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Superpower Nuclear Minimalism in the Post-Cold War Era?

Eric K. Graben

During the Cold War, the United States and the Soviet Union competed in building weapons -- now it seems like America and Russia are competing to get rid of them the fastest. The lengthy process of formal arms control has been replaced by exchanges of unilateral force reductions and one-and-a-half page Joint Understandings to be codified in much briefer treaties than START. Should superpower nuclear strategies change along with force postures? President Bush has yet to make a formal pronouncement on post-Cold War American nuclear strategy, and it is uncertain if the Soviet/Russian doctrine of reasonable sufficiency formulated in the Gorbachev era actually heralds a change in strategy. Some of the provisions in the June 1992 Joint Understanding on Reductions in Offensive Strategic Weapons are compatible with a change in strategy. Whether such a change has actually occurred remains to be seen.

With the end of the Cold War and the breakup of the Soviet Union, the strategic environment has fundamentally changed, so it would seem logical to reexamine strategy as well.

There are two main schools of nuclear strategic thought: a maximalist school, which emphasizes counterforce superiority and nuclear war-fighting capability, and a MAD-plus school, which emphasizes survivability of an assured destruction capability along with the ability to deliver small, limited nuclear attacks in the event that conflict occurs. The MAD-plus strategy is the more logical of the two strategies, because the maximalist strategy is based on an attempt to conventionalize nuclear weapons which is unrealistic.

Yet throughout the Cold War, both the United States and the Soviet Union adhered to the maximalist concept of deterrence. Both governments believed security was provided by preparing for a war with the other. Both state's military establishments believed that this required a nuclear war-fighting capability where nuclear weapons were treated as extremely destructive conventional weapons. Civilian leaders were unwilling to challenge the assumptions on which strategic doctrine was based. Even if a government had desired to reject the maximalist strategy and adopt the MAD-plus strategy, it would have been unsafe to do so unilaterally. Someone believing in the maximalist strategy is unlikely to find the MAD-plus strategy credible. Since deterrence is a subjective thing, one has to have a deterrent force that the opponent, not oneself, considers a good deterrent. Therefore, if one side was maximalist, then the other side must be so as well for stable deterrence to obtain.

Now that the Cold War is over, it may be possible for America and Russia (or the CIS) to abandon their maximalist, war-fighting nuclear strategies and adopt the MAD-plus strategy. What makes this possible is the change in threat perception that has occurred with the end of the Cold War. Neither state considers the other a dire threat to its security. If the MAD-plus strategy is adopted by both sides, future reductions in nuclear arsenals will be facilitated, the

portion of the peace dividend from strategic forces can be maximized, and strategic stability will be enhanced in the event that future conflict arises.

The euphoria over the end of the Cold War might lead one to ask, why worry about nuclear strategy at all? Perhaps all we have to worry about is making sure old Soviet weapons do not get sold to the Third World? Russia, even on its own, will remain at least a nuclear superpower, and either a new union of former Soviet republics or a united nuclear command in the CIS will certainly constitute a nuclear superpower. Nuclear weapons are not going to go away by themselves, and U.S.-Russian relations are unlikely to be as cordial as U.S.-British relations, so America still needs to deter the successor to the Soviet Union. This should be done as inoffensively as possible. If Russia is less threatened, it can devote more of its resources to developing a capitalist economic system and a democratic political system, which in turn enhances American security. There is a chance that a fascist or otherwise hostile government could arise in the former Soviet Union. Historically, one of the ways dictators have gained popular support is by claiming a need to defend against an external threat. Adopting a MAD-plus strategy will make the United States less threatening to the CIS and help minimize the chance of a hostile regime arising in the former Soviet Union. It is important to note though, that the United States should adopt a MAD-plus nuclear strategy only if the former Soviet Union does as well, because a MAD-plus strategy and force posture cannot reliably deter a maximalist opponent as will be discussed below.

The Two Nuclear Strategies

Two main approaches to nuclear strategy have dominated the discussion of nuclear deterrence since the dawn of the nuclear age. The first is the maximalist strategy, also known as the countervailing strategy, which treats nuclear war in much the same way as conventional war. The second is the MAD-plus strategy, which is based on the realization that nuclear weapons are fundamentally different from conventional weapons because of their destructiveness. Both strategies seek to achieve the same goals, and both ultimately rely on the assured ability to destroy an opponent state as a functioning society, hereafter referred to as an assured destruction capability. They differ on what is required to achieve stable deterrence beyond the assured destruction capability. The goals of both strategies are as follows,

1. The deterrence of the use of nuclear weapons
2. The termination of nuclear war as quickly as possible and on terms as favorable as possible should war occur
3. The continued existence and political independence of the United States and its vital allies (the West European states and Japan)

ASSURED DESTRUCTION AND THE MINIMALIST SCHOOL OF DETERRENCE.

Both the maximalist and MAD-plus deterrent strategies are sophisticated revisions of the simpler minimalist nuclear strategy, so this strategy will be outlined first. All nuclear strategies are based on certain assumptions about the nature of nuclear war. The minimalist assumptions are: (1) No political goal is worth the price of receiving a strategic nuclear attack. (2) It is impossible to limit the damage from a massive nuclear attack. (3) Escalation to massive nuclear exchanges from a lesser conflict is so likely that it must be treated as a certainty; therefore a nuclear war cannot be fought. The implication of these assumptions is what McGeorge Bundy

has called 'existential deterrence': the prospect of having one's country made into a smoking, radiating ruin is enough to deter anyone from ever using nuclear weapons under any circumstances. Therefore, any aggression should be deterred simply by the existence of an opponent's nuclear weapons.¹

'Hard core' minimalists would prescribe that America needs only the possibility, not necessarily the certainty, of just a few (perhaps 10) nuclear weapons surviving an attack to have a secure deterrent. More prudent minimalists require the existence of an assured destruction capability, that is, a nuclear force that can survive an opponent's strongest attack and still inflict unacceptable damage on the opponent. Such a capability is often referred to as the McNamara criteria. According to the McNamara criteria, 'unacceptable damage' is the destruction of 20 to 30 percent of the population of the former Soviet Union and 50 to 70 percent of its industrial capability.² To ensure such destruction, the United States needs 200 to 400 survivable equivalent megatons (EMT) worth of nuclear warheads.³

Strategic stability is achieved when both sides have an assured destruction capability producing a situation of mutual assured destruction or MAD. Since neither side can prevent its own destruction by striking first, neither has an incentive to attack, so the situation is stable. Beyond the McNamara criteria, further weapons are unnecessary and can even be harmful. The massive deployment of hard-target-kill capable weapons might lead one to believe that a first-strike can meaningfully limit damage when, in fact, it cannot. This in turn might lead one to believe nuclear wars can be safely fought thus weakening deterrence.

Very few, if any, 'real people' are minimalists. The assumption that any conflict will escalate to massive nuclear attacks on cities was proven false very early in the nuclear age by

the Korean War. Since the possibility of escalation to massive nuclear exchanges would not deter all attacks, lesser options were deemed necessary. During the Kennedy administration, the addition of limited options to the assured destruction capability was formalized in the doctrine of flexible response, which was NATO's strategy for dealing with Soviet numerical conventional superiority. According to the doctrine of flexible response, NATO might have to resort to the use of nuclear weapons to halt a Soviet advance into Western Europe. It was necessary to have some nuclear options besides a massive attack on Soviet cities which would lead to a mutually devastating response in kind. During the Nixon, Ford, and Carter administrations, flexible response was expanded into the countervailing strategy, which called for nuclear options ranging from the use of a few nuclear artillery shells to massive strategic attacks on the Soviet strategic arsenal. The rationale for LNOs was developed in response to the threat of a Soviet invasion of Western Europe, which is no longer at all likely, but the rationale for LNOs applies to any conflict that could arise between nuclear powers, not just one centered in Europe.

MAXIMALISM.⁴ The maximalist or countervailing strategy is based on some different assumptions from the minimalist school. The maximalist agrees with the minimalist that no political goal is worth the price of having one's cities destroyed in a massive countervalue attack, but because of this, the maximalist assumes that it is impossible to credibly threaten to launch such an attack except as a response in kind. The maximalist strategy further assumes that it is likely that nuclear war can be kept limited and escalation to unacceptable levels can be prevented, because it is illogical to escalate to full-scale countervalue exchanges. Some, but not

all, maximalists also believe that it is possible to meaningfully limit damage to one's own country by using counterforce attacks on an opponent's nuclear arsenal.⁵

The assumption that escalation can probably be controlled implies that the United States needs to be able to fight an extended nuclear war at any level of conflict. The United States may not be able to win such a war, but it should certainly be able to avoid losing it, and it must make an opponent sure that it cannot win. In order to fight at high levels of nuclear war, the United States must be able to attack the nuclear arsenal of its opponent with what are called counterforce attacks. It must also minimize the vulnerability of its own arsenal to such an attack. Therefore, highly survivable counterforce capability is necessary for deterrence. An opponent must not be able to get into a 'better' strategic position by initiating a counterforce exchange,⁶ so the United States needs an arsenal such that the U.S.-Russian/CIS ratio of counterforce-capable warheads is not significantly worse after a counterforce exchange than it was to begin with, and such that all of the military targets in Russia or the CIS can be covered after absorbing a counterforce first strike. Such an ability would allow the United States to credibly threaten to fight at any level of conflict without having to resort to mutually-suicidal attacks on cities.

The ultimate deterrent for the maximalist school is the threat to destroy the leadership of its opponent, not the threat to destroy cities. One reason for this change in the definition of 'assured destruction' from the minimalist definition is that it is immoral to attack civilians under the Christian Just War tradition. Another reason is that deterrence is ultimately assured by the ability to destroy what an opponent values most. The minimalist school assumes that the Soviet leadership, or now Russia or the CIS, values its population and industry the most. The maximalist school also believes that Soviet or Russian leaders value their population and

industry, but what they value most is themselves. So the ultimate deterrent is the ability to destroy Russian leaders. Because of the immorality of targeting civilians, the maximalist believes no American leader would ever be willing to execute such a strike and could not credibly threaten to do so.

