STRATEGY RESEARCH PROJECT

CONVENTIONAL MILITARY DETERRENCE – ITS RISE TO DOMINANCE AND ITS FUTURE

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ABSTRACT

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During the Cold War, military deterrence evolved into a mutually supportive, strategic nuclear and conventional approach. Conventional deterrence, though, was subordinate to nuclear deterrence. Operationally this framework of deterrence extended to U.S. allies and friends, and functioned with a focus on escalation and punishment. Beginning in the early 1990's as the Cold War environment dissipated, the requirement to reassess U.S. deterrence strategy became evident. Based on the changing security environment, conventional deterrence could no longer remain subordinate to or implicitly attached to nuclear deterrence.

The purpose of this paper is to explore what factors gave rise in the years since the Cold War to a concept of conventional deterrence equal in standing to nuclear deterrence. These factors are also applied to current and potential trends to examine the future of conventional deterrence in U.S. strategy. Theoretical concepts of deterrence will serve as a foundation for discussion and analysis of the factors that have undergone fundamental changes since the Cold War. Overall, dynamics of the conventional and nuclear components of deterrence strategy must be balanced properly in response to the strategic environment in order to capitalize on the effectiveness of deterrence strategy.

TABLE OF CONTENTS

CONVENTIONAL MILITARY DETERRENCE – ITS RISE TO DOMINANCE AND ITS FUTURE

> The end of the cold war has dramatically altered the "seamless web" of deterrence and decoupled nuclear and conventional forces. ... As a result, the post-cold war period is one in which stability and the deterrence of war are likely to be measured by the capabilities of conventional forces.
>
> — Gary L. Guertner

Deterrence has been part of military strategy since armies existed.[1] Over time the concepts, lexicon and practice of deterrence have grown as the application of deterrence theory has matured and adapted to the environment and military conditions. During the Cold War, deterrence evolved into a mutually supportive, strategic nuclear and conventional approach. This approach posited that conventional deterrence worked in conjunction with, but was largely subordinate to nuclear deterrence. In fact, the U.S. nuclear deterrent at the basic level in the Cold War was to deter a Soviet conventional attack. Over time nuclear weapons and deterrence became a "cornerstone" of defense strategy and national security. Operationally the deterrence framework extended to U.S. allies and friends, concentrating on escalation and punishment.[2]

Beginning in the early 1990's as the Cold War environment dissipated, there was growing evidence of the need to reassess U.S. deterrence strategy. Based on the changing environment and threat, conventional deterrence could no longer remain subordinate to or implicitly attached to nuclear deterrence. Part of the reason was that in the new multipolar security environment state actors and regional influence were freed from superpower constraints. Additionally, with the diminishing bipolar environment came a corresponding reduction in the threat from nuclear weapons. Today, there is only a remote possibility that the U.S. would use its nuclear capability against a threat or attack, and it would likely require as a necessary condition that an aggressor threaten to or actually use nuclear weapons or other weapons of mass destruction.[3] This nuclear-use limitation heightens the necessity for a strategy that fully exploits conventional deterrence concepts. Though strategists and policymakers generally agree that the U.S. should retain some nuclear capability if only to deter the use of other nuclear weapons, their status overall has declined as a credible deterrent threat.[4]

The purpose of this paper is to explore what factors gave rise in the years since the Cold War to a concept of conventional deterrence equal in standing to nuclear deterrence. These factors are also applied to current and potential trends to examine the future of conventional deterrence in U.S. strategy. Theoretical concepts of deterrence will serve as a foundation for discussion and analysis of the factors that have undergone fundamental changes since the Cold War. Overall, dynamics of the conventional and nuclear components of deterrence strategy must be balanced properly in response to the strategic environment in order to capitalize on the effectiveness of deterrence strategy.

THEORETICAL CONCEPTS OF DETERRENCE

The history of deterrence in U.S. defense strategy and policy is well known and documented, particularly in the 40-plus years of the Cold War era. Today's changing strategic environment remains volatile and uncertain, but deterrence theory remains sound and very functional. Strategists tend to agree that the application of deterrent concepts and capabilities may require reformulation; however, the theoretical basis and premise for employment are as strong as ever. "The theory of deterrence is in excellent condition," Colin Gray points out. "It is in such good shape that today we are at a point at which we can recognize the difficulties that better theory simply cannot correct."[5] Likewise, critics of deterrence question not the viability of deterrence theory, but its application in practice given the complexity of the current environment and threats.

