Chapter 4

Deterrence, U.S. Nuclear Strategy, and BMD

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OVERVIEW

Depending on how the policies and forces of the United States and the Soviet Union changed to accommodate it, the introduction of ballistic missile defenses into our military posture could well represent a major shift in national strategy. Alternatively, it might only be an incremental adjustment. To understand the role that BMD can play in national strategy, we must first understand what our present strategy is. We can then ask whether or how ballistic missile defenses might address some of the problems that have so far been identified with our strategy-or whether it might enable adoption of a strategy significantly better than the present one.

This chapter provides that background. After a brief summary of current U.S. nuclear strategy, it discusses what possible Soviet actions that strategy seeks to deter. The chapter goes on to describe our current strategy in greater depth and presents a discussion of some of the problems with our strategy that critics have identified. The chapter concludes by identifying possible evolution of or replacements to our strategy, paying particular attention to the roles that ballistic missile defenses might play.

INTRODUCTION

The overall strategic objective of our current nuclear strategy is, and consistently has been, to avoid nuclear attack on this nation while preserving other national interests. To accomplish this, our strategy has attempted to achieve three major goals:

- deter the Soviets from nuclear attack on the United States by convincing them that the outcome would be unacceptable to them;
- convince the Soviets that we will attempt to preserve our national interests by means short of nuclear war, but that attacks on those interests might well lead to nuclear war; and
- terminate nuclear war, if it cannot be avoided, at the lowest possible level of violence and on terms most favorable to us.

We strive to deter nuclear attack by fostering a perception among the Soviet leadership that they would suffer unacceptable losses in a nuclear war, and that under no circumstances would such a war leave them better off in terms of achieving their geopolitical objectives than they otherwise would have been. For this strategy to be credible, we must also foster the perception among the Soviets that we are not only willing to fight a nuclear war if necessary, but that nothing they could do could make us incapable of doing so. However, we also do not want our forces to be structured in such a way as to give the Soviets increased incentive to strike first in a crisis. We therefore strive to balance potential war-fighting capability against crisis stability.

In the event of attack, U.S. strategy incorporates two broad elements. We would seek to deny the Soviets success in achieving the goals motivating such an attack, and we would threaten retaliation. The *perception* of these capabilities contributes to deterring attack; the possession of these capabilities is intended to make possible the termination of hostilities

on favorable terms if they cannot be avoided. These elements apply both to deterring a Soviet first strike and to deterring and responding to subsequent Soviet actions. This discussion stresses "intending" to terminate hostilities, rather than successfully doing so, because it is by no means obvious that any plan for initiating even limited use of nuclear weapons can avoid the destruction of the societies of both parties to the conflict.

We would accomplish these elements, denial of success and retaliation, with offensive and passive defensive means. We deny the Soviets success in attacking military installations by means of a variety of passive measures such as hardening them and making them redundant (e.g., ICBM silos), dispersing them (e.g., air and naval forces), and hiding them (e.g., ballistic missile submarines). We do not attempt to deny success to attacks on our cities, on economic targets, or on "soft" military targets. We threaten retaliation by maintaining survivable offensive forces that are capable on balance of riding out attack and then reaching and destroying Soviet military and civilian assets. In short:

- The survival of the United States depends on rational behavior of the Soviet leadership. We seek to deter them from attacking, but if they intend to destroy the United States and suffer the consequences, we cannot prevent them from doing so.
- Deterrence rests primarily on offensive forces. We rely more heavily on the threat of retaliation than we do on denial of success.
- We rely on the use of passive defenses, not active ones, for the survivability of our offensive forces.

DETERRING THE SOVIETS

The principal target of U.S. nuclear strategy-the Soviet Union-is obvious. The mechanism by which that strategy works, however, is not simple. From what actions do we want to deter the Soviet Union? How does the deterrent mechanism operate? These questions are the subjects of a vast literature;[1] the problem can only be outlined here. In general, there are three broad, and to some extent overlapping, categories of Soviet behavior the United States would like to deter:

- A surprise, "bolt from the blue," strategic nuclear attack intended to disarm the United States and, conceivably, remove it as an international competitor to the Soviet Union.
- Initiation or threatened initiation of nuclear war against the United States as an escalation of an ongoing crisis, conventional war, or theater nuclear war.
- Threats of or acts of military aggression against U.S. allies or against countries whose conquest the United States would see as challenging vital U.S. interests.

Exactly what one believes the United States must do-to deter the Soviet Union from the kinds of behavior listed above depends on one's perceptions of Soviet motivations, strategy, and military capabilities. However, determining Soviet intentions is a controversial procedure, and U.S. Sovietologists offer a wide range of interpretations of Soviet views. Before examining current U.S. strategy in any detail, we will first explore this diversity of opinion.

It arises, in part, from apparent contradictions in Soviet statements and writings on the subject. Examination of actual Soviet nuclear force deployments helps narrow the controversy somewhat, but still does not persuasively resolve the debated questions to everyone's satisfaction. A recent OTA workshop[2]

I See app. M for references to a representative sampling.

'OTA workshop of Soviet military strategy and policy, held Dec. 12, 1984; summary to be made available separately from this report.

suggested that the conflicting statements of Soviet strategic doctrine emanate from two overlapping, but distinguishable spheres: the "sociopolitical" and the "military-technical."

The former consists of propositions of the following kinds, which are often heard emanating from the highest levels of Soviet political leadership, and often from high military leaders as well:

- The Soviet Union will not be the first to use nuclear weapons.
- Nuclear war with the United States would be mutual suicide.
- It is impossible to keep a nuclear war limited.
- Soviet nuclear policy is defensive and retaliatory in nature.
- A rough parity of nuclear forces now exists between the Soviet Union and the United States.
- The Soviet Union does not seek nuclear superiority.

On the other hand, many contemporaneous Soviet military writings on operational levels, the "military-technical" arena, stress such strategic principles as:

- It is important to seize the offensive at all levels of warfare.
- Getting in the first blow (preemptive attack) can decide the outcome of a nuclear
- Nuclear warfare might be contained within a particular theater of operations.
- A combination of offensive attack and strategic defense (e.g., air defense and civil defense) could limit damage to the Soviet Union from a nuclear war.
- The Soviet Union would prevail in a nuclear war.

Analysts of Soviet military policy agree that both of these bodies of doctrine co-exist in Soviet writings, as indeed they do in U.S. writings. However, there is disagreement on which would take precedence under what circumstances. When it actually comes to running risks of engaging in nuclear war with the United States, which precepts are Soviet decisionmakers most likely to follow?

Examining actual Soviet nuclear force deployments seems to some analysts to support the notion that the "military-technical" set of doctrines has been given considerable operational application.[3] The Soviets have built a large land-based ICBM force which appears capable of destroying the bulk of the U.S. land-based ICBM force in a first strike. Their anti-submarine warfare programs seek the ability to threaten our sea-based deterrent. They have a massive air defense system and a large civil defense program. Although they have deployed no nationwide ballistic missile defense capability (which would be prohibited by the 1972 ABM Treaty), they appear to continue preparations to be able to do so.

On the other hand, other characteristics of the Soviet strategic posture, especially when viewed in the light of the relevant U.S. strategic capabilities, suggest that Soviet leaders should and do give some credence to the "sociopolitical" set of propositions above. Even in a bolt-from-the-blue surprise attack, the Soviet Union cannot expect to escape a devastating retaliatory blow against a wide range of military, economic, and political targets. This follows for a number of reasons:

- Only one-quarter of U.S. strategic nuclear warheads are deployed on land-based ICBMs which are thought to be at risk to Soviet preemption; the rest are on bombers and submarines. In normal times, half the submarines are invulnerable at sea and many bombers are poised for rapid take-off. If nuclear forces were in a "generated" posture, such as in a crisis when a preemptive strike could be anticipated, even more submarines would be at sea and more bombers would be on alert, widely dispersed, and ready for quick take-off.
- Although the Soviet air defense system is impressive, the U.S. Defense Department believes that structural and electronic upgrades to current U.S. bombers,

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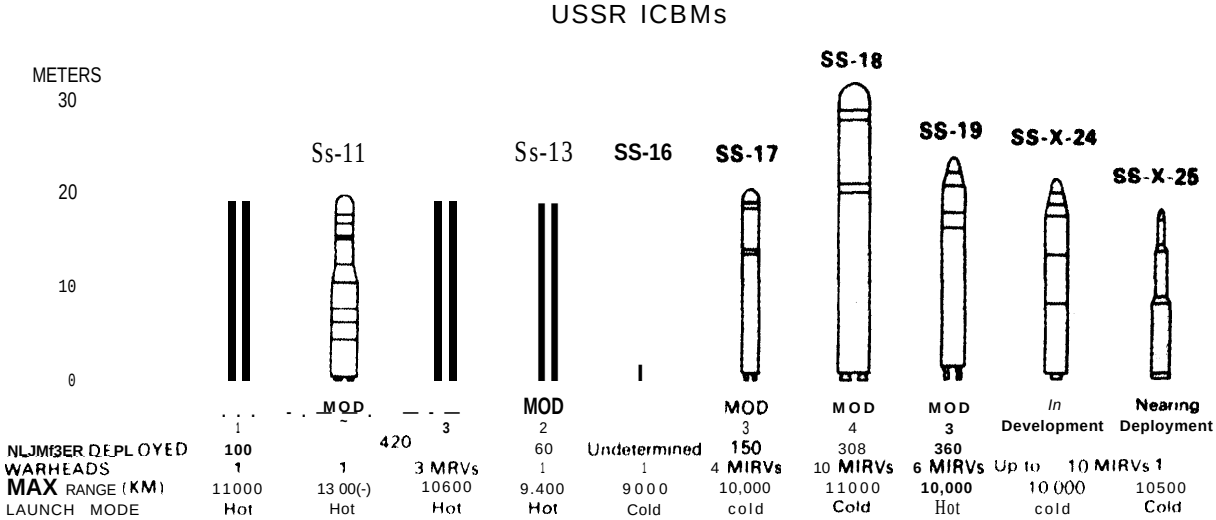
One such analysis is done by Stephen Meyer, "Insight From Mathematical Modeling in Soviet Mission Analysis, Part I I," a report done under contract MDA-903 -82-K-O1O7 with the Defense Advanced Research Projects Agency.