Many leadership targets in the former Soviet Union are based in hardened bunkers, and modern ICBMs, which make up a large part of superpower strategic arsenals, particularly in the CIS, are based in hardened silos, so counterforce capability is usually equated with hard-target-kill capability. Currently the CIS has about 1,400 missile silos and perhaps thousands of leadership bunkers. For all practical purposes under START and the June 1992 Joint Understanding, the maximalist would advocate deploying as many survivable, hard-target-kill capable weapons as possible to be able to cover the target base after absorbing a first strike. One of the last American Cold War plans for nuclear war listed 50,000 targets and required the ability to hit 5,400 targets with about 3,800 weapons after absorbing a first strike.⁷ The number of hard targets within this total could go down as ICBMs are dismantled under START and the future treaty based on the Joint Understanding, but the number of survivable warheads should still be maximized to obtain the most favorable post-exchange nuclear-balance.

The maximalist school seeks to 'conventionalize' nuclear weapons using them only to attack an opponent's leadership and military targets, which is compatible with *jus in bello* ethics and which seeks to make it possible to rationally use strategic nuclear weapons on a large scale.⁸ This means the maximalist seeks to find a military utility for strategic weapons, where 'military utility' is defined as being able to contribute to vanquishing an opponent in combat. It is hoped that massive civilian casualties and economic loss can be avoided either by limiting the conflict

to military targets by implicit mutual agreement with the opponent or, depending on the strategist, by actually destroying, with counterforce strikes, an opponent's ability to attack cities. The primary difference between the MAD-plus school and the maximalist school is that MAD-plus considers such conventionalization impossible because of the immense destructive power of strategic weapons.

THE MAD-PLUS SCHOOL OF DETERRENCE.⁹ The MAD-plus strategy assumes that the collateral damage to civilians from any large-scale use of nuclear weapons, regardless of intended target, would constitute assured destruction and would be too great a price to pay for any political goal. It is also assumed that the likelihood of escalation from a low level of nuclear conflict to countervalue exchanges, while not certain, is likely, especially if large attacks are utilized. The MAD-plus strategist agrees with the maximalist that the threat to launch a massive countervalue strike is not a credible response to most provocations, so some LNO capability is necessary. To meet the two goals of avoiding escalation to catastrophic levels of conflict and maintain credibility of response, the MAD-plus school advocates the threat to use very small LNOs. As Thomas Schelling has pointed out, the sole purpose of such LNOs is to demonstrate a resolve to continue to fight unless an equitable cessation of hostilities is achieved.¹⁰ Because of the destructiveness of strategic weapons and the size and survivability of superpower arsenals, they cannot be used to achieve military victory.

A typical LNO for the MAD-plus school would involve using a handful of weapons to destroy a fraction of an opponent's oil refining capacity (a few large, soft refineries). Such an attack would demonstrate that all of the capacity could be destroyed, but would also demonstrate that the remainder of the refineries could be preserved by an cessation of hostilities, giving the

opponent an incentive to terminate hostilities. The MAD-plus school of deterrence would prescribe a deterrent force capable of fielding the McNamara criteria of 200 to 400 survivable EMT after no more than a couple of hundred weapons have been allocated for use in LNOs.

Why is MAD-Plus the Better Strategy?

Of the two strategies, the MAD-plus strategy is objectively the logical one. The attempt to conventionalize nuclear weapons in the maximalist strategy is impossible and produces false or at least questionable assumptions. Deterrence is, however, a subjective thing, not an objective thing. A good deterrent is determined in the eyes of the person to be deterred, like beauty is in the eye of the beholder. Therefore, if one's opponent believes in an illogical strategy, it may be necessary to adopt what one knows is an illogical strategy to deter the opponent.

The maximalist strategy assumes that massive counterforce strikes are 'limited', which means that they produce significantly fewer civilian casualties than countervalue attacks and also that targeting leadership instead of civilians in order to provide the ultimate deterrent will significantly reduce civilian casualties. No one will know for sure what the casualties from a nuclear war would be because of a fortunate lack of empirical evidence, but the best estimates of experts suggest that massive counterforce attacks could produce up to tens of millions of casualties. The Office of Technology Assessment estimated in 1979 that 20 million Americans and 10 million Soviets could die from prompt effects alone in a Soviet-initiated counterforce exchange compared to the 90-180 million American and 60-100 million Soviet casualties respectively from a countervalue exchange.¹¹ Barbara Levi, Frank von Hippel, and Wil

Dougherty have revised the OTA estimate using a more sophisticated computer model. They estimate that counterforce strikes could produce 13-34 million American deaths and 12-27 million Soviet deaths compared to 25-60 million American casualties and 95-77 million Soviet deaths from a countervalue exchange.¹² Since most Soviet leadership targets probably are located near or in cities, counterleadership attacks would resemble countervalue attacks in the casualties they produce. Even if most leadership targets are not in or near cities, they are in hardened bunkers similar to ICBM silos, so the collateral damage from a counterleadership attack would at least resemble the damage from a counterforce attack.

The question is, what level of destruction will deter a potential adversary? The Soviet Union suffered about 20 million casualties in WWII spread out over about 4 years. Since it survived, this number of casualties might not be sufficient for assured destruction. It is fairly certain that neither superpower would initiate an exchange leading to such casualties for political gain such as conquering new territory or winning a proxy conflict in the third world, since no such gain would be worth this cost. The Soviet Union did not initiate hostilities in 1941. It is plausible though, that a state would be willing to incur such casualties for a vital interest like national survival. No one claims that the Soviet Union would have been better off by surrendering to Adolph Hitler. A lesser but still vital interest like the survival of America's European allies or access to vital natural resources like Middle Eastern oil may or may not be worth the cost of such casualties depending on the person making the decision. Whether a state could incur such casualties in a few days and survive the ensuing dislocation as a functioning state is debatable. Even if a state could and would accept 20 million casualties, Levi, von

Hippel, and Dougherty, estimate that counterforce casualties could be 65 percent higher than this.

While it may be uncertain whether or not the casualties from a counterforce exchange would be enough to deter any aggression, it is more certain that such exchanges would produce no militarily useful result that would vanquish an opponent in the traditional military definition of victory. Since the early 1960s, neither side has had any chance of being able to prevent its opponent from launching a countervalue second strike by launching a counterforce first strike. It is unlikely that, even with the end of the Cold War, America and Russia (or the CIS) will disarm themselves to the point of giving the other a damage-limiting, first-strike capability. Thus, if one state launched a 'limited' counterforce first strike, it would not be able to ensure the safety of its own civilians, it would not enhance the credibility of a threatened follow-on countervalue strike, and it would have greatly angered its opponent by killing tens of millions of its citizens. The opponent might not even be able to tell that the strike was a 'limited strike'.

Massive counterforce attacks could demonstrate a resolve to continue to fight, which could serve the political goal of termination of hostilities on favorable terms. As Thomas Schelling has pointed out, the purpose of limited nuclear attacks is to demonstrate such resolve by demonstrating the 'vitalness' of a particular interest.¹³ The massive counterforce attacks of the maximalist school would certainly demonstrate resolve if perceived as limited, but they ; would produce immensely greater casualties than all past wars but one have produced historically. Because of the size of the strikes and the casualties produced, they also are much more likely to be mistaken for a decision to commit mutual suicide by engaging in a countervalue exchange, rather than a decision to demonstrate resolve to fight by holding a

segment of a nation's industrial base at risk. If, for some reason, one wanted to produce as many casualties as produced by a massive counterforce attack, this could be done with much fewer, less capable weapons than the counterforce attack would require.

The likelihood of escalation from 'limited' counterforce attacks makes another assumption of the maximalist school questionable: the assumption that nuclear war can probably be kept limited. No maximalist categorically believes it can, but their arguments suggest that the possibility is at least high. It is possible that a nuclear war would be terminated short of an all-out nuclear exchange, but it is also very possible that it would not. No rational leader would escalate to mutually-suicidal countervalue attacks, but leaders may become irrational due to fear or other sources of Clausewitzian friction, or they may act in what would appear to be an irrational manner because of a nuclear 'fog of war'. The numbers of weapons necessary for large counterforce strikes (up to thousands) and the immense casualties produced by such strikes are much more likely to be mistaken for a massive countervalue attack than the much smaller limited nuclear attacks in the MAD-plus strategy.

The LNOs of the MAD-plus strategy would demonstrate political resolve with much less risk of being mistaken for escalation to countervalue attacks and with much fewer casualties than massive counterforce attacks. The maximalist strategy usually does include small LNOs like those of the MAD-plus strategy, but it is the large counterforce options that are usually emphasized almost to the exclusion of the smaller options. The maximalist strategy is not criticized here for excluding small LNOs but rather for including large ones. The LNOs of the MAD-plus strategy would be on the order of tens of weapons at most. An attack by 7 Poseidon SLBMs and 3 Minuteman III ICBMs could destroy around 73 percent of the former Soviet

Union's oil refining capacity producing about 1 million prompt fatalities.¹⁴ A fraction of this small strike force aimed at the refineries farthest from cities could destroy a smaller fraction of Russian oil refining capacity, signaling a capability to destroy the rest of this vital industry but also signaling a willingness to let Russia preserve its industry by prompt cessation of hostilities, all while producing casualties well below the level of total casualties in past major twentieth century wars.

The MAD-plus strategy does not make victory possible, but it provides the positive aspects of the maximalist strategy (assured second strike capability, flexible LNOs to demonstrate resolve and enhance credibility) without the negative aspects (massive casualties from 'limited' attacks that produce no military benefits, possibility of being mistaken for a massive countervalue attack thus increasing the risk of escalation). The maximalist strategy is based on an attempt to conventionalize nuclear weapons by using them solely on military and leadership targets and thus avoid the *jus in bello* prohibitions against harming innocent civilians and escalating the conflict to disproportionately destructive levels of violence. The high amount of collateral damage that results from the inherently destructive nature of strategic weapons makes such conventionalization impossible.