There are many concepts and functional aspects of deterrence, but generally deterrence involves three essential components:[6]

- Capability: possessing sufficient military forces able to carry out plausible military retaliatory threats. The amount and type of force depends on the adversary and what interests are being threatened.
- Credibility: declared intent and believable resolve to protect interests. The deterrer should be committed to use force beyond any doubt but more importantly the aggressor must believe beyond any doubt that deterrent threats will actually be carried out.
- Communication: clearly relaying to a potential aggressor the capability and intent to carry out deterrent threats. Communication should include adversary actions considered unacceptable, the response to any of those unacceptable actions, and the will to carry out the deterrent threat.

Achieving effectiveness in all three requirements is difficult. Of these, capability may well be the easiest to achieve and credibility the most difficult. As the lone superpower, current superiority of U.S. military capabilities is not in question. Further, that capability need not be in the immediate vicinity of a potential aggressor to be an effective deterrent due to exceptional strategic capacity. But convincing a potential adversary of the clear intent and will to use that capability is a politically charged and complicated matter. Credibility is strongest when the deterring nation can show through past experience and action that force will in fact be used. Afghanistan, Kosovo and the Persian Gulf War serve as the most recent and potent examples of U.S. action. Last, sufficiently communicating the intent and will is critical. Statecraft is often vague on purpose. Nevertheless, in the case of deterrence, these elements must be articulated clearly and without question.

Perhaps the most important aspect to understand about deterrence is that it is not a one-way threat or action, but rather involves a relationship between actors in which perception and understanding are crucial operational components. Specifically, the potential adversary must agree to be deterred. Notwithstanding exceptional capability, credibility and communication, the potential adversary must still choose deterrence over aggression.[7] It becomes evident that deterrence is not a concept easily employed, articulated or even understood when considering how perceptions of actors can be influenced by complicated geopolitical factors, innumerable domestic and international pressures, individual decision skill levels, and cultural differences.

Given the communication requirement and the perception issue, accounting for all the variables seems an overwhelming task, sure to increase the unreliability of deterrence and the probability that it will fail. It is extremely difficult to align properly all three required components particularly because successful deterrence relies on a necessity to influence others, which is primarily what renders it unreliable. But deterrence itself is not the source of the difficulty. The problem, Gray points out, "... is that deterrence is inherently unreliable because actual locally encultured human beings, deciding for any of the reasons that may move we (sic) humans, can decide that they will not be deterred."[8]

Added to these complications is the fact that it is very difficult to state definitively that deterrence really works. If deterrence is successful there is an absence of counterfactual evidence; the fact that no aggression occurred is not clear evidence that deterrence worked. In actuality, it is too difficult to ascertain in any situation deterrence really worked since some other variable or combination thereof may have had an impact on an adversary's decision not to act aggressively.

THE RISE OF CONVENTIONAL DETERRENCE

U.S. defense policy relied heavily on its nuclear capability during the entire Cold War. The policy underwent several changes, or more accurately a maturing process, beginning with the first use of nuclear weapons in the bombing attacks on Hiroshima and Nagasaki. Though the weapons were employed to break Japan's will to fight and end World War II, from their use grew a complex framework of deterrence. Aside from their intended initial use, nuclear weapons became tools of deterrence for preventing war.

In the first few years of the Cold War, only the U.S. possessed a nuclear capability and the mere existence of this nuclear monopoly was intended to deter Soviet aggression. From the time the Soviets achieved nuclear capability in 1949 to the end of the Cold War, overall U.S. deterrence policy changed only slightly, though nuclear doctrine evolved. Doctrine progressed from massive retaliation during the Eisenhower administration through the 1950s, to flexible response during Kennedy. There were other minor adjustments; but the underlying premise of U.S. policy remained mutual deterrence and vulnerability. Further, retaining first use of nuclear weapons to protect U.S. and allied interests against attacks from either conventional or nuclear threats bolstered the U.S. policy of general extended deterrence.

The end of the Cold War produced major changes in the very factors that had caused the dominance of nuclear deterrence in that twilight conflict. These changes caused a reevaluation of U.S. nuclear doctrine and deterrence strategy. No longer was the U.S. concerned with large armed conflict in Europe, its focus turning instead toward other destabilizing security factors and commitments. The result in the post-Cold War era thus far has been the ascendancy of conventional over nuclear deterrence.

FACTOR ONE – GEOPOLITICAL STRUCTURE

The geopolitical structure in the Cold War era was bipolar, relatively narrow in focus, fairly predictable, and stable. These characteristics developed over time and ultimately defined the actions of most nations. This environment was punctuated by carefully measured deterrence means and gave rise to the strategy within which military forces were employed.

The two superpowers, the U.S. and Soviet Union, were the focal point of nearly all international decisions and actions. Other national leaders made decisions with consideration to the effect on the superpowers, and this level of intense focus actually constructed a visible, predictable path for leader actions. The superpowers did not engage directly but acted largely through surrogates. This formed dividing lines in regions and sometimes within nation-states,

typically corresponding to the bipolar division. The superpowers engaged in defined, mutual deterrence and sought to confer this deterrence on the opponent's potential surrogates.