Figure 4-1.— U.S.S.R. ICBMs



The Soviet ICBM arsenal. The Soviets have built a large land-based ICBM force which appears capable of destroying the bulk of the U.S. land-**based ICBM force in a first strike.**

SOURCE: U.S. Department of Defense.

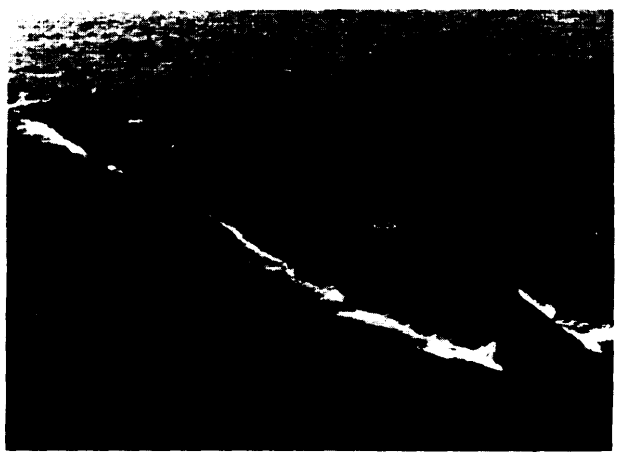


Photo credit: U.S. Navy

The U.S.S. Ohio, first of the Trident ballistic missile submarines. About half of U.S. strategic nuclear warheads are deployed on submarine-launched ballistic missiles aboard Poseidon and Trident submarines. In normal times, about half of these are hidden under water; during a "generated" alert, still more would be sent to sea.

current and advanced cruise missiles, the B-lB bomber, and use of new bomber technology will continue to assure penetration of those defenses for the foreseeable future.

- Although the Soviet civil defense program is-large, it remains a matter of controversy in the United States as to how well it could actually protect Soviet political and economic assets against U.S. strategic forces.[4]

The Soviets have also taken measures to protect their own nuclear forces from a nuclear strike. They have hardened their ICBM silos to withstand high overpressures; they have a large submarine-launched missile force; they appear to be developing a mobile land-based ICBM. Such survivability measures can be interpreted as maintenance of a secure "third-strike" reserve force which would be protected from a U.S. retaliatory attack and which therefore could be used to deter the United States from retaliating.[5] However, the survivability measures can also be viewed as providing an

[4]Two contrasting views are given by Leon Goure, "War Survival in Soviet Strategy" (Washington, DC: Advanced International Studies Institute, 1976); and U.S. Central Intelligence Agency, "Soviet Civil Defense," Director of Central Intelligence, N178-1OOO3, July 1978. See also note 8, below.

[5]Some argue that if the United States calculated that after it retaliated the Soviets would be left with a larger reserve of nuclear weapons, a U.S. President would be even more hesitant about retaliating.

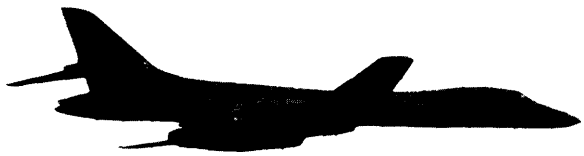


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Photo credits U S Air *Force*

"Air-breathing," means of delivering U.S. strategic nuclear weapons. Top left, air-launched cruise missile being launched from Air Force B-52 bomb bay. Top right, B1-B bomber, Advanced Technology Bomber (ATB) design, right, still highly classified. According to the Organization of the Joint Chiefs of Staff, "The B1-B is designed to penetrate Soviet defenses well into the 1990s. The strategic modernization program also calls for the development of an ATB with stealth characteristics. Plans call for the ATB to deploy in the 1990s to neutralize an increasingly sophisticated Soviet air defense system. " [*United States Military Posture* for FY 1986, p. 25.]

invulnerable retaliatory force capable of inflicting unacceptable damage on an attacker, which would support a strategy of deterrence.

Many U.S. Sovietologists believe that the concept of strategic preemption to limit damage (if not to completely decide the outcome of the conflict) is an important element in Soviet military doctrine and force deployments. There is less agreement about the conditions under which the Soviets might choose to exercise a preemptive option.[6]

Returning to the three general categories of Soviet actions the United States would like to deter, we can see how differing interpretations of Soviet nuclear strategy lead to differing assessments of what deterrence requires of U.S. nuclear forces.

Bolt-From-the-Blue First Strike

The requirement to absorb such an attack and still retain the capability to deliver an un-

[6]Sovietologist Raymond Garthoff argues from Soviet military and political writings that: 1) Soviet doctrines of strategic preemption cover only certain narrow cases, with a launch on warning or launch under attack being more likely; and 2) a decision to preempt, and therefore to start a nuclear war, would be suicidal because such a war would be disastrous for both sides. (cf. "Mutual Deterrence, Parity, and Strategic Arms Limitation in Soviet Policy, " Chapter 5 of Soviet *Military Thinking,* Derek Leebaert (cd.) (London: George Allen & Unwin, 1981), pp. 92-124. Another analyst concludes:

> The Soviet leaders have been forced to recognize that their relationship with the United States is in reality one of mutual vulnerability to devastating nuclear strikes, and that there is *no* immediate prospect of escaping from this relationship. Within the constraints of this mutual vulnerability they have tried to prepare for nuclear war, and they would try to win such a war if it came to that. But there is little evidence to suggest that they think victory in a global nuclear war would be anything other than catastrophic.

(David Holloway, *The Soviet Union and the Arms Race* (London and New Haven: Yale University Press, 1984), p. 179.)

On the other hand, still other analysts argue that:

> There is a regrettable tendency in the West to view the Soviet Union almost entirely in "mirror image" terms . . . The simple fact of the matter is that U.S. and Soviet concepts of the benefits of "victory" and its relative costs reflect philosophical and societal parameters that are in no way symmetrical . . . The data available suggest, in fact, that the Soviet leadership, in the pursuit of its hegemonical objectives, may be prepared to incur losses in societal and human values that would be "unthinkable, " at least in cold blood, within Western polities, but which in Soviet eyes are bearable, viewed, for instance, in relation to the total Soviet military and civilian casualties in World War II.

Jacquelyn K. Davis, Robert L. Pfaltzgraff, Jr., and Uri Ra'anan, "Soviet Strategic-Military Thought and Force Levels: Implications for American Security, " in Jacquelyn K. Davis, et al., The Soviet *Union and Ballistic Missile Defense* (Cambridge, MA: The Institute for Foreign Policy Analysis, Inc., 1980), p. 25.

Yet another analyst argues that emphases in Soviet strategic doctrine have varied over time but always according to the dictates of Soviet political leadership when it takes a stand. Currently, he argues, " . . . the primary rationale for all Soviet nuclear options is now retaliation-the inhibition of American escalation. " James M. McConnell, "Shifts in Soviet Views on the Proper Focus of Military Development, " *World Politics,* April 1985, p. 337.

acceptable retaliatory strike to the Soviet Union has been a fundamental determinant of the U.S. strategic posture. Although this is the scenario most analysts agree is the least likely, it is also one of the most stressing; the chances of its occurring could well increase if we were to ignore this case and, as a result, become dangerously vulnerable to it.

In this scenario, the Kremlin leaders sit down one day and decide that a world without the United States as a major power would be a more comfortable one for the Soviet Union, and that they have the means of bringing that world about at acceptable cost. Alternatively, they decide that they face some intolerable trends (perhaps the disintegration of their position in Eastern Europe, or economic collapse at home) and that only a victory over the United States can rescue them. They would presumably estimate that a surprise attack on the United States could disarm it sufficiently so that it might prefer negotiations to retaliation and that, at worst, whatever retaliatory damage the United States could inflict would be an acceptable price for the defeat of the United States.

Some have argued that the Soviets might attempt a more or less surgical strike on U.S. land-based missiles (and perhaps bombers), leaving only the less accurate submarine-launched U.S. missiles available for retaliation. Since the present generation of these missiles is not accurate enough to destroy Soviet reserve ICBM silos or other very hard targets (e.g., command bunkers or shelters for the Soviet political and military leadership), the United States might be deterred from retaliating at all, hoping to spare its cities from a Soviet "third strike"; instead, U.S. leaders would be forced to sue for peace on Soviet terms.