The MAD-plus strategy also has the benefit of prescribing cheaper and less threatening force postures. Since the maximalist strategy seeks the maximum survivable counterforce capability allowed by treaty, and in some cases, even a damage limitation capability, the force postures that logically follow from this strategy can easily be mistaken as an attempt to develop a first-strike capability, which is destabilizing. The MAD-plus strategy does not specifically require hard-target-kill capability (though high weapons accuracy is desirable for limiting

collateral damage from LNOs), and it does not have the open-ended force requirements of 'seeking the most possible' that the maximalist strategy does, so the MAD-plus deterrent force is unaffected by fairly broad fluctuations in opponent capability. This in turn leads to cheaper force postures, since the most expensive capabilities of strategic weapons, high accuracy and maximal survivability, are not in as high demand.

If the MAD-plus strategy is better than the maximalist strategy, why did both the United States and the Soviet Union follow a maximalist strategy during the Cold War? Nuclear decision makers may not have understood the irrationality of the maximalist strategy. Even if they did, it would still be necessary to adopt the maximalist strategy if it appeared that one's opponent believed in the maximalist strategy. The reason is that deterrence is a subjective thing -- what deters is determined in the eyes of the party to be deterred. A maximalist believes that a favorable or at least neutral balance of survivable counterforce capability is necessary for deterrence. If such a balance does not exist then deterrence does not exist, and the side favored in the counterforce balance will gain political leverage.¹⁵ If this is believed, then a MAD-plus-prescribed force posture would not provide stable deterrence because it does not ensure a favorable or neutral survivable counterforce balance. Therefore, a MAD-plus force posture cannot reliably deter a maximalist.

During the Cold War, the doctrine and force postures of both superpowers suggested that they adhered to the maximalist strategy. Both sides engaged in an arms race to deploy more and better hard-target-kill capable weapons. Both sides, even if they preferred the MAD-plus strategy, had to judge from their opponent's force posture and doctrine that there was a significant chance that the opponent was a maximalist. Therefore, the 'reluctant' side had to be

maximalist as well. This reluctant maximalism is illustrated by Harold Brown's reports as Secretary of Defense in the late 1970s. Brown pointed out that a nuclear war could not be won and damage could not be limited, which are MAD-plus assumptions, but he also pointed out that we had to deter the Soviet Union, and it was not obvious that the Soviets held these beliefs. Therefore, the United States had to adopt a maximalist force posture and doctrine in case the Soviet Union was maximalist.¹⁶

If this was the case in the past, why can we change to MAD-plus strategies now? What do we need to do? America and Russia, or the CIS, need to admit simultaneously that 'the emperor has no clothes', that the maximalist strategy is objectively flawed, and the reason both sides adhered to it during the Cold War was for fear that the other side believed it and could only be deterred if the first side pretended to believe it as well.

America had genuine fear that it might have to fight the Soviet Union in the Cold War, and maintained a constant readiness for war, including massive nuclear war, because of this fear. The Soviet Union claimed to have the same fear of America. American performance in the Gulf War suggests that the Soviet Union had good cause to fear our capabilities, if not our intent. The necessity to prepare to fight and the horror of nuclear war lead to the attempt to conventionalize nuclear weapons. Now that the Cold War is over and the 'evil empire' has collapsed, this fear has almost totally disappeared. As long as the fear existed, it was difficult to change from the maximalist strategies adopted because of this mutual fear. As statements by Presidents Bush and Yeltsin suggest, the decline of fear has lead both America and Russia to seek arms reductions.¹⁷

What is the Situation Now? The Military Establishments and Academia

Currently, both the American and former Soviet military establishments seem to continue to adhere to the maximalist strategy. Civilians in both states, primarily in the academic community in America and in the Academy of Sciences and Russian Foreign Ministry in the former Soviet Union, are advocating MAD-plus strategies. Traditionally, the executive branches of both governments have accepted military primacy in strategic doctrine, but recently, it has become difficult to tell which strategy, if any, the Bush and Yeltsin administrations adhere to.

THE AMERICAN DEBATE. Throughout the last years of the Cold War, the U.S. Department of Defense propounded a strategy that was classic maximalism.¹⁸ In late 1991, as the Soviet Union dissolved, the commander in chief of the Strategic Air Command (CinCSAC) commissioned a report titled 'The Role of Nuclear Weapons in the New World Order' known as the 'Reed Report' after the chairman of the committee that produced it. The Reed report called for unilateral reductions of the U.S. strategic arsenal to a level of 5,000 warheads \pm 20 percent.¹⁹ The report specifically rejected the adoption of a minimal deterrent considering it 'the least credible of all nuclear postures'.²⁰ It also specifically called for retention of counterforce targeting.²¹ Thus the most recent strategic analysis to come out of DoD is still maximalist.

In the American civilian community, several analyses have recently come out advocating MAD-plus strategies or at least deterrent postures that are more compatible with a MAD-plus strategy than with a maximalist strategy. Harold Feiveson and Frank von Hippel have produced a plan calling for the deployment of highly survivable strategic forces of about 2,000 warheads to implement a strategy of 'finite deterrence', which includes an assured destruction capability plus small LNOs.²² The National Academy of Sciences has released a report calling for U.S.

reductions to 3,000 to 4,000 strategic warheads on each side and ultimately to 1,000 to 2,000 warheads 'as world conditions improve'.²³ The study excludes an opponent's strategic nuclear forces from the target base which is compatible with a MAD-plus strategy though this strategy is not specifically endorsed.²⁴ These are just two examples from a pool of many.²⁵

THE RUSSIAN/CIS DEBATE. Soviet nuclear strategy has never been a perfect mirror-image of American strategy, but in the pre-Gorbachev era, Soviet nuclear-strategic doctrine was reasonably similar to American maximalist doctrine.²⁶ The classic Soviet work of the 1960s that helped determine the force postures in the 1970s, Marshal Sokolovskiy's *Soviet Military Strategy*, considered victory in nuclear war possible and called for targeting all types of targets in America, particularly U.S. nuclear weapons.²⁷ In the 1980s, Soviet doctrine was revised under the leadership of Marshall N.V. Ogarkov, but these revisions did not focus on nuclear strategic doctrine. Victory in nuclear war was declared to be impossible, but Sokolovskiy's targeting doctrine was never specifically rejected.²⁸

The doctrine of *Reasonable Sufficiency* put forth as part of former Soviet President Mikhail Gorbachev's policy of *New Thinking* produced a two-camp division in Soviet strategic thought similar to the American dichotomy. The general precepts of *Reasonable Sufficiency*, or as the Soviet military called it, *Defense Sufficiency*, are as follows:

1. The primary goal of military doctrine is to deter war, both nuclear and conventional.
2. Military capabilities should be limited to levels capable of stopping aggression only.
3. To deter nuclear war, a situation of mutual assured destruction should be maintained at the lowest possible level of nuclear weapons in the near term, and in the long term nuclear weapons should be abolished.

There is substantial debate in the former Soviet Union on precisely what the general precepts mean. Pre-August coup Soviet military officers believed reasonable sufficiency involved the ability to deliver 'crushing rebuffs' to an aggressor and demonstrated continued concern with numerical nuclear parity.²⁹ The concern with numerical parity in particular suggests continued adherence to a maximalist strategy concerned with the U.S.-Soviet counterforce balance. Thus, the former Soviet military establishment seems to want to retain the old maximalist strategy but perhaps at lower levels.

The officers who most frequently made policy announcements during the early days of reasonable sufficiency are either no longer alive or in power.³⁰ The current leadership, including the last Soviet Defense Minister Marshal Yevgeny Shaposhnikov, who is now the commander-in-chief of the CIS forces including all strategic forces, has yet to make any substantial statement on strategic doctrine, so it would seem likely that military doctrine has not changed. The current CIS military establishment is expending most of its energy trying to ensure a decent quality of life for its officers and men.

Since 1987 Soviet civilians in the Academy of Sciences and Foreign Ministry have called for the adoption of a nuclear doctrine similar to the MAD-plus and minimalist strategies.³¹ Many of these civilians, and even some junior military officers, have specifically called for the adoption of the 'McNamara Criteria' from the minimalist nuclear strategy.³² Thus a civilian-military strategic dichotomy exists in the CIS that is similar to the civilian-military dichotomy in the United States.

What is the Situation Now? The June 1992 Joint Understanding

Russian and American political leaders have yet to decide between the two strategies. Former President Gorbachev's speeches were never specific enough to tell what doctrine, if any, he adhered to. For example, about the most specific thing he said was, 'the disarmament process should proceed on an equal footing, on the basis of strict observance of balance at all stages'.³³ There is no real way to tell whether he supported maximalism or minimalism. When still president, he did permit the deployment of highly counterforce-capable 'maximalist' weapons like the SS-24, SS-25, and the SS-18 mod 5, but under his policy of *Glasnost*, he also permitted civilians like Alexei Arbotov and Yevgeny Primakov to publicly call for a minimalist or MAD-plus strategy.

Only recently has Russian President Boris Yeltsin made any pronouncements on nuclear strategy or force postures. He has said that Russian missiles will no longer be targeted at American cities.³⁴ This is a confusing statement, for all strategies of deterrence are ultimately based on the threat to destroy an opponent's society or leadership, and it is impossible to do this without destroying large portions of an opponent's population, which is equivalent to targeting cities. So it is likely that President Yeltsin is seeking to present an unthreatening appearance to the United States without fully understanding nuclear strategy. President Bush has not made any pronouncements on American post-Cold War nuclear strategy to go along with his actions on force posture, so the current nuclear strategies for both superpowers are somewhat ambiguous.

The terms of the June 1992 Joint Understanding on Reductions in Offensive Strategic Arms (which is to be codified in a formal treaty in the near future) suggest that the superpowers

could be headed toward MAD-plus nuclear strategies, but the evidence is not decisive. Below is a table of the provisions of the Joint Understanding and the two exchanges of proposals that preceded it.