From this perspective, the environment was quite narrow and inflexible. It was confined to the restrictions put in place by the superpowers, stated explicitly or implicitly within the relationships the superpowers had with other nations. In spite of this narrow structure, it was not possible to know with complete confidence that a particular action would result in a particular reaction (including no action at all). However, it was possible to eliminate certain cases of action based on previous decisions and behaviors, and the direct articulation of superpower policies.

These conditions also gave rise to a fairly predictable, stable environment. Though perhaps better identified in retrospect, the developed geopolitical structure cultivated predictability. And with predictability came a peculiar sense of overarching security. In the strategic bipolar environment, policy-makers would make general assumptions about the values that a major adversary placed on disputed interests and was able to predict, sometimes very effectively, the opponent's responses to deterrence threats.[9]

Inside this geopolitical structure, nuclear deterrence found a stable niche while conventional deterrence basically supported the effort on the periphery. The very threat of nuclear annihilation actually created a strange cooperation and familiar security structure surrounding superpower competition. Deterrent threats could be carefully planned, directed and measured. The nuclear standoff overshadowed much of geopolitics, but this setting also promoted a global understanding of the situation and backdrop for interstate relationships, policies and actions.

With the post-Cold War era came radical security changes characterized by a multipolar, broad and unpredictable environment. The Soviet Union collapsed, Russia as a power declined, and together these two events removed Russian power from the center of Europe.[10] Under these conditions, the deterrence focal point of the two superpowers essentially evaporated; nation-states and other international actors advancing individual positions increased, all of which broadened international and policy focus. The result was a significant increase in strategic uncertainty and complexity. In this new setting, two key features of the post-Cold War geopolitical structure emerged to emphasize an increased requirement for conventional deterrence: regional focus and globalization.

Regional Focus

During the Cold War a considerable amount of world instability was directly linked to bipolar geopolitics and U.S.-Soviet rivalry. In the post-Cold war era however, instability tends to be entrenched more in regional concerns and rivalries.[11] This does not imply that during the Cold War there was an absence of regional disputes. In fact, regional conflicts were a major part of Cold War competition, except those conflicts usually received global interpretation, as projections of superpower antagonism into what was viewed as relatively unimportant regions. [12]

Deterrence on a regional basis means paying more attention to balance of power and U.S. regional interest considerations in those areas. But this post-Cold War focus has essentially left the U.S. without a credible deterrence policy and strategy because the steady deterrent relationship embedded in the bilateral nuclear framework of forty-plus years was not transferable to current regional deterrence predicaments.[13] A major reason was that U.S. policy makers were faced for the first time with the challenge of integrating regional perspectives, including national and regional sensitivities and dynamics, into a realistic and stable approach to pursuing deterrence and global security.[14] As such, it required a broader political perspective and less destructive military strategic approach which nuclear deterrence simply did not provide.

The problem facing post-Cold War U.S. policymakers was outlined in the basic structural premise of superpower nuclear deterrence. Detailing the framework's flaws, Keith Payne explains:

> If the modeling demonstrated that both sides possessed a manifest and secure capability for devastating nuclear retaliation, "mutual deterrence" generally was judged to be "stable." The underlying assumption was that neither side, being rational and reasonable, would intentionally initiate a war if the end result could be widespread mutual destruction. ...In short, rational leaders would be deterred via mutual nuclear threats because, by definition, they would be irrational if they were not so deterred.[15]

The assumption of rationality and thus, predictability of action, highlighted the ineffectiveness of nuclear deterrence outside of the bipolar construct. As previously discussed, deterrence theory addresses the myriad of difficulties associated with relationships between state and non-state actors; the strategic nuclear framework simply could not address the diversity of regional actors and requirements.

Overall, the nuclear framework did not fit because deterrence on a global scale faded when the Cold War ended and regional relevance came to the geopolitical forefront. Shifting to a regional focus pointed toward primacy of conventional rather than nuclear deterrence partly due to the many complex considerations in a multipolar, regionally arrayed environment. Some

of the key considerations included obligations to consider regional sensitivities, the need for development of regionally focused foreign policies, and expansion of regional security arrangements. Because the U.S. has some interests in almost every region, strengthening regional security will continue to be a primary objective of post-Cold War U.S. foreign policy.[16]

Globalization

The other key feature of the post-Cold War geopolitical structure that argues for predominance of conventional deterrence and diminished need for nuclear deterrence is globalization. This occurrence has greatly complicated the security environment, heightening the interrelationships between nations, linking and binding them politically, culturally, industrially and financially. Such intense interdependence further diminishes the credibility of nuclear deterrence because these inextricable interdependencies make the use of nuclear weapons anywhere extremely counterproductive to U.S. and global economic stability and prosperity.