Aside from the operational uncertainties Soviet military planners would face, this scenario minimizes several considerations.[7] First, an attack on U.S. land-based strategic forces would inevitably lead to the deaths of millions of Americans. The Soviets would be imprudent, to say the least, to believe that the United States would fail to retaliate. They also need to consider that the United States maintains the option of launching its land-based ICBMs on warning of attack, leaving only empty silos to await the Soviet first strike. In addition, although currently less accurate than land-based missiles, U.S. SLBMs are aimed at a wide variety of military, political, and economic targets-targets presumably chosen to be those the Soviet leadership would least like

Photo *credit; U.S. Navy*

U.S. Navy Trident C-4 SLBM in test launch. The C-4 is more accurate than its predecessor, the Poseidon SLBM, but not as accurate as the D-5 (Trident 11) SLBM, which, when it becomes operational in the late 1980s, is expected to be nearly as accurate as land-based ICBMs.

[7] On Soviet planning uncertainties, see Benjamin S. Lambeth, "Uncertainties for the Soviet War Planner," International Security, vol.7, winter 1983, pp. 139-166. See also Stanley Sienkiewicz, "Observations on the Impact of Uncertainty in Strategic Analysis," *World Politics*, vol. XXXII, October 1979, pp. 90-110.

to lose. Finally, surviving U.S. bombers and cruise missiles could accurately attack Soviet hard targets.

Moreover, there is no consensus in the United States about just what levels of national loss the Soviet leadership might be prepared to suffer to obtain various objectives.[8] The question becomes even more complicated when one moves from a scenario in which the Soviets deliberately choose to begin a nuclear war (as would result from bolt-from-the-blue attack) to scenarios in which the Soviets are only running a *risk* of nuclear war.

Escalator Confrontation

What might deter the Soviet Union from *risking* nuclear confrontation remains extremely controversial. But suppose the risk has been taken. The Soviets may have miscalculated U.S. willingness to escalate a conflict, thus miscalculating the risk of war involved in some act of aggression. It is also possible to imagine scenarios in which the Soviets either do not believe the United States to have made a deterrent commitment, or do not believe that their own actions constitute what others would see as aggression. Varying perceptions of Soviet motivations lead to varying degrees of willingness to postulate such scenarios. In any case, the situation postulated here is not that the Soviets have decided in advance that victory at a reasonable price is achievable, nor that they believe the consequences of a nuclear war to be acceptable. Rather, it is that they believe (and think that the United States probably shares the belief) that past miscalculations and the pressure of events have made central nuclear war imminent and quite possibly inevitable. The question is whether they would launch a preemptive strike on the United States or whether they would wait and take the chance either that the United States would not strike, or that they could launch their own forces upon detection of U.S. attack.

In this case, compared to the "bolt-from-the blue" scenario, the Soviet calculus of risk is different. They do not necessarily believe that a nuclear war will be to their strategic advantage. They assume that the United States will retaliate devastatingly if struck; moreover, they have some doubt as to whether the United States, expecting a Soviet strike, will wait for it. If the Soviets were absolutely certain that strategic nuclear war was inevitable, they would presumably see no choice but to launch a preemptive strike. Although the Soviet Union might suffer grievous damage from a U.S. retaliation, that damage might be reduced at least marginally by the combination of Soviet counterforce strikes and defensive measures.

Suppose, however, that the situation remained at least somewhat ambiguous. The Soviets would be confronting a U.S. strategic force in a high state of alert: many submarines in port might have been sent to sea; additional alerted bombers might have been dispersed to many airfields; in the expectation of imminent attack, U.S. land-based ICBMs might be prepared to be launched under warning of attack so as to escape a Soviet disarming strike. Attacked by this augmented retaliatory force, Soviet civil defense and air defense capabilities might not go far in preventing damage.[9] The

[8] "A Garthoff-Pipes Debate on Soviet Strategic Doctrine," *Strategic Review,* vol. 10, fall 1982, pp. 36-63.

[9] It is possible that *greater* immediate damage could be done to the Soviet Union as a result of having civil defenses. Evacuation of Soviet cities could be interpreted as a signal that the Soviets were considering a preemptive strike, so the United States might respond by "generating" its strategic forces, or putting them in a high state of alert. In a generated posture, U.S. forces would be less vulnerable to a Soviet first strike. Therefore, it is conceivable that more Soviets would be killed by U.S. retaliation which had been bolstered as a result of Soviet evacuation than would die in U.S. retaliation for a "bolt-from-the-blue" attack that the Soviets mounted without evacuating their cities and therefore without warning the United States of their plan.

One study estimated that a retaliatory second-strike attack by U.S. forces in their "day-to-day" posture against Soviet nuclear forces, other military targets, and industry would kill 60 to 64 million Soviets, over the short term, if they did not evacuate cities but instead took protection in the "best available" shelter. If the Soviets successfully evacuated 80 *percent* of their urban population and caused the United States to generate its forces, a U.S. retaliatory strike would kill 23 to 34 million Soviets. However, that total would rise to to 54 to 65 million if the evacuated population were targeted. The study did not consider long-term effects, and no analysis was made to determine the feasibility of implementing such an evacuation suc-

Soviets would face the difficult choice of launching an attack which assured great damage to themselves, or taking a chance that a strategic exchange could still be avoided but at the same time risking even greater damage if the gamble on U.S. restraint failed. It is widely believed that this is the kind of scenario which is the most likely to lead to a nuclear war.

Threats of Aggression and Aggression Against U.S. Allies and Interests

The extension of U.S. nuclear forces to deter against attack on NATO allies as well as against attack on the United States proper, called "extended deterrence, " provides the greatest challenge to U.S. nuclear strategy. This commitment to United States allies is central to the North Atlantic Treaty Organization:

> The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all; and consequently, they agree that, if such armed attack occurs, each of them, in exercise of the right of individual or collective self-defense recognized by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.[10]

In the 1950s, when the Soviet Union had very little capability for a nuclear attack on the United States, it was more or less plausible for the United States to threaten nuclear punishment for aggression against its allies. (The Soviets attempted to compensate somewhat for this asymmetry in nuclear deterrence in the late 1950s and early 1960s by deploying hundreds of medium- and intermediate-range nuclear missiles that could at least reach Western Europe.)

But during the 1960s, the Soviets began to acquire their own ICBMs, stationed in silos that would be hard for the United States to knock out in a quick first strike. By that time, the United States had added thousands of tactical and "theater" nuclear weapons to NATO forces. In a strategy of "flexible response, " the United States would answer Soviet aggression at whatever level seemed necessary-including first use of nuclear weapons—to repel the attack. Given the Warsaw Pact numerical superiority in many categories of conventional force, it was widely assumed that NATO would have to resort to nuclear counterattack at a fairly early stage. Such nuclear counterattacks might lead to termination of the conflict before it escalated to central nuclear *war-but then again they might not.* Thus, U.S. strategy in NATO held out the ultimate prospect, if not the immediate threat, that the US. assured destruction capability might still be called into play.

At the same time, the United States would have to reckon with the risk that escalation of a European war might lead to assured Soviet-inflicted destruction of the United States. As Henry Kissinger told a European audience in 1979:

> The European allies should not keep asking us to multiply strategic assurances that we cannot possibly mean, or if we do mean, we should not want to execute because if we execute, we risk the destruction of civilization. *
>
> The Soviets might not believe that the United States would really run such a risk in order to defend Europe.

Extended deterrence, therefore, poses an inherent dilemma which U.S. nuclear strategy has not fully solved: to the extent that U.S. strategic nuclear forces are believable as "NATO's ultimate deterrent, " their use in that role risks the United States' own destruc-

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cessfully. "In fact, " the study noted, "it is highly questionable whether the United States or the Soviet Union could effectively achieve this [civil defense] posture. " U.S. Arms Control and Disarmament Agency, "An Analysis of Civil Defense in Nuclear War, " December 1978, figure 13, pp. 11 and 12.

'The North Atlantic Treaty, Article 5, signed on Apr. 4, 1949 in Washington, DC, The Signing *of* the North *Atlantic Treaty—Proceedings,* Department of State Publication 3497, (Washington, DC: U.S. Government Printing Office, June 1949).

*Henry A. Kissenger, "NATO Defense and the Soviet Threat, " *Survival,* November/December 1979, p. 266.

tion. To the extent that such use is not believable, those forces cannot effectively deter attack on NATO. The prospect of inviting Soviet retaliation directly against the United States for use of nuclear weapons in defense of Europe looks as repugnant to some Americans as its converse of confining a superpower-initiated nuclear war to European soil looks to some Europeans.