President Bush, September, 1991

- (1) All U.S. strategic bombers taken off of alert.
- (2) All ICBMs to be removed under START immediately deactivated.
- (3) Rail-garrison basing program for MX and hard mobile launcher program for Midgetman cancelled.
- (4) SRAM II cancelled.
- (5) Continue the B-2 program and SDI.
- (6) Seek elimination of MIRVed ICBMs.

President Gorbachev, October 1991

- (1) All strategic bombers taken off of alert.
- (2) 503 ICBMs immediately deactivated.
- (3) Research on Soviet SRAMs ceased.
- (4) All mobile missiles to stay in garrisons.
- (5) Strategic Warheads cut from 6,000 required by START to 5,000.
- (6) Production of SS-24 ceased.
- (7) Call for U.S.-Soviet negotiations to reduce arsenals by one half.

President Bush, January 1992

- (1) B-2 production halted at 20 planes.
- (2) Midgetman ICBM program cancelled.
- (3) Production of 475 kt W88 warhead for the Trident II SLBM halted.
- (4) Procurement of the advanced cruise missile halted.
- (5) Production of the MX ICBM halted.
- (6) Fully fund SDI.
- (7) If CIS agrees to eliminate MIRVed ICBMs:

- (1) Eliminate MX.
- (2) DeMIRV Minuteman III.
- (3) Reduce SLBM warheads by a third.
- (4) Convert a large number of strategic bombers to conventional use.

President Yeltsin, January 1992

- (1) 1,250 strategic warheads de-alerted.
- (2) Six submarines to be stripped of launchers.
- (3) Production of Bear and Blackjack bombers halted.
- (4) Meet START levels in 3 years instead of 7.
- (5) Joint U.S.-Russian defense should replace SDI.
- (6) U.S. and Russia should cut arsenals to 2,000 to 2,500 warheads.

June 1992 Joint Understanding

Phase I (to be achieved within seven-year START time frame)

- (1) Each side will have a maximum of 3,800 to 4,250 total strategic warheads.
- (2) A maximum of 1,200 MIRVed ICBM warheads.
- (3) A maximum of 650 warheads on heavy ICBMs.
- (4) A maximum of 2,160 SLBM warheads.
- (5) Strategic bombers to be counted as carrying the actual number of warheads they are equipped to carry.

Phase II (to be achieved by the year 2003)

- (1) A maximum of 3,000 to 3,500 total strategic warheads.
- (2) All MIRVed ICBMs must be eliminated.
- (3) A maximum of 1,750 SLBM warheads.
- (4) All missiles except the SS-18 may be downloaded.
- (5) Levels to be achieved by the year 2000 if sufficient U.S. aid for weapons destruction is forthcoming.

On the American side, many of President Bush's actions, particularly the January unilateral measures and proposals, are compatible with an intent to adopt a MAD-plus strategy. The halt in MX production, cancellation of the Midgetman ICBM program, and the January offer to scrap the MX and deMIRV the Minuteman III all represent a retreat from counterforce targeting and preoccupation with the counterforce balance. According to Pentagon spokesman Pete Williams, the United States will indeed scrap the MX and deMIRV the Minuteman III when the Joint Understanding is codified in 'START II'.³⁵ ICBMs have traditionally been the backbone of both American and Soviet hard-target-kill capability, and these reductions will reduce American counterforce capability below what would be required by the simple numerical cuts required under 'START II'.

The cancellation of the W88 warhead is also an action inconsistent with a maximalist preoccupation with counterforce capability. The Trident II will still have some hard-target-kill capability, but not nearly as much as it would have with the W88.³⁶ The cancellations of the SRAM II and ACM similarly reduce U.S. counterforce capability beyond what is required by numerical cuts. The systems were intended to enhance the penetrability and hard-target-kill capability of strategic bombers on a second-strike mission. The proposal to halt B-2 production after five more planes are built could also be a retreat from maximalism, since one of the Air

Force's main rationale for the plane was to use it to track down mobile Soviet ICBMs in a nuclear war.

President Bush's actions do not all lean towards the adoption of MAD-plus force postures. The United States was successful in getting a ban on MIRVed ICBMs included in the Joint Understanding. This ban will require the elimination of the traditional backbone of the Soviet/Russian strategic arsenal, MIRVed ICBMs, particularly the SS-18 heavy ICBM.³⁷ Elimination of the Soviet/Russian advantage in MIRVed ICBMs has been a U.S. arms control goal since SS-17s, 18s, and 19s were deployed shortly after SALT I was signed, and this goal is indicative of a maximalist desire to have as favorable a counterforce balance as possible. To achieve this long-term maximalist goal, the United States only had to give up a portion of its traditional strategic stronghold, SLBMs.

The President's proposals could also be interpreted as an attempt to hang on to the B-2 bomber, which is the bomber that maximalists prefer most. In the September proposals, the President sought to retain the B-2 program. The change in the January proposals could reflect a genuine belief that the reduced threat no longer requires the bomber, or it could represent a continued attempt to salvage the program, since building a total of twenty planes instead of halting production at the 15 planes that are currently complete or under production will require keeping the B-2 assembly line open till the next century.³⁸ The President may be hoping to be able to resurrect the program in the future.

There are also some ambiguities in the U.S. position. Taking American bombers off of alert greatly reduces the survivability of American land-based forces in the event of a surprise attack. Formerly synergy between alert bombers and ICBMs ensured that either one or the other

would survive any preemptive attack, since no Soviet attack was capable of targeting both simultaneously.³⁹ With American bombers off of alert, both bombers and ICBMs can be attacked by Russian ICBMs. The only programs that could preserve land-based weapon survivability were the MX rail garrison basing and Midgetman hard, mobile launcher programs, both of which were cancelled. Thus overall American strategic survivability has been greatly reduced, though not catastrophically. The United States fears a loss of control over nuclear weapons in the CIS, so American bombers may have been taken off of alert to allow the CIS to reciprocate reducing the likelihood of an unauthorized or accidental launch of CIS strategic bombers.

The reduction in surprise-attack resiliency could represent a retreat from concern with the counterforce balance. To deter a surprise attack, the United States would be relying solely on its strategic submarine force, and would have much less survivable counterforce capability than it would have if land-based survivability were maintained with alert bombers or mobile ICBMs. The reduction in surprise-attack resiliency could also represent continued adherence to the maximalist strategy coupled with a belief that, in the post-Cold War world, the likelihood of a surprise attack is so small that it is practically negligible. This is probably a good assumption, but if the Soviet Union had become benign enough for the United States to almost ignore the possibility of surprise attack, it would seem illogical to plan to continue to spend tens of billions of dollars on the B-2 bomber, which the administration planned to retain at the time bombers were taken off of alert.

Some of the Bush proposals could suggest a desire to adopt a MAD-plus force posture in the future, but there is no definitive evidence that maximalism has been rejected. In

testimony before the Senate Foreign Relations Committee, Secretary of Defense Dick Cheney described the reasoning behind the September 1991 proposals and behind the U.S. position on the Joint Understanding. A change in strategy was not listed among the rationales.

The President's September 27 initiative had several specific goals: to reduce the nuclear threat to the United States and our allies; to reduce instability, especially the instability posed by MIRVed ICBMs; to reduce the financial burden of the military forces of both sides; and to encourage those in the Soviet Union who were working to enact political, economic, and military reforms and to facilitate their efforts.

The Joint Understanding reflects our best judgement as to what strategic forces the United States requires to maintain an effective deterrent. The requirements are far less than they were deemed necessary in the past and reflect our recognition of the changing world. Our analysis took account of the break-up of the Soviet Union, its reduced capabilities to project conventional power, and the further reductions in military potential promised by this agreement.⁴⁰

It may be that the President is seeking to open the door to a mutual U.S.-Russian change in nuclear strategies without taking the dangerous, unstable step of doing so unilaterally. If this is the case, the President is 'doing the right thing', but there are also several alternative explanations for the President's proposals. As previously mentioned, some of the proposals may be an attempt to increase control over nuclear weapons in the CIS. If the United States takes weapons off of alert, like the strategic bombers, Russia and the CIS can do so too. Non-alert weapons are much less likely to be accidentally launched or launched without authorization. The Bush proposals could also represent continued pursuit of the traditional U.S. arms control goals of limiting Soviet/CIS MIRVed ICBMs, the weapons which represent the greatest threat to the United States. Another possible motive for U.S. behavior is an attempt to 'lock in' quickly deep cuts in strategic weaponry without a change in doctrine in case the CIS reverts to a hostile government. It is also possible, though, that these measures were proposed solely in response

to fiscal pressures minimally informed by strategic reasoning and produced by public euphoria over the end of the Cold War.

A final possible explanation for U.S. acceptance of less counterforce capability is a decline in the target base. Leadership bunkers in the non-Russian republics will no longer need to be targeted in some scenarios, there will be much fewer silos in the former Soviet Union (perhaps as few as 300 or less under Phase II of the Joint Understanding), and there will be much fewer mobile ICBMs for bombers to take down. Also, since Soviet air defenses are no longer being modernized and are probably deteriorating, bomber penetrability is much more certain than the Pentagon expected it to be in the 1990s if the Soviet Union still existed.

Like the American position, the Soviet/Russian position has some provisions that are compatible with a MAD-plus strategy. Perhaps the most surprising aspect of the Russian position is the open acceptance of counterforce inferiority vis a vis the United States. When the Joint Understanding is implemented, there will be a range of total strategic warheads allowed to either side. In a not-for-attribution briefing, senior U.S. administration officials stated that the United States would retain the higher level of warheads allowed under each phase of the Joint Understanding (4,250 and 3,500), and the Russians would retain the lower levels (3,800 and 3,000).⁴¹ The U.S. administration may not be an infallible predictor of Russian intent, but there would be no need to include the lower total warhead levels in the treaty if the Russians intended to retain the same, higher numbers that the United States will retain. Both SALT II and START called for precise numerical strategic parity.