For one, technological innovations – robotics, computers, semiconductors, fiber optic communications, and integrated financial systems – have directed an economic shift away from industrial production to knowledge-based market economies.[17] This has led to qualitative changes in the strategic orientation of businesses, banking and markets. Rather than bilateral links, the transnational orientation actually encourages global strategic activity.[18] This global disposition implies that the effect of a nuclear attack on one country means invariably all countries will experience some negative effect because of direct or indirect links between transnational businesses, financial markets and economies. Thus, economic stability is reduced because it depends greatly on communications and computer networks, which are greatly disrupted from nuclear attack electromagnetic pulse effects.

Furthermore, though conventional attacks would also disrupt trade, banking and economic stability, the lingering effects are significantly less than from nuclear attacks. Communications and computer systems recovery is quicker from conventional attack not only because many systems are redundant but also because of less physical destructiveness. Lastly, negative economic impact from nuclear attack would also be manifest through long lasting aid requirements that could potentially stress financial systems of even prosperous countries.

To summarize, change in the geopolitical structure from the Cold War to post-Cold War era helped punctuate the primacy of conventional deterrence. Without a global perspective and predictable geopolitical environment, nuclear deterrence is not as relevant or effective, and therefore, not a credible deterrent. Certainly, its preeminence as a "cornerstone" of defense strategy has withered. A shift from the bipolar, predictable security environment, in which

nuclear deterrence operated in a stable realm, to a multipolar, regional focus complicated by globalization interdependencies, has resulted since the end of the Cold War in a condition much more suitable for the employment of a conventional deterrent strategy.

FACTOR TWO – THREATS

For over 40 years during the Cold War, the greatest U.S. military focal point was the Soviet strategic and ideological threat. The strategic component was comprised of Soviet and Warsaw Pact military power and force capabilities. It was a significant threat that dominated all aspects of the U.S. defense community -- planning, doctrine, training, force development, intelligence assets, and weapons procurement. It provided U.S. military strategists and planners with a defined benchmark against which to determine the appropriate quantity and quality of U.S. forces.[19] The ideological threat was largely played out through Soviet surrogates that would challenge U.S. containment policy. These challenges frequently resulted in some type of U.S. intervention, directly with military forces as in Korea and Vietnam, and indirectly with aid, training and arms sales as in Nicaragua and Afghanistan.

The threat was familiar and fit a mold constructed by the U.S. To prevent expansion and defeat the monolithic Soviet power, the threat received complete U.S. examination and expenditure of resources. Nuclear deterrence was defined and refined over decades, stabilized by indicators and warnings, and the Single Integrated Operations Plan. It was routine to wargame against the nuclear threat to estimate costs and benefits of specific deterrent means and actions. The threat was predictable and therefore, conducive to applying specific military means to defeat it, including the proper amount of nuclear capability and complementary deterrence policy.

During this period, many regional and national issues were submerged within the confines of the bipolar framework. When bipolarity disappeared at the end of the Cold War, these issues emerged in the form of ethnic, criminal and cultural unrest and disorder. In addition to resurrecting old threats and hatred, the changed security structure has given rise to new ones in the intervening decade. Threats arising from factions within failed states, cultural and ethnic disputing groups, rogue states, antiglobalist movements, international criminal elements, militants and terrorists, to name a few, further have fractured the framework of Cold War predictability and steadiness within which the old Soviet threat operated. Threats have become progressively harder to identify as diverging and multifaceted passions, political ideologies, and socioeconomic conditions have grown in complexity and type.

Nevertheless, employing nuclear threats to deter nuclear weapons states still has a viable function in U.S. defense strategy. Further, nuclear weapons may have some role in deterring rogue states that possess chemical and/or biological weapons of mass destruction, such as North Korea, Iraq, and Libya. However, nuclear weapons threats against non-nuclear weapons states that are signatories of the nuclear Non-Proliferation Treaty would not be credible and run counter to U.S. policy.[20] Moreover, nuclear deterrence of non-state actors, like terrorists, militants, and disputing ethnic groups like Serbs, Kosovars and Palestinians would also prove quite ineffective. Stemming aggression of these type threats with nuclear deterrence would not only be assessed as incredible, communicating the threat would prove equally challenging. Put succinctly, a threat of nuclear retaliation is extremely difficult to mount against individuals and groups without an address.[21] Moreover, clearly communicating that threat to leaders and decision bodies without knowing who they are and what their precise goals may be would likely prove intensely challenging and subject to failure. It is doubtful, for instance, that nuclear deterrent threats to Osama bin Laden and the al Qaeda terrorist group would prove very effective in deterring future aggression. In addition, such nuclear deterrent threats exceed the international tolerable threshold of punishment given these types of aggressor non-nuclear, conventional and unconventional capabilities.