The reasoning behind "flexible response" is that it is credible to threaten the possibility, but not the certainty, of escalation to general nuclear war. In a situation where escalation might or might not occur, with that possibility not necessarily under the direct control of either side, what would otherwise have been an unbelievable threat might acquire credence. Strategist Thomas Schelling describes the role of uncertainty, "the threat that leaves something to chance," in this situation:

> The brink is not, in this view, the sharp edge of a cliff where one can stand firmly, look down, and decide whether or not to plunge. The brink is a curved slope that one can stand on with some risk of slipping, the slope [getting] steeper and the risk of slipping greater as one moves toward the chasm . . . One does not, in brinkmanship, frighten the adversary who is roped to him by getting so close to the edge that if one decides to jump one can do so before anyone can stop him. Brinksmanship involves getting onto the slope where one may fall in spite of his own best efforts to save himself, dragging his adversary with him.[11]

The threat of first use of nuclear weapons by NATO depends either on the assumption that any nuclear use may lead to uncontrolled escalation, making the threat of a NATO nuclear response an effective deterrent to both conventional and nuclear aggression, or on the assumption that NATO can maintain "escalation dominance" on the Warsaw Pact, preventing the use of nuclear weapons beyond the level that NATO chooses to use them. Soviet deployments of tactical, theater, and intermediate-range nuclear forces, in conjunction with their central strategic forces, are sufficient to deny NATO high confidence in imposing escalation dominance on the Warsaw Pact. Therefore, measures have been taken to tighten the perceived "coupling" between Europe and U.S. central strategic forces to bolster the United States' "extended deterrent. "12

For example, the recent deployment by the U.S. of intermediate-range Pershing II missiles and ground-launched cruise missiles (GLCMs) in Europe was undertaken in part

[11] Thomas C. Schelling, *The Strategy of Conflict* (London: Oxford University Press, 1960), p. 199. "Children," says Schelling, "understand this perfectly. "

[12] *This and the following paragraph draw on Robert S. McNamara's arguments in "The Military Role of Nuclear Weapons: Perceptions and Misperceptions, *Foreign Affairs*, fall 1983, p. 59.

Photo credtt U.S. Air Force

Test firing of U.S. Air Force Ground-Launched Cruise Missile (GLCM), This mobile missile is being deployed in Europe partly to respond to NATO fears that the United States might be unwilling to use nuclear forces based at sea or in its own homeland in defense of Europe,

to respond to NATO fears that the United States would be unwilling to use nuclear forces based at sea or in its own homeland in defense of Europe. These European-based systems, in addition to the submarine launched ballistic missiles which the United States had already assigned for NATO use, were intended to strengthen the connection between conventional and tactical nuclear forces, on one hand, and American central strategic forces, on the other. In striking Soviet territory, they might precipitate a Soviet retaliatory strike on American territory which in turn might generate a U.S. central strategic attack. The Soviets, no longer perceiving a "firebreak" between conventional aggression (which might result in NATO first use of tactical nuclear weapons) and central strategic exchange, would be deterred from making the initial conventional attack.

In calculating whether to challenge the United States in areas where the United States appears to have a military commitment, the Soviets must weigh the gains they hope to achieve (or losses they hope to avoid) against a calculated risk of nuclear war. They cannot know with certainty what the United States' responses will be. Therefore, they must estimate the probability of various U.S. reactions. It might be that what they predict to be the most likely outcome is the one they seek. Alternatively, there might be a less likely result which was nevertheless so desirable that the Soviets would judge their overall risks to be tolerable, considering the possible gains. They might even act to minimize the most favorable outcome obtainable by the United States rather than to maximize their own benefit (should those cases differ).

The United States, similarly, cannot know exactly what the Soviets will do. It therefore can only do its best to make sure that aggression is a very unattractive choice for the Soviets no matter how the Soviets make their decisions.

Some argue that if the extended deterrent is to be truly credible, the United States must be able to greatly erode the Soviet assured destruction capability, either by preemptive counterforce attacks on Soviet missiles, by incorporating significant defenses (civil, air, and ballistic missile), or both. As Colin Gray has put it,

> . . . if U.S. strategic nuclear forces are to be politically relevant in future crises, the American homeland has to be physically defended. It is unreasonable to ask an American President to wage an acute crisis, or the early stages of a central war, while he is fearful of being responsible for the loss of more than 100 million Americans. If escalation discipline is to be imposed upon the Soviet Union, even in the direst situations, potential damage to North America has to be limited . . .[13]

On the other hand, if the Soviets wish to avoid such "escalation discipline, " they have a strong incentive to try to assure the penetration of their forces through such U.S. defenses—to see to it that the United States does *not* come to believe that damage can be limited.

[13] Colin Gray, "Nuclear Strategy: the Case for a Theory of Victory, " International Security, vol. 4, No. 1, summer 1979, p. 84.

CURRENT U.S. STRATEGIC NUCLEAR POLICY

Current U.S. nuclear strategy is a balance between attempting to minimize the risk of nuclear war, on the one hand, and attempting to prevent the coercion or intimidation of the United States and its allies, on the other." Secretary of Defense Caspar Weinberger listed the five highest priority national security objectives of the United States in his Report to the Congress for Fiscal Year 1984. The three that directly concern strategic nuclear weap-

"Henry Kissinger wrote in 1957 that " . . . the enormity of modem weapons makes the thought of war repugnant, but the refusal to run any risks would amount to giving the Soviet rulers a blank check . . . " (cf. *Nuclear Weapons and Foreign Policy* (New York: Harper & Brothers, 1957), p. 7).

ons are quite similar to the formulations of previous administrations:

- To deter military attack by the U.S.S.R. and its allies against the United States, its allies, and other friendly countries; and to deter, or to counter, use of Soviet military power to coerce or intimidate our friends and allies,
- In the event of an attack, to deny the enemy his objectives and bring a rapid end to the conflict on terms favorable to our interests; and to maintain the political and territorial integrity of the United States and its allies.
- To promote meaningful and verifiable mutual reductions in nuclear and conventional forces through negotiations with the Soviet Union and the Warsaw Pact, respectively; and to discourage further proliferation of nuclear weapons throughout the world.[15]

The strategy adopted to achieve these objectives is based on three major principles, stated in the same report, that are also a continuation of longstanding policies:

- First, our strategy is *defensive.* It excludes the possibility that the United States would initiate a war or launch a preemptive strike against the forces or territories of other nations.
- Second, our strategy is to deter war. The *deterrent* nature of our strategy is closely related to our defensive stance. We maintain a nuclear and conventional force posture designed to convince any potential adversary that the cost of aggression would be too high to justify an attack.
- Third, should deterrence fail, our strategy is to *restore peace on favorable terms.* In responding to an enemy attack, we must defeat the attack and achieve our national objectives while limiting—to the extent possible–the scope of the conflict. We would seek to deny the enemy his political and military goals and to counterattack with sufficient strength to terminate hostilities at the lowest possible level of damage to the United States and its allies. "

While catastrophic failure of this strategy would be clear, its success is hard to quantify. "We can never really measure how much aggression we have deterred, or how much peace we have preserved, " wrote Secretary of Defense Weinberger. "These are intangible–until they are lost. ''[17]

Countervailing Strategy

In 1980, after having conducted a comprehensive review of U.S. strategic policy, President Carter issued Presidential Directive 59 which formally codified a "countervailing" strategy. As described by Secretary Brown in his Report to Congress for Fiscal Year 1982, the countervailing strategy is based on two fundamental principles:

> *The first is that, because it is a strategy of deterrence, the countervailing strategy is designed with the Soviets in mind.* Not only must we have the forces, the doctrine, and the will to retaliate if attacked, we must convince the Soviets, *in advance,* that we do. Because it is designed to deter the Soviets, our strategic doctrine must take account of what we know about Soviet perspectives on these issues, for, by definition, deterrence requires shaping Soviet assessments about the risks of war . . . . We may, and we do, think our models are more accurate, but theirs are the reality deterrence drives us to consider . . . .
>
> *The second basic point is that, because the world is constantly changing, our strategy evolves slowly, almost continually, over time to adapt to changes in U.S. technology and military capabilities, as well as Soviet technology, military capabilities, and strategic doctrine.* [18]

In particular, countervailing strategy intends to make clear to the Soviets that:

> . . . no course of aggression by them that led to use of nuclear weapons, on any scale of attack and at any stage of conflict, could lead to victory, however they may define victory. Besides our power to devastate the full target system of the U. S. S. R., the United States

[15] Caspar W. Weinberger, Secretary of Defense, Annual Report to the Congress, Fiscal Year 1984 (referred to as DOD FY84 *Annual Report),* Feb. 1, 1983, p. 16.

16 Ibid,, p. 32 (emphasis in original).

[17] Weinberger, *DOD FY85 Annual Report,* Feb. 1, 1984, p. 8.

[18] Harold, Brown, Secretary of Defense, *Annual Report to the Congress, Fiscal Year 1982,* Jan. 19, 1981, p. 38 (emphasis in original).

would have the option for more selective, lesser retaliatory attacks that would exact a prohibitively high price from the things the Soviet leadership prizes most–political and military control, nuclear and conventional forces, and the economic base needed to sustain a war.[19]

Seeking to incorporate flexibility and encompassing many options and target sets, the countervailing strategy continues to be the basis for U.S. strategic nuclear policy .20

Strategic Stability

American nuclear strategy has placed high priority on strategic stability. Most often, the term "stability" used alone has stood for *crisis stability*, which describes a situation in which, in times of crisis or high tension, no country would see the advantages of attacking first with nuclear weapons as outweighing the disadvantages. Crisis stability depends on the force structures and doctrines of both sides and on each side's perception of the other. The lower the degree of crisis stability, the greater the risk that a power would preempt if it perceived that it were likely to be attacked. This is not to argue that it is U.S. policy to consider a preemptive strike, but Soviet perceptions of such a possibility might increase a Soviet inclination to preempt under some circumstances. President Reagan's Commission on Strategic Forces (the Scowcroft Commission) stated that:

> ,.. stability should be the primary objective both of the modernization of our strategic forces and of our arms control proposals. Our arms control proposals and our strategic arms programs . . . should work together to permit us, and encourage the Soviets, to move in directions that reduce or eliminate the advantage of aggression and also reduce the risk of war by accident or miscalculation.[21]

Another type of stability is *arms race stability*, in which there are minimal incentives for the United States and U.S.S.R. to continually update or expand their strategic arsenals in order to compensate for developments by the opposite side. The assumption underlying the concept of arms race stability is that deployments on one side may lead the other to counter-deployments which in turn stimulate new deployments by the first.

