January 29, 1972, the U.S. Delegation made the following statement:

Article V(1) of the Joint Draft Text of the ABM Treaty includes an undertaking not to develop, test, or deploy mobile land-based ABM systems and their components. On May 5, 1971, the U.S. side indicated that, in its view, a prohibition on development of mobile ABM systems and components would rule out the deployment of ABM launchers and radars which were not permanent fixed types. At that time, we asked for the Soviet view of this interpretation. Does the Soviet side agree with the U.S. sides interpretation put forward on May 5, 1971?

On April 13, 1972, the Soviet Delegation said there is a general common understanding on this matter.

D. Standing Consultative Commission

Ambassador Smith made the following statement on May 22, 1972:

The United States proposes that the sides agree that, with regard to initial implementation of the ABM Treaty's Article XIII on the Standing Consultative Commission (SCC) and of the consultation Articles to the Interim Agreement on offensive arms and the Accidents Agreement, an agreement establishing the SCC will be worked out early in the follow-on SALT negotiations; until that is completed, the following arrangements will prevail: when SALT is in session, any consultation desired by either side under these Articles can be carried out by the two SALT Delegations; when SALT is not in session, ad hoc arrangements for any desired consultations under these Articles may be made through diplomatic channels.

Minister Semenov replied that, on an ad referendum basis, he could agree that the U.S. statement corresponded to the Soviet understanding.

E. Standstill

On May 6, 1972, Minister Semenov made the following statement:

In an effort to accommodate the wishes of the U.S. side, the Soviet Delegation is prepared to proceed on the basis that the two sides will in fact observe the obligations of both the Interim Agreement and the ABM Treaty beginning from the date of signature of these two documents.

In reply, the U.S. Delegation made the following statement on May 20, 1972:

The United States agrees in principle with the Soviet statement made on May 6 concerning observance of obligations beginning from date of signature but we would like to make clear our understanding that this means that, pending ratification and acceptance, neither side would take any action prohibited by the agreements after they had entered into force. This understanding would continue to apply in the absence of notification by either signatory of its intention not to proceed with ratification or approval.

The Soviet Delegation indicated agreement with the U.S. statement.

3. UNILATERAL STATEMENTS

The following noteworthy unilateral statements were made during the negotiations by the United States Delegation:

A. Withdrawal from the ABM Treaty

On May 9, 1972, Ambassador Smith made the following statement:

The U.S. Delegation has stressed the importance the U.S. Government attaches to achieving agreement on more complete limitations on strategic offensive arms, following agreement on an ABM Treaty and on an Interim Agreement on certain measures with respect to the limitation of strategic offensive arms. The U.S. Delegation believes that an objective of the follow-on negotiations should be to constrain and reduce on a long-term basis threats to the survivability of our respective strategic retaliatory forces. The USSR Delegation has also indicated that the objectives of SALT would remain unfulfilled without the achievement of an agreement providing for more complete limitations on strategic offensive arms. Both sides recognize that the initial agreements would be steps toward the achievement of complete limitations on strategic arms. If an agreement providing for more complete strategic offensive arms limitations were not achieved within five years, U.S. supreme interests could be jeopardized. Should that occur, it would constitute a basis for withdrawal from the ABM Treaty. The United States does not wish to see such a situation occur, nor do we believe that the USSR does. It is because we wish to prevent such a situation that we emphasize the importance the U.S. Government attaches to achievement of more complete limitations on strategic offensive arms. The U.S. Executive will inform the Congress, in connection with Congressional consideration of the ABM Treaty and the Interim Agreement, of this statement of the U.S. position.

B. Tested in an ABM Mode

On April 7, 1972, the U.S. Delegation made the following statement:

Article II of the Joint Text Draft uses the term "tested in an ABM mode," in defining ABM components, and Article VI includes certain obligations concerning such testing. We believe that the sides should have a common understanding of this phrase. First, we would note that the testing provisions of the ABM Treaty are intended to apply to testing which occurs after the date of signature of the Treaty, and not to any testing which may have occurred in the past. Next, we would amplify the remarks we have made on this subject during the previous Helsinki phase by setting forth the objectives which govern the U.S. view on the subject, namely, while prohibiting testing of non-ABM components for ABM purposes: not to prevent testing of ABM components, and not to prevent testing of non-ABM components for non-ABM purposes. To clarify our interpretation of "tested in an ABM mode," we note that we would consider a

launcher, missile or radar to be "tested in an ABM mode" if, for example, any of the following events occur: (1) a launcher is used to launch an ABM interceptor missile, (2) an interceptor missile is flight tested against a target vehicle which has a flight trajectory with characteristics of a strategic ballistic missile flight trajectory, or is flight tested in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range, or is flight tested to an altitude inconsistent with interception of targets against which air defenses are deployed, (3) a radar makes measurements on a cooperative target vehicle of the kind referred to in item (2) above during the reentry portion of its trajectory or makes measurements in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range. Radars used for purposes such as range safety or instrumentation would be exempt from application of these criteria.

C. No-Transfer Article of ABM Treaty

On April 18, 1972, the U.S. Delegation made the following statement:

In regard to this Article [IX], I have a brief and I believe self-explanatory statement to make. The U.S. side wishes to make clear that the provisions of this Article do not set a precedent for whatever provision may be considered for a Treaty on Limiting Strategic Offensive Arms. The question of transfer of strategic offensive arms is a far more complex issue, which may require a different solution.

D. No Increase in Defense of Early Warning Radars

On July 28, 1970, the U.S. Delegation made the following statement:

Since Hen House radars [Soviet ballistic missile early warning radars] can detect and track ballistic missile warheads at great distances, they have a significant ABM potential. Accordingly, the United States would regard any increase in the defenses of such radars by surface-to-air missiles as inconsistent with an agreement.

¹ See Article 7 of Agreement to Reduce the Risk of Outbreak of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics, signed September 30, 1971.

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