Combating the broad range of threats that emerged in the post-Cold War world involved moving from increasingly incredible single-effect nuclear deterrence to an escalating, more flexible scale of conventional deterrence. For instance, current U.S. conventional weapons attacks on al Qaeda terrorists in Afghanistan and expressed threats of future attacks will have more of a deterrent effect than would threats of nuclear attack. For one, the U.S. has never before used nuclear weapons from its deterrent threats but has a clear history of using conventional attacks since the end of the Cold War. Thus, the credibility of conventional deterrent threats is fairly high and superior capability is now proven. Though communication of conventional deterrent threats toward these non-state actors remains a concern, referencing previous successful actions of following through with deterrent threats portrays a credible image and message to an adversary.

In some instances when dealing with a terrorist group or non-state actor, conventional deterrence may not work. It may be for reasons of irrationality or inability to locate the adversary. In any case, nuclear deterrence would work under these circumstances no better than conventional deterrence. Therefore, arguing that conventional deterrence would be ineffective against terrorists, non-state actors or even rogue states is a flawed justification for alternative the alternative: nuclear weapons.

FACTOR THREE – ALLIANCES AND COALITIONS

Alliances and coalitions have been and continue to be an important aspect of U.S. security policy and strategy. But over time, as Colin Gray points out, their nature, function and effect have radically changed:

> The relatively orderly world of coalition and countercoalition that has been the backdrop to the development and practice of deterrence by the United States is in a phase of massive disarray. The most basic reason for the precipitation of this disintegration of the known and familiar cold war world was the success of U.S. policy and strategy. U.S. grand strategy, including its manifold deterrent aspects, worked itself out of its long-standing job of containing the power and influence of the truly evil empire.[22]

This erosion together with a greater need for functionally relevant alliances has caused three major changes from Cold War to post-Cold War alliance and coalition structure: influence, shared interests, and function and importance.[23] Together, these changes made a major contribution to the rise of conventional deterrence in the post-Cold War era.

With respect to influence, alliances and coalitions in the Cold War era were dominated and influenced by the two superpowers. Nation-states that aligned with either of the superpowers typically served as surrogates, executing most actions in accordance with the desires, interests and ideological position of the supporting superpower. The Soviet Union and United States each had some degree of control over each of its allies and substantial influence on the smaller conventionally armed states within its spheres of influence.[24] In today's multipolar security environment, diminished superpower controls and influence leads alliances and coalitions to pronounce and act on individual nation-state or collective political goals and policies.

A good example of reduced influence due in large part to reduced need for nuclear weapons dominance is the NATO alliance today. The U.S. policy of extended deterrence during the Cold War led to emplacing nuclear weapons and delivery systems in European countries, mostly West Germany, and a declared policy of first use should the Soviets launch any type of attack. The vast majority of these nuclear weapons were U.S. owned and controlled, and their forward deployment clearly meant early employment during a conflict. Dissolution of the Soviet Union and Warsaw Pact led to removal and destruction of U.S. nuclear weapons in Europe except for several hundred free-fall nuclear bombs.[25] And though NATO has maintained its strategy of flexible response, its policy on nuclear weapons seems to indicate their use is very remote. Therefore, though the strategic capability still exists, a U.S. strategy of nuclear deterrence would not be a credible deterrent given NATO's position.

Continued offers of extended deterrence by the U.S. is seen by some as an effort by the U.S. to maximize its influence in the region, since it has been somewhat diminished with the end of the Cold War. But the amount of influence from a guarantee of nuclear protection would be based on how Europeans value U.S. nuclear contributions to European security. Since nuclear weapons are not now key to NATO or European security, it suggests U.S. conventional force guarantees would lead to greater value by the Europeans and thus, greater U.S. influence. Therefore, a defense strategy employing dominant nuclear deterrence would not serve to enhance U.S. influence in European affairs.[26]

Concerning interests, most alliances that formed did so on the basis of shared interests, the primary one being the threat. This shared threat "stimulated cooperation and acted as a restraint on the inevitable differences and quarrels that arise among allies."[27] But forming and maintaining alliances and coalitions in the post-Cold War environment is becoming increasingly complex and difficult because diverging, fluid situations in international politics often equates to shifting and changing interests. Absent the Soviet threat "countries have a greater temptation to pursue their narrower interests" even though they can present obstacles for cooperation.[28]

A current example of diverging interests is exposed by the U.S.-led war on terrorism, pronounced after al Qaeda attacks on the U.S., 11 September 2001. The broad U.S.-led coalition, though critically important for U.S. action as discussed in detail below, contains members whose interests vary significantly and who have sought U.S. concessions for participating. For instance, Russia gained leverage for its Chechnya policy; China implied criticism of its separatist problem might subside; Pakistan and India had restrictions lifted that were imposed after both countries tested nuclear devices in 1998; and other countries are taking advantage of a changed U.S. geopolitical agenda.[29]

Nuclear deterrence under these alliance and coalition conditions would result in improbable success. With such diverging interests and so many points of instability, it is unlikely a broad-based coalition involving many nation-states would agree to accept a prominent strategy of nuclear deterrence.