U.S. Force Requirements and Posture

According to Secretary of Defense Weinberger, present U.S. countervailing strategy places five specific requirements on strategic nuclear forces:[22]

1. Flexibility: " . . . A continuum of options, ranging from use of small numbers of strategic and/or theater nuclear weapons aimed at narrowly defined targets, to employment of large portions of our nuclear forces against a broad spectrum of targets. "
2. Escalation Control: " . . . We must convince the enemy that further escalation will not result in achievement of his objectives, that it will not mean 'success, ' but rather additional costs. "
3. Survivability and Endurance: " . . . The key to escalation control is the survivability and endurance of our nuclear forces and the supporting communications, command and control, and intelligence ($C^3$1) capabilities.
4. Targeting Objectives: "We must have the ability to destroy elements of four general categories of Soviet targets. " These are strategic nuclear forces, other military forces, leadership and control, and the industrial and economic base.
5. Reserve Forces: "Our planning must provide for the designation and employment

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[19]Ibid., p. 39.

[20]1n 1982, Secretary Weinberger told the Senate Committee on Foreign Relations that Reagan Administration policy "does not change substantially or materially the policy set out" in P.D. 59, and that "the essential strategic doctrine set out in P.D. 59 remains. " ("U.S. Strategic Doctrine, " hearing before the Committee on Foreign Relations, United States Senate, 97th Cong., 2d sess., Dec. 14, 1982, p. 99. See also an insert for the record outlining nuclear policy differences between the Carter and Reagan Administrations on p. 100.)

[21]April 1983 Report of the President's Commission on Strategic Forces (referred to hereafter as the Scowcroft Commission Report I), p. 3.

[22]Ibid., pp. 40-41.

of adequate, survivable, and enduring reserve forces and the supporting C^3I systems both during and after a protracted conflict.

To attempt to satisfy these requirements, the United States maintains a *triad* of strategic offensive weapons systems consisting of long-range bombers, submarine-launched ballistic missiles (SLBMs), and land-based intercontinental ballistic missiles (ICBMs). These systems carry thousands of nuclear warheads in ballistic missile reentry vehicles, bombs, cruise missiles, and short-range air-to-ground missiles. There are thousands more nonstrategic nuclear warheads including those in artillery shells, bombs carried by tactical air forces, short- and medium-range rockets, and intermediate-range rockets and cruise missiles. However, weapons considered nonstrategic by the United States, such as the Pershing II intermediate-range ballistic missile, can reach Soviet territory and are considered to be strategic by the Soviets.

Characteristics such as survivability, basing, penetration modes, range, yield, accuracy, time of flight, independence from enemy warning systems, and ease of command and control distinguish the various strategic weapons systems. U.S. administrations have put high value on maintaining this diversity in nuclear forces. The triad, wrote the Scowcroft Commission, serves several important purposes:

> First, the existence of several strategic forces requires the Soviets to solve a number of different problems in their efforts to plan how they might try to overcome them. Our objective, after all, is to make their planning of any such attack as difficult as we can . . .
>
> Second, the different components of our strategic forces would force the Soviets, if they were to contemplate an all-out attack, to make choices which would lead them to reduce significantly their effectiveness against one component in order to attack another . . .
>
> The third purpose served by having multiple components in our strategic forces is that each component has unique properties not present in the others , ..23

Submarines, the Scowcroft Commission noted, can remain hidden for months at a time. Bombers can be launched upon warning without being irrevocably committed to an attack, and they have very high accuracy against a variety of targets. ICBMs "have advantages in command and control, in the ability to be retargeted readily, and in accuracy. This means ICBMs are especially effective in deterring Soviet threats of massive conventional or limited nuclear attacks, because they could most credibly respond promptly and controllably against specific military targets and promptly disrupt an attack on us or our allies. "[24]

The countervailing strategy does not require that the U.S. force structure mirror that of the Soviets or vice versa, provided that the overall military capability of the United States is not allowed to become inferior to that of the Soviet Union, in either reality or appearance. "Indeed," wrote Secretary Brown, "in some sense, the political advantages of being seen as the superior strategic power are more real and more usable than the military advantages of in fact being superior in one measure or another. '[25]

The Strategic Balance

Soviet strategic nuclear forces in fact do not mirror those of the United States. In particular, the Soviet allocation of warheads among types of delivery vehicles is quite different than that of the United States. The final report of the Scowcroft Commission discussed the asymmetry between U.S. and U.S.S.R. strategic forces, along with the problems of comparing the two:

> In the United States the strategic advantages of diversity, our own military tradition as an air and naval power, plus a certain amount of interservice competition, produced strong strategic bomber and submarine forces, as well as a land-based ICBM force. . .
>
> Soviet strategic forces developed along very different lines , . . Geography and history

[23] Scowcroft Commission Report I, pp. 7-8.

[24] Ibid., p. 8.

[25] Brown, *DOD FY82 Annual Report,* p. 43.

> have made Russia a continental land power, with a tradition of heavy emphasis on massive artillery forces. As might have been expected under such circumstances, the development of Soviet strategic nuclear forces has been heavily oriented toward ICBM weapons . . .
>
> The result of all these differing traditions and technical capabilities is strategic forces which are very dissimilar. In addition, each strategic force component has its own strengths and weaknesses, which tend to be different from those of the other components. This, in turn, makes force structures very difficult to compare and each side tends to stress certain aspects of the force posture of the other as more menacing.[26]

In comparing the strategic nuclear capability of the United States with that of the Soviet Union, both Carter and Reagan Administrations agreed that "the era of U.S. superiority is long past. "2[7] However, they differed significantly in their interpretations of what followed. The Carter Administration held that "parity–not U.S. inferiority–has replaced [U. S.] superiority, and the United States and the Soviet Union are roughly equal in strategic nuclear power. "[28] Two years later, on the other hand, the Reagan Administration maintained that "the Soviets have acquired a margin of nuclear superiority in most important categories. '[29] Both Administrations undertook strategic modernization programs to redress what were seen at least as adverse trends in the military balance, if not adverse situations.

Current U.S. Attitude Towards Active Defenses

BMD is currently not included in the U.S. strategic posture, while air defenses are minimal (but being upgraded). Previous U.S. Administrations have agreed that a condition in which both the United States and the Soviet Union refrained from instituting nationwide ballistic missile defenses was preferable to one in which either (and therefore most likely, both) attempted to do so. That situation was codified in 1972 by ratification of the ABM Treaty. The single BMD installation permitted the United States by the 1974 Protocol to the ABM Treaty was decommissioned in 1976 after it was determined that the limited benefit provided by such a highly constrained system did not justify the expense of maintaining it. Extensive air defenses in the absence of effective BMD were similarly held not to be worthwhile.

Like its predecessors, the Carter Administration viewed the ABM Treaty as being "to the benefit of strategic stability and deterrence. "3° The reasoning leading to this assessment found nationwide defenses to be destabilizing in that they call into question the ability of nuclear weapons to threaten destruction of assets that a potential attacker values highly. Defenses were not judged to be cost-effective in that they would merely force the Soviets to increase their offensive forces to maintain whatever level of damage expectancy had previously been thought sufficient–increases which would cost less than our defenses.

During the Carter Administration, BMD research permitted by the ABM Treaty was actively pursued as a hedge against possible Soviet developments. It focused on point defense capabilities for hardened targets, particularly MX missiles deceptively deployed in Multiple Protective Structures, and on nonnuclear destruction of ICBMs outside the Earth's atmosphere. The preferential defense possible with MPS basing of MX made BMD a logical choice for responding to Soviet warhead proliferation beyond the SALT II limits.

The Reagan Administration differs from previous ones in its conception of the role that defenses might play in future nuclear strategy and in its planning for BMD research and development. It has initiated a broad-ranging investigation into the role of and possibilities for

*'March 1984 Report of the President's Commission on Strategic Forces (Scowcroft Commission Report II), Mar. 21, 1984, p. 4.
"Brown, op. cit., p. 43.
"Ibid., p. 43.
[29]Weinberger, *DOD FY84* Annual Report, p. 34.
'"Brown, op. cit., p. 51.

strategic defense. It has not, however, adopted a doctrine incorporating such defenses. Its position is that such a decision should await the completion of a BMD research and technology development program which could take at least 10 years.[31] At that time, a future President and Congress could decide whether to proceed to develop, test, and deploy one or more BMD systems. Meanwhile, the United States and the Soviet Union in 1982 "each reaffirmed its commitment to the aims and objectives of the Treaty, "[32] and President Reagan has further made clear that U.S. BMD research will be "consistent with our obligations" under that Treaty .33

Under President Reagan, the Department of Defense has initiated the "Strategic Defense Initiative" (SDI), a comprehensive program "to develop key technologies associated with concepts for defense against ballistic missiles" whose ultimate goal is "to eliminate the threat posed by nuclear ballistic missiles and increase the contribution of defensive systems to U.S. and allied security. "[34] Although the SDI research and technology development program is intended to comply initially with the restrictions of the 1972 ABM Treaty, the development, testing, or deployment of BMD systems investigated under the SD I would require modification of or withdrawal from that treaty. The SDI differs substantially from previous BMD efforts in that: 1) it shifts emphasis from near-term, almost proven technologies to relatively high risk but conceivably higher payoff ones; and 2) it significantly increases both the funding and attention given to BMD research. Nuclear strategies incorporating BMD systems of the sort to be investigated under the SDI could be quite different from this nation's current strategy.