Russian acceptance of numerical disparity is not as new as it may seem at first glance however. The United States and the Soviet Union never had the same number of strategic

warheads in the past. SALT II required parity in launchers, not warheads, and START required parity in a combination of launchers and warheads, but there were special warhead counting rules for bomber weapons that permit a disparity in numbers of real as opposed to counted warheads. What is new under the Joint Understanding is that Russia is admitting that it will not have precise parity with the United States. Acceptance of numerical disparity is undesirable to a maximalist, so open acceptance of disparity would suggest a Russian tilt towards the MAD-plus or minimalist strategy. But since the acceptance of disparity is only a change in appearances and not reality, the open acceptance of disparity cannot be considered conclusive evidence of a Russian shift in strategy.

Russian/CIS cancellations are even more likely to be purely budget-driven than American reductions, considering the state of collapse in the CIS economy, so Russian cancellations cannot be construed as incontrovertible evidence that a change in strategy has taken place. Under the Joint Understanding, Russia is free to build up to the allowed levels by replacing old MIRVed ICBMs with new single-warhead ICBMs, or by retaining more than just its newest SLBMs, but statements by U.S. officials and the inclusion of warhead ranges in the text of the agreement suggest that these options will not be pursued. It is likely that these options will not be pursued because of their expense. The current Russian budget is said to provide almost *no* funds for new hardware.⁴²

It is also not certain that Russia can reduce its inventory of warheads as fast as Mr. Yeltsin has offered. The head of the Russian nuclear weapons industry has stated that Russia will need American monetary aid to reduce its arsenal within ten years to the levels proposed

by Mr. Yeltsin in January.⁴³ Fast achievement of Phase II of the Joint Understanding is contingent upon U.S. financial aid to Russia.

Without the Joint Understanding, the Yeltsin and Gorbachev proposals taken alone could have been interpreted as still supporting a maximalist strategy, so the Joint Understanding came as a bit of a surprise. During his February 1992 visit to the United States, Yeltsin declared Bush's January proposals 'lopsided'. In a speech delivered to senior Russian military officers in the week preceding the June summit, Yeltsin declared that the United States was seeking unilateral advantage over Russia in calling for a MIRVed ICBM ban and implied that he would not accept such terms.⁴⁴ Apparently, the MIRV ban was resisted up to the day before the Joint Understanding was signed. Resistance to a MIRV ban would be compatible with a maximalist negotiating position. However, during the summit, Yeltsin gave in on an issue that a Russian maximlist with a strategic force heavily dependent on MIRVed ICBMs would never be expected to give in on.

The warhead levels in the Joint Understanding could reflect either nuclear strategy. Maximalists are concerned primarily with the counterforce *balance*, so a specific warhead level alone cannot necessarily be construed as reflecting a particular strategy. However, maximalists require enough weapons to meet the McNamara criteria and cover a target base including an opponent's strategic forces and leadership, and it may be difficult to meet these requirements at the low level of arms in the Joint Understanding.

Analysis of the Russian position on the Joint Understanding suggest that it is very possible that President Yeltsin would like to adopt a MAD-plus or minimalist nuclear strategy, though the evidence is not conclusive. It will require more concise public statements of doctrine

than either President Bush or President Yeltsin have made so far to demonstrate clear evidence of an intent to try to change strategies by either side. President Bush or his successor has the authority and power to change American strategy. President Yeltsin, however, may not be the final arbiter of Russian nuclear strategy. Perhaps the important question to ask on the Russian side, though, is not what does Mr. Yeltsin think, but what does the former Soviet military think. This will be discussed below.

What Has Changed? Why Should Strategies Change Too?

Unlike superpower strategic doctrines, superpower threat perceptions are changing, and this is what is permitting arsenals to change without doctrine changing. It is this change in threat perception that allows the United States to halt B-2 production, cancel the Midgetman program, and scrap the MX. These weapon systems were all designed for nuclear war fighting. The superpowers no longer expect to have to fight a nuclear war or to have to be prepared to fight a nuclear war in order to deter the other side, so it is believed that war fighting weapons can be safely abandoned. One might argue that fiscal pressures are driving force reductions, and this is certainly a major factor. But both the United States and the Soviet Union were in difficult economic situations before the end of the Cold War, and fiscal pressures were not producing such drastic cuts then. It is the change in the threat that has permitted fiscal pressures to have much more influence over force structure planning. Change in threat perception can be thought of as the fundamental cause of the force reductions or as a permissive condition, and fiscal pressures can be thought of as the proximate cause.

During the Cold War, the United States, at least the U.S. defense establishment, saw the Soviet Union as an implacable threat to U.S. interests and bent on world domination.⁴⁵ This threat and adherence to the maximalist nuclear strategy drove the requirement for highly counterforce-capable weapons. In the words of General John Chain, former commander-in-chief of the Strategic Air Command,

We need systems with improved accuracy and a better capability to penetrate advanced defenses and strike hardened targets. Weapons with prompt hard-target capability are essential to disrupt Soviet attack plans as quickly as possible. It is imperative that we develop the capability to detect and attack the growing Soviet mobile target set. Additionally, we must have other forces sufficiently durable and flexible to hold remaining targets at risk throughout a nuclear conflict in order to control escalation, prevent coercion, and convince the Soviets to end the conflict.⁴⁶

This argument was specifically used to endorse the MX missile, both silo and rail-based, and the B-2 bomber.

With the end of the Cold War, the Department of Defense no longer considers a conflict with the former Soviet Union likely. As Secretary of Defense Dick Cheney testified to Congress,

It is improbable that a global conventional challenge to U.S. and Western security will emerge from the Eurasian heartland any time in the near future. Even if some new leadership in Moscow were to try to recover its lost empire in Central Europe and to threaten NATO ... then the reduction of its military, conventional capabilities over the past several years would make the chances for success remote without a prolonged period for force generation and redeployment.⁴⁷

Chairman of the Joint Chiefs of Staff Colin Powell, CIA Director Robert Gates, and Defense Intelligence Agency Director Lt. Gen. James Clapper have all made similar statements.⁴⁸ Since the need for escalation dominance in the event conventional hostilities arose drove the maximalist strategy, it can be assumed that the defense establishment sees the nuclear as well as the

conventional threat to be greatly reduced. The American defense establishment does not consider the Russian/CIS threat to be non-existent. Robert Gates testified that unrest in the CIS is still the most serious potential threat to U.S. security.⁴⁹ Powell and Cheney similarly point out that the former Soviet arsenal, particularly the nuclear arsenal, still poses a significant though greatly reduced threat to the United States.⁵⁰

If the presence of a massive immediate threat drove the requirements for weapons like the MX and the B-2, then the decline of the threat is driving the cancellation of these weapons. For example, a Department of Defense press release issued the day President Bush announced a cap on B-2 production at 20 aircraft states,

With the transformation of the Soviet threat, America's strategic bomber force is less likely to face the sophisticated air defenses for which the B-2 is designed. The current strategic force of B-1Bs and B-52s can be adapted to ensure adequate capabilities for strategic nuclear and conventional missions.⁵¹

The ambiguity on nuclear strategy implied by the substance of President Bush's proposals suggests that a reduced perception of the threat and not a change of nuclear strategy is driving reductions.

The transformation in threat perception in the CIS is similar to the one in the United States. It is debatable how threatened the Soviet Union used to feel. Sokolovskiy's *Soviet Military Strategy* and later doctrinal statements in the Ogarkov era state in no uncertain terms that the Soviets viewed the United States as an immediate major threat to their security.⁵² Many Americans may find it incredible that the Soviets really felt America had malevolent intentions toward them, but American performance in the Gulf War suggests that the Soviets had reason to fear at least American capabilities if not American intent. It was certainly reasonable for the

Soviets to believe they would be challenged by the United States in any area of the globe where they tried to expand their influence.

With the end of the Cold War, the former Soviets changed their perception of the threat similar to the way Americans have done. During his trip to Washington in February, 1992, President Yeltsin stated, 'From now on, we do not consider ourselves to be potential enemies, as it had been previously in our doctrine'.³³ CIS Commander-in-Chief Shaposhnikov has similarly stated, 'As to potential enemies, we simply do not have them. Our doctrine might be described as an all round defense'.³⁴ In justifying his abandonment of parity to *Komsomolskaya Pravda* after the June Summit, Yeltsin said, 'But we know one thing: We [Russia and the U.S.] will not fight each other'.³⁵ Again, as is the case with American defense planners, the former Soviet military does not believe that there is no threat from the United States, just that the American threat is reduced.³⁶

It is difficult to prove that Soviet or Russian threat perceptions drive weapons procurement, since procurement decisions are rarely discussed in the Soviet or Russian/CIS press. But the Soviet force structure of the 1970s and 1980s is very compatible with the doctrine and threat perception of that era, so some correlation between threat perception, doctrine, and force structure probably exists. Since threat perception has changed but doctrine remains ambiguous, it is likely that the change in threat perception is what is driving CIS/Russian force posture changes.

If threat perceptions are changing and producing changes in force postures that make strategic arsenals less threatening, why does it matter if the superpowers change to the MAD-plus strategy or stick with the old maximalist strategy? There are several reasons why a change

in strategy is still important. One is that the rejection of the maximalist, war-fighting strategy will be conducive to continued cordial U.S.-Russian/CIS relations. Past Soviet and American war plans and force postures have been based in part on an analysis of the other side's strategic doctrine.⁵⁷ If one's opponent publicly adheres to a war-fighting doctrine, it is not unreasonable to assume he or she might be planning on fighting a war. If the less-threatening MAD-plus strategy is publicly adopted, it is more difficult to believe that one's opponent is still planning on fighting a nuclear war, which is in turn conducive to peaceful relations. As long as the Cold War strategies remain in place, prudent decision makers in both states should be less inclined to think that the Cold War is completely over.