Function and importance, the third difference concerning alliances and coalitions, also points to the need for conventional deterrence. During the Cold War, unilateral superpower action was not questioned and only seriously challenged by the other superpower. The U.S. could act unilaterally in the international community and support its efforts with unilaterally applied nuclear deterrent means. The main purpose of alliances was to stop Soviet expansionism, both militarily and ideologically. Coalitions were not extensively used because the U.S. supported its surrogates directly or simply took unilateral action.

Conversely, since the Cold War ended, coalition actions have become more important and advantageous to U.S. interests. Multilateral cooperation, it seems, has become a near necessity for most military action. Overall, alliances and coalitions support deterrence requirements in some crucial ways: providing the U.S. with legitimacy of action; allowing use of forward-based coalition forces; providing access to battle space and logistics; and helping to develop confidence in the international community that the U.S. will consider all nations' views before exerting power, either nuclear or conventional.[30] One of the most successful coalitions was formed during the Persian Gulf War, and today's coalition effort to fight terrorism further indicates the growing functional and political importance of alliances and coalitions. Thus, the criticality of maintaining alliances and coalitions could actually take precedence over military campaign efforts including types and degrees of deterrent threats.

In summary, changes in alliances and coalitions from the Cold War to post-Cold War era clearly illustrate why conventional deterrence became dominant. Achieving consensus among alliances and coalitions is inherently difficult but gaining acceptance for the use of a nuclear deterrent in this construct would be exponentially difficult. Having to consider participant interests in order to achieve compromise and successful multilateral action greatly complicates the use of any nuclear deterrent, making conventional deterrence more acceptable.

While alliances and coalitions reduce U.S. flexibility of action including the application of deterrent threats, there may be greater hazard in unilateral action. The growing anti-American backlash among culturally different and disenfranchised nations reduces the effectiveness of U.S. unilateral action. The U.S. needs the support of allies and friends to strengthen its foreign policies and confirm credibility of any deterrent threat. Therefore, without at least some level of alliance and coalition acceptance for a nuclear deterrent strategy it certainly seems remote that one will be declared.

FACTOR FOUR – MILITARY CAPABILITIES

There were progressive, gradual improvements in military capabilities during the Cold War and into the post-Cold War era. During the Cold War significant expenditures went into larger, more lethal nuclear weapons including more effective and survivable delivery systems. However, conventional military capabilities were also developed and procured. Evidence of that is the overwhelming military power used against Saddam Hussein during the Persian Gulf War where, for example, the Army's "big five" of the 1980's showed their mettle.[31] Still, in the Cold War era nuclear weapons were endowed with responsibility for dominating U.S. defense posture and maintaining overarching strategic stability. As NATO's first-use policy

demonstrated, the West never perceived its conventional weapons and forces were a sufficient deterrence without a linkage to nuclear weapons.

In just over a decade since the Cold War, advances in conventional weaponry have increased the importance of conventional deterrence in several ways. First, the U.S. possesses superior precision-guided conventional weapons capable of inflicting enormous pain and destruction. The ability to conduct surgical strikes with highly lethal, precision munitions is a very credible deterrent against all types and levels of threats in today's environment. It is preferred to the less accurate nuclear weapon where destruction is more indiscriminate, encompasses large areas and imposes long-lasting devastating effects. The consequences of this in doctrinal terms, as Lawrence Freedman observes, is that:

> The shift to a lower – key nuclear posture was made easier by the evident conventional superiority of Western forces, a complete reversal of the perceived state of affairs during the Cold War, although Western military technology had been advancing far ahead of the Soviet bloc's for some time. With conventional superiority, there was no need to devise elaborate rationales for a doctrine of nuclear first use or to worry about how it could be credible.[32]

Second, the U.S. currently has no peer competitor and is not likely to have one for the next 15-20 years. Therefore, provided U.S. force structure continues meeting defense strategy requirements and military capabilities mature with advanced technologies, conventional deterrence will remain very capable and credible. In fact, the 2001 U.S. defense strategy placed considerable attention on investing in transformation and exploitation of new technologies.[33]