[31] Time estimates given by Administration representatives vary. Ambassador Paul Nitze estimated that it will take "at least ten years" to determine whether sufficiently capable ballistic missile defenses can be built [quoted by Walter Pincus in "Decade of Study Seen for 'Star Wars', *The Washington Post*, Apr. 27, 1985].

[32] "Joint communique issued at the conclusion of the 5-year review of the ABM Treaty, reported in "SCC Completes Review of ABM Treaty, " *Daily Bulletin (U.S. Mission, Geneva)*, Dec. 16, 1982 (quoted by George Schneiter in "The ABM Treaty Today, " chapter 6 of *Ballistic Missile Defense*, Ashton B. Carter and David N. Schwartz (eds.) (Washington, DC: The Brookings Institution, 1984), p. 236.

[33] President Reagan's speech on Military Spending and Defense Technologies, Mar. 23, 1983.

[34] "Caspar W. Weinberger, Secretary of Defense, *Strategic Defense Initiative Organization (SDIO) Charter,* Apr. 24, 1984.

COMMON CRITICISMS OF U.S. NUCLEAR STRATEGY

This nation's strategic nuclear doctrine has continually evolved, but it has not been dramatically changed in the last 20 years.[35] Despite this consensus, various analysts have suggested either further modifications or major revisions to it to redress perceived weaknesses. In many cases, differing recommendations stem from differences in fundamental premises and values. They may also arise from different predictions of future capabilities and intentions. Much of the strategic debate, therefore, is really a debate about which assumptions more closely reflect (or will reflect) reality.

Few are pleased that the U.S. deterrent posture relies heavily on threatening the use of weapons of mass destruction. What is debated is not whether deterrence by threat of nuclear retaliation is a good thing, but whether there is a viable and preferable alternative. Some analysts believe that existing strategy, although imperfect, is the best available under the circumstances. They argue that it should in essence be continued, perhaps strengthened in

[35] Desmond Ball "Targeting for Strategic Deterrence" (London: International Institute for Strategic Studies, Adelphi Paper No. 43, 1983), discusses the evolution of U.S. strategic nuclear targeting policy over the last 40 years. He finds that although the numbers of targets and the packages of targeting options available to the President have changed dramatically over that period, the actual character of those targets has remained remarkably consistent. He argues that those changes that have occurred in targeting policies and plans are the result of many factors, including the changing nature of Soviet targets. better U.S. intelligence about those targets, and changes in U.S. force capabilities, and that changes in avowed U.S. national security policy have been "perhaps one of the least important" of those factors.

various ways or carried out (with the aid of arms control agreements) at substantially smaller force levels. Others who basically agree with the premises underlying current strategy foresee difficulty in maintaining its viability in the face of continual technological evolution, particularly on the part of the Soviet Union. Some of the latter see a potential role for ballistic missile defense in enhancing the U.S. deterrent posture.

Still others hold fundamentally different assumptions than those on which current strategy is based. Their concern is to modify existing strategy in accordance with a different set of premises.

Maintaining Current Strategy

Technological evolution influences strategy both by changing what is seen as possible ("technology push") and what is viewed to be necessary ("requirements pull"). On the "technology push" side, for example, many believe that we now have the potential to develop ballistic missile defenses which are considerably more capable than could be considered years ago. Such advances have been one of the major motivations for the requesting of this report, and they will be discussed in further detail in chapters 7 and 8.

Technology is also advancing in areas other than ballistic missile defense, and contributes to the "requirements pull" that some believe will mandate changes to our strategy. In particular, Soviet ability to harden and make mobile elements of their land-based strategic forces, and their efforts towards hardening command and control facilities and other targets, all serve to degrade the ability of U.S. forces to place these targets at risk. In addition, although there is as yet no reason to believe that the Soviets will ever be able to reliably detect U.S. ballistic missile submarines when on patrol, it cannot be ruled out that some as-yet-unknown technology might someday threaten SLBM invulnerability .30 Space systems today are able to enhance the effectiveness of terrestrial forces, and this ability will no doubt be accentuated in the future. Combined with political factors such as the Soviet ability to proliferate military forces taken with what is perceived to be U.S. reluctance to do the same, these actual and possible technological trends lead some analysts to question whether the "countervailing strategy" can be maintained without significant change into the indefinite future.

Proposals for change vary. Some include defenses; others do not. Some would emphasize U.S. technological strengths to maximum advantage in the military competition between the United States and the U. S. S. R., including uses in areas (e.g., ballistic missile defense) now closed off by mutual agreement. Others would incorporate active defenses in our strategic posture but would not otherwise introduce major changes to U.S. strategy. Still others would eschew active defense, preferring to retain the ABM Treaty as one of a number of means to manage the overall military competition via arms control and other political and diplomatic measures. The specific means by which defense could augment our present strategy or support a transition to another are discussed below and in the following chapter (chapter 5). Discussions of how such transitions might evolve are presented in chapters 6 and 9.

Alternative U.S. Strategies

In addition to those advocating modifications to current strategy, there are those who differ with basic assumptions central to that strategy and who therefore offer alternatives. Three such alternatives are presented below.

One group believes that current strategy does not sufficiently recognize what they see as the inherent opposition between minimizing the risk of nuclear war, on the one hand, and preparing to fight one, on the other. There

"Advances in technology may make it harder, rather than easier, to locate submarines. Admiral James D. Watkins, the Chief of Naval Operations, has stated that " . . . when people ask, 'Aren't the oceans getting more transparent, ' we say, 'No way, they are getting more opaque, ' because we're learning more about them all the time. " The Washington Post, Mar. 22, 1985, p. A10.

fore, they see that the balance mentioned previously between war-fighting capability and crisis instability is swinging dangerously towards instability, and that weapons systems that could improve the ability to fight a nuclear war could also make such a war more likely to occur. Alternatively, they may believe that existing plans for prosecuting a nuclear war overestimate the probability that those things which the war would be defending would survive the war at all. These analysts recommend that the United States pursue a strategy which we will label "retaliation only."

A second group of strategists believes instead that present strategy does not sufficiently recognize the essential equivalence between deterring war and preparing to fight war. Moreover, existing strategy does not offer a coherent picture of what it would consider victory, and it cannot be expected to effectively deter an opponent who, it is argued, would have a very clear conception of his strategic objectives in war. These strategists advocate adopting what might be called a "prevailing" strategy.

Finally, there are strategists who think that this country should not and need not accept having its continued survival contingent on the decisions of others. They argue that no matter how strong our deterrent strategy can be made, should it fail (whether due to accident, miscalculation, or just poor design), the results would be catastrophic. They moreover argue that we have, or will have, the means to develop defenses (possibly augmented by stringent offensive force limitations) which can remove, or substantially reduce, the ability of others to destroy this country. Discussion of such "defense dominant" strategies concludes the alternatives presented below.

Retaliation-Only

"Retaliation-only" strategists question whether any military utility at all can be derived from nuclear weapons which justify the risks inherent in planning to use them in battle, short of retaliating against nuclear attack.[37] Although their prescriptions for change differ, they are based on a fundamental premise similar to that stated by Robert McNamara:

> I do not believe we can avoid serious and unacceptable risk of nuclear war until we recognize-and until we base all our military plans, defense budgets, weapon deployments, and arms negotiations on the recognition—that *nuclear weapons serve no military purpose whatsoever. They are totally useless—except only to deter one opponent from using them.*[38]

Accordingly, "retaliation-only" strategists adopt the principle of "no first use" of nuclear weapons, which in some versions would be stated publicly and in others would be left silently ambiguous.[39] Starting with that premise, retaliation-only strategists can go in two different directions. In the first, a variety of nuclear weapons with flexible targeting options would be retained in order to display the capability of responding in kind to any level of nuclear attack. There would be no immediate requirement to reduce the number of warheads existing today (although should Soviet forces be reduced, U.S. forces could be reduced accordingly.) However, nuclear forces under this strategy would differ qualitatively from today's forces in that weapons would not be given prompt hard-target kill capability—a capability needed in order to conduct a successful preemptive attack on enemy nuclear forces. Attacks on a wide variety of military forces would still be possible under such a strategy using those weapons having slow hard-target kill capability. This strategy would therefore

[37] They therefore differ from the current "countervailing" strategy, which requires some measure of war-fighting capability for escalation control. On p. 40 of his Annual Report for Fiscal Year 1982, Secretary of Defense Harold Brown emphasized two points which he had made "repeatedly and publicly":

> First, I remain highly skeptical that escalation of a limited nuclear exchange can be controlled, or that it can be stopped short of an all-out, massive exchange.
>
> Second, even given that belief, I am convinced that we must do everything we can to make such escalation control possible, that opting out of this effort and consciously resigning ourselves to the inevitability of such escalation is a serious abdication of the awesome responsibilities nuclear weapons, and the unbelievable damage their uncontrolled use would create, thrust upon us.

[38] Robert S. McNamara, "The Military Role of Nuclear Weapons: Perceptions and Misperceptions," Foreign *Affairs*, fall 1983, p. 60 (emphasis in original).