A second reason the MAD-plus strategy should be adopted is that this strategy calls for cheaper force postures. Highly-survivable counterforce capability that maximalists desire is expensive. The MAD-plus strategy requires much less survivability and hard-target-kill capability than the maximalist strategy and so can be implemented with much cheaper force postures.⁵⁸ The United States has halted almost all strategic modernization, but it has not totally rejected counterforce modernization. The accuracy of the Minuteman III ICBM will be upgraded. The CIS was still building SS-18, mod 5 and SS-25 ICBMs and developing new SLBMs before the Joint Understanding was signed.⁵⁹ Such continued development and deployment is only necessary if more of the hard-target-kill capability of the SS-18 and more of the survivability of the SS-25 is desired.

A third reason the MAD-plus strategy should be adopted is to avoid a return to the arms race if democracy in Russia and the CIS fails and the Cold War returns. The maximalist strategy leads to arms races because of the quest for counterforce superiority, which requires

constant attempts to deploy more or at least 'better' weapons as an opponent does the same thing. The quality of a MAD-plus deterrent force is unchanged by fairly large fluctuations in an opponent's capability, so a change in one side's capabilities is unlikely to lead to an action-reaction arms race if MAD-plus strategies are adopted.

One might ask, 'If we return to the Cold War, won't both sides revert to the maximalist strategy anyway?' This is possible, but the maximalist strategy is illogical, and if both sides admit it is illogical and adopt MAD-plus strategies, it will be difficult to revert to the old strategy. It may be difficult to admit in the first place that the 'emperor has no clothes', but once everyone has admitted it, it is difficult to go back to pretending that a naked emperor is fully clothed.

A final reason to change strategies, is that a change to the MAD-plus strategy will increase strategic stability. If forces are cut and the old maximalist strategy is retained, the United States and Russia could end up with forces that are incapable of meeting the doctrine's requirements for stable deterrence. Security would thus depend on continued good will. If this good will evaporates, the situation could be very unstable if either side has a force that it thinks is unable to deter the other. As previously stated, many of the cuts announced by Presidents Bush and Yeltsin are not compatible with the old maximalist strategy, so if strategies do not change, it is possible that neither side will have a secure deterrent according to its own doctrine.

What Must Happen for MAD-Plus Strategies to be Adopted?

Civilian leaders on both sides must give strategic policy to their military establishments rather than take it, as has been done in the past. This will probably be easier to do in the United

States than in the former Soviet Union. President Bush or his successor can decide that America will adopt a MAD-plus strategy and then give it to the Pentagon to be implemented. There may be some, even extensive, bureaucratic resistance, but strong presidential effort, particularly from a Republican president who was Ronald Reagan's vice president, should be able to overcome bureaucratic resistance in the Pentagon.

It is uncertain how much control the new CIS leaders have over their military establishments. It is unlikely that non-Russian leaders have much control at all over the former Soviet military. In December, Russian forces in Kazakhstan test-fired an SS-19 ICBM, probably configured to test its suitability as a space-launch vehicle, from a military base in Kazakhstan to the Kamchatka peninsula. Kazakh officials were unaware of the test until queried by the United States.⁶⁰ Under the CIS agreement for a unified nuclear command, only the Russian President Boris Yeltsin has actual physical control of former Soviet weapons, though this control is to be exercised in consultation with the leaders of the other three former republics with nuclear weapons on their soil.⁶¹

end
see 10- It remains to be seen how much control President Yeltsin has over the former-Soviet military, and the Joint Understanding has not been well received by all of the top officers in the former Soviet military. At the press conference following the signing of the Joint Declaration, Yeltsin stated that Russian Defense Minister Pavel Grachev had approved of the agreement before it was signed, and Grachev has since come out in support of the agreement.⁶² However, Grachev does not have control over any strategic nuclear weapons, CIS Commander-in-Chief Shaposhnikov does, and Shaposhnikov has been critical of the treaty. In the Russian press, Shaposhnikov has described the agreement as being an agreement of intent for the time being;

he has stated that there is no alternative to parity; and he has stated that it is up to the military to finalize the agreement.⁶³

If the former Soviet military decides to resist the treaty, it is likely to do so indirectly through foot-dragging on implimentation rather than by open revolt, though forceful measures cannot be completely ruled out.⁶⁴ Military resistance to the treaty will not be without civilian support. There is a large conservative contingent in the Russian parliament, and parliament must ratify the new treaty just like the U.S. Senate must ratify it on the American side. An example of Russian conservative opinion on the treaty is as follows.

Spelling

An insane step has been taken toward our self-destruction and unconditional switch to the protection of the U.S. nuclear umbrella, since the destruction of our land-based strategic missiles is nothing but the complete abandonment of an independent state policy and total surrender.⁶⁵

Yeltsin does have some leverage over the military. It seems that currently the primary institutional interest of the military is the social welfare of its officers and men, and Yeltsin is addressing this concern. During the dissolution crisis, Yeltsin got the support of the Soviet military because Russia could pay them, and Gorbachev's Soviet government could not.⁶⁶ Shortly before the summit, Yeltsin signed a decree giving all Russian servicemen an 80 percent pay increase, the second raise in as many months.⁶⁷ If Yeltsin can successfully address these military interests, then perhaps he can produce a change in doctrine. The fact that Yeltsin's renunciation of parity in numbers of strategic warheads is a change in appearance and not in fact may also help him gain military approval for the new agreement.

How Will We Know Things Have Changed?

The first indicator of change will be a change in declaratory strategic policy. Public statements alone are not positive proof of intent because they could reflect 'grandstanding' for public consumption or disinformation to lull an opponent into complacency. However, if leadership really does undergo a change of intent and wants to encourage reciprocity, then it would probably make a public declaration of its change. A concrete change in declaratory policy is, therefore, a necessary but not sufficient indicator of a change in strategy.

The second indicator of change will be change in deployments. Statesmen may not always act on what they say, but they generally act on what they believe; therefore, a combination of declaratory policy change and changes in force deployments compatible with the new doctrine will be sufficient indicators of change. Changes in force deployments alone are not enough, because both sides must change strategies simultaneously for the change to be stable. A reactive combination of mutual declarations followed by force posture alterations will be necessary for each side to know that the other is on the path of change.

One of the specific technical indicators that MAD-plus force postures are replacing maximalist force postures is that counterforce capability decline faster than warhead counts. Scrapping highly hard-target-kill capable weapons first, like the MX, SS-18, and SS-24 ICBMs deployed with ten warheads each, is the way to do this. Another indicator is that marginal imbalances in survivable counterforce capability not impede reductions so long as each side can maintain an assured second strike capability after a few weapons for use in LNOs are subtracted from its strategic force.

Many of the unilateral actions and some of the provisions of the Joint Understanding match the indicators stated above. Changes in force postures alone are not enough, though. As

stated above, changes in force posture without changes in doctrine can lead to dangerous instabilities if conflict returns and one or both superpowers discover they have cut their arsenals to the point of not having a secure deterrent according to the doctrines they adhere to. A combination of changes in force posture and changes in declaratory doctrine is the best indicator that a change in doctrine has occurred. So far, only changes in force posture have occurred, some of which provide ambiguous evidence of the strategy behind them, and these changes could be driven purely by changes in threat perception and by fiscal pressures. As of now, it cannot be determined if a change in strategy has occurred.

What About the Future of the CIS?

The future of the former Soviet Union is highly uncertain. A reasonable question to ask is how would unification of the former republics, total collapse of the CIS, or the rise to power of a 'Russian Napoleon' or a 'Russian Hitler' affect the benefits of adopting the MAD-plus strategy?

There are three likely possible future states of unity for the former Soviet Union: there could be a true union like the old union with one central authority, a semi-unified commonwealth of mostly-sovereign states like the CIS, or up to 15 completely separate states no more unified than the United States and Canada are unified. In the event that there is a return to a strong union, the U.S.-union relationship would be bilateral as it was in the past, so traditional bilateral deterrence theory would still apply. If the CIS breaks up into completely separate states, then the United States will still only have to deal with one superpower. Russia alone would still be a nuclear superpower, but none of the other republics, even if they chose to retain their current

nuclear weapons, would be superpowers. The Ukraine, at current levels, would have 1,656 strategic warheads, Kazakhstan 1,410, and Belarus 72 compared to Russia's roughly 7,700 strategic warheads.⁶⁸ Only strategic weapons and a few tactical weapons in Belarus now remain outside of Russia, and these weapons should be transferred to Russia by the end of the decade according to a protocol signed in Lisbon by the four nuclear republics and the United States.⁶⁹ It is thus likely that Russia will be the only nuclear-armed former Soviet republic in a few years. If the other republics decide to renig on the Lisbon Protocol in the future, they will have even fewer weapons than they have now and will be unable to credibly claim any nuclear strategy but a minimalist or MAD-plus strategy.


The in-between case, in which the CIS continues to exist as is, would also lead to a continuation of a bilateral strategic relationship in the future. Either all the members would act in unison, similar to a new union for strategic purposes, or, on the other extreme, unity would totally break down resembling the case of 15 different states discussed above. Thus, the future state of unity among the former members of the Soviet Union will not change the strategic relationship between the United States and the successor to the Soviet Union.

There are two ways that the strategic nuclear relationship could cease to be bilateral, neither of which are likely. The first is that Russia could completely unilaterally disarm, which, given its proximity to nuclear-armed China, is unlikely regardless of how unthreatening they consider the United States to be. The second is that both America and Russia could disarm to a point of equality with Britain, France, and China. This second possibility is also unlikely since neither Russia nor America are likely to be willing to accept nuclear equality to China. The few analyses that mention a quintilateral relationship usually expect the current third nuclear

powers to disarm proportionally to the superpowers thus retaining a situation of Russo-American nuclear superiority.⁷⁰ If Russia and America did choose to accept parity with the other nuclear powers, then only a MAD-plus strategy would make sense, because no one power could maintain the favorable counterforce balance that maximalists desire against more than one other power and certainly not against all four.