Equally important, U.S. strategic capacity through use of long-range bombers and cruise missiles coupled with operational employment of forward-based and deployed capabilities allows for great flexibility of action. This flexibility is better suited to the application of conventional deterrent threats. Nuclear weapons offer little destructive variation and flexibility, constraining their effectiveness in most military circumstances. The contributions of conventional deterrence are far more flexible in scale and scope, and able to adapt to changing military and political conditions. Moreover, the effects of using nuclear weapons could actually neutralize the strength of U.S. conventional capabilities, further reducing the credibility of nuclear deterrent threats. For example, certain nuclear effects, such as electromagnetic pulse, possess the potential of significantly destroying technical access to information on which both war actions and societies are dependent. In such circumstances, the lack of utility in nuclear warfighting further mitigates the situational credibility and thus effectiveness of nuclear deterrence.[34]

Finally, the precision and flexibility of conventional weapons make their use more of a certainty and thus a more credible deterrent than nuclear weapons. The enormous destructiveness of nuclear weapons should deterrence fail does not guarantee even a retaliatory response in kind, further reducing the credibility and perhaps utility of nuclear deterrence. However, the likely use of a U.S. conventional force response, particularly with such an available array of sophisticated weapons, is quite substantial elevating the credibility of conventional deterrence.

In short, changes in the security environment from the Cold War to post-Cold War in terms of military capabilities, have clearly helped facilitate the rise of conventional deterrence. Today's conventional deterrent threats are extremely credible due in large part to the superior precision and lethality of U.S. munitions and weapons systems. Moreover, because conventional forces are subject to greater use when deterrence fails, their successful employment actually increases their credibility each time used.

THE FUTURE OF CONVENTIONAL DETERRENCE

U.S. deterrence policy has changed little in its basics since the end of the Cold War. Defense strategy employs both conventional and nuclear deterrence but unlike during the Cold War relies much less heavily on nuclear deterrence. America still maintains its extended nuclear and conventional deterrence commitment to allies and friends, and deterrence continues to serve as an expression of U.S. determination to defeat threats to its vital interests. But as has been demonstrated, fundamental changes in four major factors since the end of the Cold War have caused the ascendancy of conventional over nuclear deterrence in U.S. policy. The continuance of this trend is by no means assured. There are numerous possibilities within these four factors in the future, some presently developing, that can reverse the balance back toward the primacy of nuclear deterrence. However, there are also forces and trends that can keep conventional deterrence in its current dominant position. Some of these developing and future trends are now explored within the framework of these factors.

FACTOR ONE - SHIFTING GEOPOLITICS

Presently, international security and economic arrangements favor the continuation of regional focus and globalization, and therefore, conventional deterrence. But in light of the attacks on 11 September 2001, the U.S. could very well be headed back to a globally oriented, single enemy perspective focused on terrorism which could lead to initiation of policy and strategy resembling that of the Cold-War era. Under this security structure, U.S. actions, reactions and political relationships would revolve around the war on terrorism, much as it did

with the Soviets and the war on communism. Complicating today's environment, though, is a not so clearly defined enemy and a global setting of asymmetric warfare, which has increased the destruction and cost of conflict. Further, the increasing instability in many regions from complex social, cultural, economic and political issues makes the security environment that much more unpredictable.

A sustained, one-dimensional enemy focus together with increasing instability and unpredictability in today's environment might prove sufficient for resurgence of a nuclear deterrent strategy. Though currently no rogue state possesses nuclear weapons, if proliferation grows and rogue states were to acquire nuclear capability it may then be enough to solicit U.S. nuclear deterrent threats.[35] In this instance, state directed nuclear deterrence against those with links to the terrorism could dominate. But, unlike in the past when reaction to nuclear deterrence became oddly familiar and accepted, more negative reactions from the international community would probably arise, stressing the lack of support for such threats. These reactions alone, if convincing enough, could stifle any such U.S. nuclear threats toward even rogue states that may obtain nuclear weapons. Moreover, as previously demonstrated, U.S. superior conventional capability could inflict severe pain on a rouge state precluding the need for heightened nuclear posture.

FACTOR TWO - DIRECT NUCLEAR THREATS

In the area of threats, there are some situations that could tip the U.S. conventional-nuclear relationship toward nuclear deterrence. One such trend is the increasingly poor condition of Russian conventional forces, which can no longer perform the traditional defense mission of protecting the Federation's natural territory. The result is a growing Russian reliance on nuclear weapons, and on their first use early in a conventional conflict.[36] "For at least the next decade or so," the Director of the U.S. Defense Intelligence Agency recently observed, "Moscow will rely increasingly on nuclear weapons to compensate for its diminished conventional capability. This policy ... lowers the theoretical threshold for Russian use of nuclear weapons."[37]

Increased reliance on nuclear weapons to compensate for inadequate conventional forces could potentially lead to episodic or perhaps even another prolonged condition of mutual nuclear deterrence, should Russia threaten to use or actually use its nuclear weapons. U.S. efforts under the Nunn-Lugar programs which continue assisting the Russians and other former Soviet countries in disarming older nuclear warheads could very well diminish the threat over

time.[38] However, based on the uncertainty surrounding this issue the U.S. will maintain a direct interest in the affairs and status of Russian forces though this too could lead to future tensions.