[39] Of course, even a public statement leaves some ambiguity–no matter what our doctrine, it would remain physically possible to *use* nuclear weapons in a first strike, and the Soviets would have to worry about this possibility.

be able to maintain some degree of war-fighting potential, but would significantly lessen the degree to which that potential could be used (or would appear capable of use) in a first strike.

In the second variation, often called *minimum deterrence,* only those weapons which would be needed to threaten a number of high-value targets—cities, for example-would be retained. The number and nature of those targets would be selected to threaten enough destruction to deter a potential attacker from initiating a nuclear strike. Opinions differ as to the exact size of "minimum," but no definition of a minimum deterrent would require thousands of warheads on a multiplicity of delivery vehicles.

What would be essential in either version would be that the nuclear weapons that were retained include (in the first case) or constitute (in the second) an invulnerable, second-strike force. The size of this force would be determined in the first case by being able to retaliate for whatever form of attack had been executed initially, and in the second by being able to destroy with high confidence that set of targets judged to provide minimum deterrence. To the extent that the retaliatory weapons were vulnerable, or to the extent that a potential attacker posessed defenses, the second-strike force would either need to expand in size or increase its invulnerability and penetrativeness in order to maintain a minimum deterrent threat.

Should the Soviets acquire defenses so effective that even this minimum deterrent retaliation could not be executed with high confidence, and were the United States unable to penetrate, evade, or neutralize these defenses effectively, then the fundamental premise of promising nuclear retaliation for nuclear attack could not be assured, and strategies based primarily on the threat of retaliation would no longer be viable. On the other hand, if the United States and the Soviet Union had equal offensive and defensive capabilities (and if the survivability of offensive forces did not depend on defenses), retaliation might still be credible. However, uncertainties in each side's evaluation of the opposing side's defense might make assuring an equivalent retaliation difficult.

Since a "retaliation-only" strategy explicitly denies use of nuclear weapons in response to conventional attack, some other way of fulfilling U.S. defense commitments to its NATO allies must be found (e.g., augmentation of conventional forces in Europe). Furthermore, a "minimum deterrence" strategy, presumably using far fewer weapons than are presently in the U.S. arsenal and probably embodying a much more limited repertoire of nuclear responses, must ensure that all opponents remain firmly convinced that any use of nuclear weapons will be met with a retaliatory response. If retaliatory threats are not credible, then potential attackers may gamble that retaliation might not be carried out and they may not be deterred successfully.

One suggested implementation of a "retaliation-only" deterrent strategy[40] (similar to minimum deterrence as described above in its force employment policy but not necessarily in the size of its arsenal) would eliminate all tactical and theater-level nuclear weapons. It would retain only an invulnerable, second-strike force of central strategic weapons which would not be given the combination of yield, accuracy, and quantity needed to pose a threat to the retaliatory capability of the other side. Their survivability would be critical, and it could be enhanced by deploying them in a redundant manner similar to that of the present triad. Flexibility in responding to nuclear attack could be maintained, in that the attacked nation would have options ranging from delivering a single retaliatory weapon to launching its entire strategic arsenal.

Critics of "retaliation-only" strategists believe that there may not be effective alternatives to the threat of first use to deter attack on NATO, that such strategies (in particular

[40] "Richard L. Garwin, "Reducing Dependence on Nuclear Weapons: A Second Nuclear Regime," *Nuclear Weapons and World Politics, 1980s* Project/Council on Foreign Relations (New York: McGraw-Hill Book Co., 1977), pp. 83-147.

the "minimum deterrence" approach) would not credibly deter attack since potential adversaries might not believe the United States would actually carry out its retaliatory threats, and that such strategies do not provide sufficient opportunity to terminate hostilities on favorable terms should deterrence fail.

Prevailing

A quite different proposed change to current doctrine would push in the opposite direction from the recommendations of "retaliation-only" strategists, towards the formulation of more credible plans for the use of nuclear weapons in wartime. These strategists believe that, in a world where adversaries possess nuclear weapons and may well believe in their military utility, it is not sufficient for the United States merely to seek to deny the enemy his political and military goals should war break out. Credible deterrence requires that we plan in the event of war to "secure the achievement of Western political purposes at a military, economic, and social cost commensurate with the stakes of the conflict. ''[41]

Where some see the uncertainties inherent in estimating outcomes of nuclear war to be so great, and the potential damage so devastating, that there is little to be gained in trying now to affect the nature of a post-war world, a "prevailing" strategy focuses specifically on the conduct of a nuclear war, and is based on consideration of how such a war might end. It would agree with the countervailing school (and the "no prompt hard-target kill" option of the "retaliation-only" school) that

> . . . the deterrent effect of our strategic forces is not something separate and apart from the ability of those forces to be used against the tools by which the Soviet leaders maintain their power. Deterrence, on the contrary, requires military effectiveness.[42]

However, to change from the current strategy towards a prevailing one, the United States

> must set its planning sights considerably beyond developing a defense posture that will simply deny victory to the enemy. To prevail in stressful circumstances the United States must be able to defend itself against nuclear attack.[43]

Credibility that deterrent threats would actually be carried out would result not so much from flexibility in strategic planning or response options as it would from the "Soviet belief, or strong suspicion, that the United States could fight and win the military conflict and hold down its societal damage to a tolerable level. ''[44] As a result, such credibility that we would use nuclear weapons to retaliate would be greater than it is in our current, undefended posture.

Clearly, determining "tolerable" levels of damage "commensurate with the stakes of the conflict, " in addition to predicting potential levels of attack, will be needed in order to specify the defensive capability required by such a strategy. Effective air defense, civil defense, and ballistic missile defenses would all be required were defending a major portion of population and economic and industrial infrastructure to be a high priority. Offensive force requirements for such a strategy would depend on the set of targets in the Soviet Union (their number, hardness, and location), and would depend critically on the level to which these targets were defended.

"Prevailing" strategists directly address the problem of extended deterrence by recommending sufficient damage-limitation capability (passive defense, active defense, or preemptive attack) to make believable the threat that the United States would use central strategic forces in circumstances other than responding to nuclear attack. If the Soviet Union were convinced that a defended United States believed it could use tactical or even strategic

[41] *Colin S.* Gray, *Nuclear Strategy and Nuclear Planning,* Philadelphia Policy Papers (Philadelphia, PA: Foreign Policy Research Institute, 1984), p. 2.
[42] Scowcroft Commission Report I, p. 7.
[43] Gray, op. cit., p. 2.
[44] Ibid., p. 3.

nuclear weapons in defense of NATO Europe without leading to unacceptable devastation of the United States, the Soviets might be more likely to believe that conventional attack against NATO would lead to the use of nuclear weapons against the Soviet Union.

One essential factor in establishing defense requirements for a prevailing strategy is determination of how much damage to the United States can be tolerated in pursuit of those objectives that strategic nuclear forces will be employed to attain or preserve. Another is the degree of U.S. military superiority such a strategy would require, and whether such a strategy would be viable without it. From 1945 until the early 1960s, U.S. strategic superiority was such that this country had the capability to adopt a "prevailing" strategy; adopting one today in the light of existing Soviet forces poses an entirely different set of challenges.

Critics of "prevailing" strategies argue that the United States has no guarantee of being able to attain or maintain the degree of military superiority necessarily to implement them, and that these strategies are equivalent to destroying the Soviet "deterrent," which the Soviets have the will and the technology to prevent.

Defense Dominance

The "countervailing," "retaliation-only," and "prevailing" strategies described so far are characterized by the policies they recommend for employing offensive forces. Although there are also differences between them in the roles that defenses play, it is primarily the role of the offense that distinguishes them. In contrast, defenses supplant, more than they augment, offensive forces in "defense-dominant strategies. President Reagan's speech of March 23, 1983, and his Strategic Defense Initiative, have greatly stimulated discussion about the feasibility of attaining such a long-term goal. However, since a defense-dominated world is "too distant a technical prospect to be a very active player in the U.S. strategy debate as yet, "[45] there is not so widely developed a body of strategic thought on this alternative as there is concerning some of the others.

Proponents of "defense-dominant" strategists see defenses as lessening both the probability of nuclear war and the damage that would be done by such a war, should it occur. They also see such strategies as being moral, in that defending through active defense is preferable to defending through terrorism—the ultimate mechanism by which deterrence through threat of retaliation operates. In a "defense-dominant" world, the probability of war would be lessened since the attacker, less certain of achieving his objectives, would be less likely to attack in the first place. Two factors would lessen the attacker's confidence in success. For one, it would be much more difficult to destroy all his intended targets, directly frustrating his objectives. Probably more importantly, though, he would not be able to plan an effective attack since he would not know *in advance* which warheads will penetrate the defense. Defenses will contribute uncertainty to an attack in addition to defeating part of it. In addition, if war nevertheless were to break out in a "defense-dominant" world, its consequences might be less severe than they would be in any of the other cases described here.

In a way, "defense-dominant" and "retaliation-only" strategists share a common goal: a world in which the only plausible use for a strategic nuclear weapon is in retaliation for the use of another. However, adherents of the "reliation-only" strategy believe that we are already in such a world although our offensive strategy does not recognize it, and that BMD might destabilize the situation; supporters of the former believe that the Soviet Union, at least, finds "military utility" in ballistic missiles and that only BMD can ensure that all sides will perceive the use of nuclear weapons as truly and clearly irrational for all sides. Moreover, they argue, at the very highest

[45] 1 bid., p. 3.

levels of defensive capability, even an irrational decision by the Soviets would not lead to the destruction of U.S. society. Indeed, if defense dominance became total, we could consider strategy of "assured survival" in which retaliation became unnecessary because we had confidence that no Soviet nuclear attack of any kind could succeed.