Another important possibility to consider is that a Russian 'Napoleon' or even a 'Hitler' might arise. This is not necessarily likely, but it cannot be discounted. Gorbachev tried to solve the Soviet Union's problems, and if Yeltsin and some follow-on leader also fail, there could be a rise of fascism in Eurasia. The case of interwar Germany suggests that there is some correlation between economic difficulty and the rise of fascism.⁷¹ President Yeltsin himself likes to point out this possibility.⁷² He may be trying to scare the West into providing Russia with more economic aid, but the possibility of a return to a hostile dictatorship is still real.

If such a leader arose and became hostile to the West, it would be hard to make a maximalist strategy credible again once both sides had already agreed that 'the Emperor has no clothes' and the MAD-plus strategy is objectively more correct than the maximalist strategy. Even if a fascist leader did make a reversion to maximalism credible, and the United States had to similarly revert, it is likely that the U.S. could rebuild a maximalist strategic posture much more quickly than Russia could, given the current relative state of Western and Eastern economies. If a fascist leader arose who was completely crazy, he or she could not be deterred by any strategy. In this unlikely but possible event, the best that America could have done before hand would be to get both American and Russian arsenals as small as possible so such



a leader might not be able to destroy the world. Adopting a MAD-plus strategy now is the best way to do this.

Conclusions

The United States and Russia should adopt MAD-plus deterrent strategies in the post-Cold War era. The benefits of adopting this strategy will be increased strategic stability if a future crisis occurs, enhanced political cordiality between America and Russia as mutual fear is further reduced and arsenals become less threatening, and a maximized peace dividend. If such a strategy is adopted by both states, it will be more difficult to return to the days of the objectively irrational maximalist strategy and the accompanying large, expensive, counter-force-capable force postures that go with it.

America and Russia (or the CIS) must adopt the MAD-plus strategy simultaneously, because the MAD-plus strategy, while objectively more reasonable than the maximalist strategy, may not be a credible deterrent to an opponent who still believes the maximalist precepts. Whether or not this simultaneous transition can be achieved depends on the ability of American and Russian civilian leaders to convince their military establishments that it is safe to change. This will be more difficult to accomplish in Russia than in the United States.

So far, a change of strategy has not taken place. Many aspects of the reciprocal unilateral reductions and the June Joint Understanding could be interpreted as suggesting a desire to move toward MAD-plus strategies, but these actions alone cannot be reliable indicators or producers of change. The September and January proposals and the Joint Understanding are being driven by changes in threat perception and fiscal pressures that could lead to a dangerous

situation if threat perceptions revert to Cold War norms because of the rise of a Russian or CIS government hostile to the West. Neither leader has yet to make a firm policy statement that such a shift should occur, and until such a policy statement is made, neither leader can be sure the other is willing to make the change away from the old Cold War deterrent strategies. But the reciprocal unilateral reductions and the Joint Understanding could be good first steps if the intent is indeed to lead to a change in superpower strategy leading to maximized peace dividends and a more stable world order.

Notes

¹McGeorge Bundy, 'The Bishops and the Bomb', *New York Review of Books*, June 16, 1982, pp. 3-6.

²For a discussion of the McNamara Criteria see Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program, 1961-1969* (New York: Harper and Row, 1971), pp. 207-210.

³The formula $EMT = Y^{2/3}$ gives the equivalent megatonnage of a warhead where Y is the yield of the warhead in Mt. This is a measure of the area of land a warhead can cover with lethal effects. As an example, 138 to 276 Minuteman IIIMk12As with 3-335 kt warheads each would carry 200 to 400 EMT.

⁴For some classic statements of the maximalist deterrent strategy, see Harold Brown, *DoD Annual Report, FY 1982* (DC: U.S. DoD, OSD, 1/19/81), Colin S. Gray and Keith Payne, 'Victory Is Possible', *Foreign Policy* no. 39 (Summer 80), pp. 19-22, Colin S. Gray, 'Nuclear Strategy: A Case for a Theory of Victory', *International Security*, vol.4, no.1 (Summer 79), pp. 59-87, Paul Nitze, 'Deterring Our Deterrent', *Foreign Policy*, no. 25 (Winter 76-77), pp. 195-210, and Paul Nitze, 'Assuring Strategic Stability in an Era of Detente', *Foreign Affairs*, vol.54, no.2 (Jan. 76), pp. 207-232. My description of the strategy is not a paraphrase of any one of these statements but a logically consistent conglomeration of their arguments into one coherent strategy.

⁵Not all maximalists emphasize this assumption. Colin Gray and Keith Payne (op. cit.) do emphasize this possibility of damage limitation. Paul Nitze and Harold Brown emphasize it less. Nitze and Brown call for a capability to deny an opponent victory in a nuclear war, but consider it impossible to win one, which is somewhat ambiguous on whether or not damage can be meaningfully limited.

⁶'Better' means a position where the relative number of counterforce-capable weapons after exchange is more favorable to the attacker than it was before the exchange.

⁷Desmond Ball, 'Development of the SIOP, 1960-83', in *Strategic Nuclear Targeting*, pp. 57-83, Desmond Ball and Jeffrey Richelson, eds. (Ithaca: Cornell, 1986), p. 81.

⁸For an excellent discussion and criticism of the conventionalization of nuclear weapons see Jervis, op. cit.

⁹For some classic statements of the MAD-plus strategy of deterrence see Robert J. Art 'Between Assured

Destruction and Nuclear Victory: The Case for the 'MAD-Plus' Posture'. *Ethics* no. 95 (April 88), pp. 497-516, McGeorge Bundy, George F. Kennan, Robert S. McNamara, and Gerard Smith, 'Nuclear Weapons and the Atlantic Alliance'. *Foreign Affairs* vol.60, no.4 (Spring 1982), pp. 753-768. Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca: Cornell, 1984). Thomas Schelling, *Arms and Influence* (New Haven, CN: Yale University Press, 1986). As with the maximalist strategy, my description is not a paraphrase of any one of these statements but a logically consistent conglomeration of their arguments into a coherent strategy. Robert Art should be credited for the name 'MAD-plus'.

¹⁰Schelling, Chs 2&3.

¹¹U.S. Congress, OTA, *The Effects of Nuclear War* (Washington, D.C.: US OTA, 1979), pp. 12-18.

¹²William H. Dougherty, Barbara G. Levi, and Frank N. von Hippel, 'The Consequences of Limited Nuclear Attacks on the United States'. *International Security*, vol.10, no.4 (Spring 1986): 5, and 'Civilian Casualties from Limited Nuclear Attacks on the Soviet Union', *International Security*, vol. 12, no.4 (Winter 87/88), p. 169.

¹³Schelling, Chs. 2&3.

¹⁴OTA, p. 13.

¹⁵Nitze, 'Assuring Strategic Stability in an Era of Detente', p. 227 and 'Considerations Bearing on the Merits of the SALT II Agreement as Signed at Vienna', in *Alerting America*, ed. Charles Tyruler, II (DC:Pergamon & Brassey's, 1989), pp. 196-7.

¹⁶Brown, pp. 38-40.

¹⁷President Bush's State of the Union Address, televised, (Jan. 28, 1992), and President Yeltsin's Declaration that Russia will no longer target the United States. Michael Dobbs, 'Yeltsin Pursues Nuclear Issues, Visits Fleet', *Washington Post* (Jan. 29, 1992), p. A23.

¹⁸Compare Harold Brown's *Department of Defense Annual Report FY 1982*, op cit., pp. 5-19, 32-44, with Casper Weinberger, *Annual Report to the Congress FY 1988* (DC, U.S. Government Printing Office, Jan. 1, 1982), pp. 42-72, 54-56 and Frank C. Carlucci, *Annual Report to Congress FY89* (U.S. Government Printing Office, Feb. 11, 1988), pp. 25-77, 50-55.

¹⁹Thomas C. Reed and Michael O. Wheeler, *The Role of Nuclear Weapons in The New World Order*, Dec. 1991, released for pub. 1/8/92, p. 29.

²⁰*Ibid.*, p. 28.

²¹*Ibid.*, p. 26.

²²Harold A. Feiveson and Frank N. von Hippel, 'Beyond START', *International Security*, vol.15, no.1. (Summer 1990), pp. 115-158.

²³National Academy of Sciences, *The Future of the U.S.-Soviet Nuclear Relationship*, (Washington, D.C.: National Academy Press, 1991), p. 3.

²⁴*Ibid.*, p. 28.

²⁵See also Carl Kayser, Robert S. McNamara, and George W. Rathjens, 'Nuclear Weapons After the Cold War', *Foreign Affairs*, vol. 70 (Fall 1990), pp. 95-110.

²⁶With the possible exception of some of the military writings during the 1980s, the Soviet Union never had a declaratory doctrine similar to the American doctrine of flexible response, which involved nuclear warfighting at less than the massive strategic level, but Soviet doctrine did emphasize the importance of massive counterforce strikes. Since an emphasis on massive counterforce strikes is the main factor differentiating the maximalist and MAD-plus strategies, classifying pre-Gorbachev Soviet nuclear doctrine and the current military interpretation of *reasonable sufficiency* as maximalist doctrines is an acceptable simplification for the purposes of this article.

²⁷V.D. Sokolovskiy, *Soviet Military Strategy*, 3rd ed. translated by Harriet Fast Scott (New York: Crane, Russack, 1975), pp. 127-211.

²⁸See Mary C. Fitzgerald, 'Marshal Ogarkov on the Modern Threat Operation', *Naval War College Review*, vol.34, no.4 (Autumn 1986), pp.16-25. Leon Goure and Michael J. Deane, 'The Soviet Strategic View: Ogarkov on Total Victory' and 'Updating Sokolovskiy', *Strategic Review*, vol.13, no.4 (Fall 1985), pp. 92-106, and James M. McConnell, 'Shifts in Soviet Views on the Proper Focus of Military Development', *World Politics*, vol.37, no.3 (April 1985), pp. 317-393.

²⁹D. T. Yazov, 'The Military Doctrine of the Warsaw Pact is the Doctrine of the Defense of Peace and Socialism', *Foreign Broadcast Information Service, Daily Report, Soviet Union* (FBIS-SOV), (July 27, 1982), p. BB2. 'Report by D. T. Yazov (at the 28th CPSU Congress, July 1990)' *Current Digest of the Soviet Press*, vol. 97, no. 29 (Aug. 22, 1990), p. 5, Marshal S. F. Akhromeyev, 'The Doctrine of Preventing War, Defending Peace and Socialism', FBIS-SOV-88-001 (Jan. 4, 1988), p. 42.

³⁰Def. Min. Yazov participated in the coup and is awaiting trial. Marshal Akhromeyev, who was Gorbachev's personal military advisor, committed suicide. Former Chief of Staff Malinovsky has also been replaced.

³¹See for example Alexei Arbotov, 'How Much Defense is Sufficient?' *International Affairs* (Moscow), (April 1989), pp. 31-44, Yevgeny Primakov, 'New Philosophy of Foreign Policy', FBIS-SOV (July 14, 1982), pp. CC5-10, and Vitaly Zhurkin, Sergei Karaganov, and Andrei Kortunov, 'Reasonable Sufficiency or How to Break the Vicious Circle', *New Times* (Moscow) vol. 40, no. 82 (Oct. 12, 1987), pp. 13-15.

³²Arbotov, p. 36, Primakov, p. 618, Zhurkin, Karaganov, and Kortunov, p. 7, and Col. V. Strebkov, 'From the Standpoint of the New Thinking: Military Party Yesterday and Today', FBIS-SOV-89-002 (Jan. 4, 1989), p. 2.

³³M. S. Gorbachev, 'Cross a Watershed in the Country's History in a Fitting Manner', (speech in the Odessa military district, Aug. 17, 1990), *Current Digest of the Soviet Press*, vol. 42, no. 32 (Sept. 19, 1990), p. 7.

³⁴Michael Dobbs, 'Yeltsin Pursues Nuclear Issues, Visits Fleet', *Washington Post* (Jan. 29, 1992), p. A23.

³⁵Pete Williams, Defense Department Regular Briefing, Thursday, June 18, 1992.

³⁶If Russian silos are hardened to withstand 2000 psi of blast overpressure like American silos, and the D-5 has a CEP of 120 m, replacing the 475 kt W88 warhead with the 100 kt W76 will reduce the D-5s single-shot kill probability from about 98 percent to 76 percent (assuming perfect reliability). If Russian silos are harder, say hardened to withstand 5000 psi, the single-shot kill probability drops from 85 percent to 54 percent.

³⁷The Joint Understanding does not explicitly require SS-18s to be eliminated, but the Phase II ban on MIRVed ICBMs combined with the explicit ban on downloading the 10-warhead SS-18 will require elimination of this missile.

³⁸Patricia A. Gilmartin, 'USAF Budget Plan Preserves F-22, C-17 But Caps Stealth Bomber Production', *Aviation Week and Space Technology* (Feb. 3, 1992), p. 23.

³⁹For an explanation of the synergistic relationship, see Brent Scowcroft, Committee Chairman, *Report of the President's Commission on Strategic Forces*, (Washington, D.C.: U.S. Government Printing Office, 1983), p. 17.

⁴⁰U.S. Congress, Senate, Committee on Foreign Relations, *Testimony of Secretary of Defense Cheney Before the Senate Foreign Relations Committee on the Strategic Arms Reduction Treaty*, June 26, 1992, pp. 3, 8.

⁴¹Reuter Transcript, *White House Background Briefing*, June 16, 1992.

⁴²Fred Hiatt, 'Moscow Slashes Military Spending', *Washington Post* (Jan. 25, 1992).

⁴³Fred Hiatt, 'A-Arms Chief Says Russia Needs Help', *Washington Post* (Feb. 5, 1992).

⁴⁴'Further on Yeltsin Speech to Army, Navy Chiefs,' translated from *Rossiyskaya Gazeta* in *Foreign Broadcast Information Service Daily Report on Central Asia* (FBIS-SOV-92-114), June 12, 1992, p. 38.

⁴⁵For a typical example of the Cold War description of the threat see, Caspar W. Weinberger, *Annual Report to the Congress, FY 1988*, U.S. Department of Defense, January, 1987, pp. 23-25.

⁴⁶General Chain's testimony in U.S. Senate, Committee on Appropriations, Department of Defense Appropriations for FY 1988, 100th cong., 1st sess., p. 161.

⁴⁷U.S. Senate, Budget Committee, preliminary transcript of the FY 1993 Defense Budget Hearings, Feb. 3, 1992, p. 15.

⁴⁸Colin L. Powell, *National Military Strategy 1992*, Department of Defense, Jan. 1992, pp. 2, 3, 16. Director Gates' and Director Clapper's testimony is highlighted in George Lardner, Jr., 'Republics' Procurement of Arms Said to Plunge', *Washington Post* (Jan. 23, 1992).

⁴⁹Bill Gertz, 'Gates: CIS Instability Biggest Threat', *Washington Times* (Feb. 26, 1992).

⁵⁰See also Thomas Reed and Michael Wheeler, *The Role of Nuclear Weapons in the New World Order*, U.S. Department of Defense, January, 1992, pp. 6-9.

⁵¹'DoD to Slow Pace of Modernization, Cut Strategic Nuclear Arsenal While Maintaining Essential Forces', Office of the Assistant Secretary of Defense for Public Affairs Press Release, January 29, 1992, p. 5.

⁵²See for example, Sokolovskiy, pp. 52-69, and Leon Goure and Michael J. Deane, 'Ogarkov on Total Victory' [Excerpts from *History Teaches Vigilance*, Moscow, 1985] *Strategic Review*, vol. 13, no. 4 (Fall 1985), p. 97.

⁵³'Statements by Presidents Bush and Yeltsin', *New York Times* (Feb. 2, 1992), p. A6.

⁵⁴John Lloyd, 'Military Chief Says CIS Has No Enemies', *Financial Times* (Feb. 5, 1992).

⁵⁵'Yeltsin on "Moving Away From Parity"', translated from *Komsomolskaya Pravda* in FBIS-SOV-92-119, June 19, 1992, p. 23.

⁵⁶C.J. Dick, 'Soviet Military Doctrine - Preparing for the Future', *Jane's Intelligence Review*, Jan. 1992, p. 35.

⁵⁷For example, Chapter 2 of Sokolovskiy is an analysis of American and NATO doctrine. Former Secretary of Defense Harold Brown referred to Soviet doctrine in his development of the countervailing strategy. See, for example, the DoD Annual Report for fiscal year 1982 (DoD, Jan., 19, 1981, p. 38). The Department of Defense publication *Soviet Military Power*, produced annually for most of the 1980s included an analysis of Soviet doctrine.

⁵⁸For a cost comparison on optimal U.S. land-based forces for the two schools, see Eric Graben, *What Don't We Need Anymore?*, (Lanham, MD: University Press of America, forthcoming).

⁵⁹Gertz.

⁶⁰'Russia Warns U.S., Then Launches Missile', *New York Times* (Jan. 22, 1992), and R. Jeffrey Smith, 'U.S. Asks About ICBM Launch from Kazakhstan', *Washington Post* (Jan. 22, 1992).

⁶¹According to Marshal Yevgeny Shaposhnikov, Commander-in-Chief of the CIS and former Soviet Defense Minister only he and Boris Yeltsin have 'nuclear buttons'. Fred Hiatt, 'Ukraine, Russia Squabble Over Fleet as Tensions Grow', *Washington Post* (Jan. 5, 92).

⁶²'Excerpts from Bush-Yeltsin Conference: Working Toward a Safer World', *New York Times*, June 17, 1992, and 'Grachev on Arms Cuts,' FBIS-SOV-92-120 June 22, 1992, p. 15.

⁶³'Shaposhnikov Assesses Arms Control Agreement,' FBIS-SOV-92-122, June 24, 1992, p. 2.

⁶⁴This is the opinion of Alexi Arbatov, director of the Moscow-based Center for Arms Control and Strategic Stability and a consultant on strategic issues to the Yeltsin government, as expressed during a roundtable discussion hosted by the Center for National Security Studies at Los Alamos National Laboratory.

⁶⁵Nikolay Pavlov, 'Impact of Arms Deal on Russian Role Assessed,' FBIS-SOV-92-123, June 25, 1992, p. 2. Pavlov is a Russian Federation people's deputy, a member of parliament.

⁶⁶Patrick E. Tyler, 'U.S. Concerned that as the Union Breaks Up, So Does the Soviet Military', *New York Times*, (Dec. 10, 1991): A19, and Serge Schmemman, 'Gorbachev is Ready to Resign as Post-Soviet Plan Advisor', *New York Times*, (Dec. 13, 1991), A1, 22.

⁶⁷'Yeltsin Discusses Reform Policies, U.S. Trip', translated from an interview on the Moscow Russian Television Network, in FBIS-SOV-92-114, June 11, 1992, p. 31.

⁶⁸John D. Morocco, 'Soviet Military Breakdown Worries U.S. As Control Over Nuclear Arms Splinters', *Aviation Week and Space Technology*, (Dec. 16, 1991), p. 20, and International Institute for Strategic Studies, *The Military Balance, 1990-91*, (London: Brassey's, 1990), p. 34.

⁶⁹Don Oberdorfer, '3 Ex-Soviet States to Give up A-Arms', *Washington Post* (May 25, 1992). The protocol also laid out the provisions by which the four former republics would abide by the START treaty.

⁷⁰Feiveson and von Hippel, (op. cit., p. 100) envision America and Russia with about 2000 warheads and the third nuclear powers with 200-500 warheads each. Kayser, McNamara, and Rathjens, op. cit., similarly expect the third nuclear powers to be willing to accept continued inferiority, p. 100.

⁷¹The Nazi party received 2.6 percent of the popular vote in May 1918. In Sept. 1930 they became the second largest party in the Reichstag getting 18.3 percent of the vote. In 1933, when Hitler became Chancellor, they won on a plurality of 43.9 percent of the popular vote.

⁷²William Drozdiak, 'Yeltsin Sees Threat of New Dictatorship', *Washington Post* (Feb. 7, 1992).