However, to the extent that defenses on both sides lessen the utility and the probability of preemptive nuclear attack, they will interfere with any other roles assigned to offensive strategic forces. This is, after all, the point. In particular, if conventional attack on Europe is deterred by the ultimate threat of escalation to central strategic exchange, then lessening the effectiveness of strategic forces may lessen their deterrent value, possibly increasing the likelihood of conventional war in Europe. A "defense-dominant" strategy, like a "retaliation-only" one, must solve the problem of deterring conventional attack without nuclear weapons.

Unless a defense can be deployed which is so effective that the Soviet nuclear arsenal becomes irrelevant, the Soviet response will be the key to the success of a "defense-dominant' strategy. Such a strategy will either attempt to force the U.S.S.R. to unilaterally avoid strategies which the United States believes to be particularly dangerous, or it will seek cooperation with the Soviet Union in order to be implemented in a coordinated, mutual manner.

The degree to which the Soviet Union, and other nuclear powers, would cooperate in a transition to a defense-dominated world is therefore crucial. The Soviets will choose to cooperate in such a transition either if they conclude that such a world is preferable to the present situation, or if they decide that defensive measures will prove to be so cost-effective that they recognize the futility of offensive/defensive competition." In either case, they might be expected to be amenable to regulating the defensive buildup and controlling offensive arms.

Critics of "defense-dominant" strategies argue that it is by no means clear that defensive technologies capable of supporting such strategies can be developed, that such strategies raise the risk of both preemptive nuclear attack and conventional war, and that nobody knows how a coordinated transition to defense-dominance could ever be carried out.

"Cost-effectiveness is not the only criterion on which the Soviets will base their decision to cooperate in a defensive transition. Others include total resource base, total defensive system affordability, ability to redirect civilian resources to the military, and relative utility of offensive forces vs. defensive forces for geopolitical ambitions. Internal Soviet politics and interservice rivalries may also play a role.

POTENTIAL CONTRIBUTIONS OF BALLISTIC MISSILE DEFENSE

Current (Countervailing) Strategy

The overall contribution that defenses can make to current strategy depends on whether the benefits of implementing defenses are seen to outweigh the advantages to the United States of having the Soviet Union refrain from building defenses or adding to offenses. Should that be the case, and should defenses able to provide those benefits prove to be technically feasible, there are several roles that defenses might play in a strategy similar to the current one:

- BMD might enhance deterrence by increasing the difficulty a potential attacker would have in achieving military objectives, strengthening "deterrence by denial. Defenses would also introduce uncertainty into attack plans, lessening the

attacker's confidence in achieving his goals as well as reducing his ability to do so.

- "Deterrence by retaliation," the underpinning of our current posture, might be strengthened by protecting our own retaliatory forces against preemptive attack. Our ability to project military power abroad, or alternatively our ability to prevent adversaries from doing so, would also be enhanced were our conventional military forces defended against preemptive nuclear attack.
- Certain deployments of BMD might raise the threshold of nuclear war by removing the military utility of small nuclear attacks, and they might also protect against small accidental or nonsuperpower attacks.
- To the extent that assets including, but not limited to, military forces could be defended, our retaliatory threats might be more credible because we might be perceived as having less to lose should our retaliation provoke further attack.

All of these benefits, of course, become liabilities when the tables are turned and we face Soviet defenses: a rational decision requires the two to be balanced off against one another. Stability issues, in particular, are discussed in greater detail in chapter 6.

Since the United States and the U.S.S.R. have different nuclear doctrines and force structures, it might be that similar defensive capabilities would confer asymmetric benefits to the two sides. For example, since our strategy "excludes the possibility that the United States would initiate a war or launch a preemptive strike,"[47] making a first strike more difficult might seem to confuse Soviet plans more than U.S. ones.

However, in addition to depending on one's conception of Soviet attack plans, any such analysis must take the problem of extended deterrence fully into account. To the extent that strategic nuclear weapons lose their military utility, they lose their power to affect the likelihood or outcome of a conventional war in Europe. If the superpowers are able to defend themselves better than Europe can be defended,[48] nuclear war in Europe might become more likely rather than less. Soviet nuclear weapons aimed towards Western Europe would retain a degree of effectiveness lost to those fired back in retaliation. On the other hand, effective homeland defense of the United States might strengthen the credibility of extended deterrence. Any net assessment requires consideration of the relative effectiveness of U.S. and Soviet defenses against their respective offensive threats.

Further complicating BMD's effect on extended deterrence are the independent French and British nuclear forces. At present consisting of SLBMs, intermediate-range nuclear missiles (IRBMs), and a few bombers, they are far less extensive than the U.S. and Soviet nuclear arsenals. More because of their small size than because of the reasons discussed in the previous footnote, the French and British nuclear forces would be more easily negated than the superpower arsenals, further stressing the extended deterrent demand on the U.S. central strategic forces.

[47]Weinberger, *DOD FY 1984 Annual Report,* p. 32

[48]There are reasons both for why this should and should not be the case. Since the short- and intermediate-range ballistic missiles threatening Europe arrive at their targets traveling more slowly than ICBM warheads, they might be more easily destroyed by terminal defenses. On the other hand, since a shorter-range missile reenters the atmosphere at a steeper angle than does an ICBM, the *vertical component* of its velocity (its rate of descent) is comparable to that of an ICBM. Therefore, the time from when atmospheric effects begin to separate warheads from decoys to time when the weapons arrive on target is about the same for a shorter range system as it is for an ICBM. As a result, screening out the decoys and intercepting the actual warheads in their terminal phase will not necessarily be easier for shorter range systems. Furthermore, the total flight time of a shorter range missile, and consequently the period during which it might be destroyed in midcourse, is much less than that of an ICBM. Those short-range systems never exiting the Earth's atmosphere will not be vulnerable to certain directed-energy weapons at all. Tactical and theater-range systems are likely to be less extensively MIRVed, lessening the advantage of destroying them in boost phase. In addition, delivery systems other than ballistic missiles (e.g., bombers, cruise missiles, artillery, or even covertly placed mines) can more easily be used against European targets than against the superpowers, so defense systems other than BMD would need to be compared as well as BMD effectiveness in order to determine whether Europe were better or worse defended than the superpowers.

Chapter 5 looks at the relationship between strategic objectives for BMD and the capabilities of BMD systems.

Retaliation-Only

In practice, most adherents to the "retaliation-only" school of strategy see only a limited role for ballistic missile defense in "retaliation-only" strategies. This point of view probably stems from a concern that the introduction of defenses into the strategic equation could lead to dangerous instabilities for crises or for the arms race in general. If each side were intent on maintaining substantial offensive capabilities, defenses would only be tolerable to the extent that the United States could be assured that its retaliatory capabilities were not undermined. Defenses consistent with this principle, for example defending retaliatory forces, would be acceptable and possibly beneficial. However, comprehensive, areawide defenses would be not be compatible with preserving retaliatory capability unless the net effectiveness of the offenses on both sides were approximately equivalent.

Ballistic missile defense could serve a similar role in a world which went much further towards nuclear disarmament. Even if possession of nuclear weapons should be renounced, the possibility of building them cannot be eliminated. One vision of a nuclear-free world[49] would have nations retain their weapons design and production facilities as a hedge against sudden development of nuclear weapons by other states. To guard against surprise attack, these facilities would be protected by active defenses.

Prevailing

Defenses are necessary to make a "prevailing" strategy viable. However, they are not sufficient. In order to impose escalation dominance, it would very likely be necessary that overall U.S. capability, offensive and defensive, be superior to that of the Soviet Union. The success of a "prevailing" strategy, then, depends on the ability of the United States to maintain this superiority. Defenses in a "prevailing' strategy would protect strategic offensive forces, deny the Soviets success in their attack plans, and lessen "self-deterrence" by which U.S. leaders would be unwilling to use U.S. strategic offensive forces for fear of incurring unacceptable retaliation. However, Soviet defenses would limit the effectiveness of those offensive forces, and they would complicate the extended deterrence problem as discussed in the "Current Strategy" section above.

Defense Dominance

Defenses are not only necessary but also preeminent in these strategies. Going beyond enhancing the "denial" aspect of deterrence as we now know it, a "defense-dominant' strategy relies on defenses while the role of offenses is greatly reduced. Neither side could count on achieving any military objectives by using ballistic missiles. Attacks intended only to do general societal damage, although possible with all but extremely capable defenses, would be highly irrational. If defenses could be brought to a high enough level of performance, even the capacity to do societal damage might be greatly reduced. Then, U.S. survival would not depend on Soviet rationality, but would be assured by our ability to intercept even an irrational attack.

Imposing a "defense-dominant strategy on an uncooperative adversary requires an extremely high level of defensive capability. Reagan Administration officials have suggested that effective U.S. defenses might offer the Soviets incentives to reduce their offensive forces. Against increasingly constrained offensive forces, any defense would be more effective.

In chapter 5, we look more closely at how various levels of BMD capability, if technically feasible, might play roles in U.S. nuclear strategy, current or prospective.

[49] Jonathan Schell, *The Abolition (New* York: Alfred A. Knopf, 1984).