The threat from current Russian policy on first use nuclear weapons may in fact, prove not to be the greatest threat. The real danger over the next decade may arise less from military intent than from mistakes, incompetence, theft or loss of nuclear weapons or components.[39] In particular, there's growing concern over the following issues: Russian nuclear forces themselves are declining and are less secure, which could lead to mishaps; command, control and early warning systems are deteriorating and likely could fail resulting in loss of control over weapons; continued turmoil from the Russian political body and situations similar to the Chechnya uprising are politically and militarily destabilizing, which increases the likelihood that nuclear weapons could be stolen by terrorists, international criminals or rogue states like Iran, Iraq and North Korea; and finally weapons-grade uranium from the core of dismantled weapons can be stolen and subsequently sold.[40]

This brings to the forefront perhaps the most important direct nuclear threat, that emerging from proliferation of nuclear weapons and material. The nuclear Nonproliferation Treaty, the only binding disarmament agreement among the nuclear weapons states, will likely remain crucial for stemming active proliferation.[41] Clandestine proliferation activities, however, will continue to seriously threaten the international security environment. But nuclear proliferation to rogue states and terrorists will not necessarily elevate U.S. nuclear policy. As previously established, nuclear deterrence would be no more effective but certainly would be less credible, than conventional deterrence.

FACTOR THREE - UNILATERALISM REVIVED

Since initiating its current military action in the war on terrorism the U.S. has shown greater signs that it's ready to discard multilateralism if necessary. President Bush's recent announcement to withdraw from the 1972 Anti-Ballistic Missile Treaty to make way for developing a national missile defense indicates the emergence of a unilateralist stance by the U.S.[42] More serious, withdrawal could precipitate a nuclear arms race. China may interpret U.S. treaty withdrawal as a call to modernize its nuclear programs in order to develop sufficient capability that would penetrate U.S. missile defenses. Yet more worrisome is the potential cascading effect from China's potential actions because they have serious implications for India, Pakistan and possibly Japan and South Korea.[43] An increase in or initiation of nuclear weapons programs by these states could ultimately lead the U.S. and Russia to increase their arsenals or at least abandon current reduction efforts.

Another consideration is that Russia will likely continue to see U.S. offensive and defensive nuclear capability as a key factor in determining the future of its nuclear forces. Thus, any increases in U.S. nuclear arsenals added to success of a national missile defense system, could lead Russia to increase its nuclear arsenal. Increasing nuclear arsenals coupled with Russia's declining conventional forces produces a dangerous combination of elements with implications for both countries in terms of strategies and actions pertaining to nonproliferation efforts, safety and security of nuclear forces, and the legitimacy of other treaties and agreements, such as START I and II, and the Intermediate-Range Nuclear Forces Treaty. For now, however, results of the latest Nuclear Posture Review reveal the U.S. has indicated it plans to reduce operational warheads from 6,000 to 3,800 over the next five years, which should ease immediate thoughts about the U.S. expanding its arsenals.[44] But success of U.S. missile defense tests and even the expansion of NATO could still threaten Russia's strategic security leading them to embark on a nuclear weapons expansion program.[45]

This scenario of an arms race is not as remote as it appears and the potential negative impacts on the security of the international community are enormous. Even a significant reduction in the U.S. nuclear arsenal may be insufficient to halt nuclear growth in nuclear weapons states like China, India and Pakistan. Should this occur, the U.S. could potentially revert back to a dominant strategy of nuclear deterrence. A shift in strategy along these lines would also increase the probability of an arms race with Russia.

FACTOR FOUR - MAINTAINING MILITARY SUPERIORITY

Militarily, there is no U.S. peer competitor. Nevertheless, a combination of future political and military developments could seriously limit the current dominant position of conventional deterrence within defense strategy. For one, conventional deterrence requires significant capability in order to maintain an overwhelming superiority. But acquiring and maintaining overwhelming conventional force is extremely expensive in terms of manpower and money, and it also requires considerable time to assemble.[46] Therefore, the U.S. would require a superior force in standing and continued investment in military technology superiority, very costly requirements in order to obtain and sustain such highly complex and capable forces.[47] How much the U.S. is willing to spend on maintaining its credible conventional deterrent means has yet to be determined. Supporting the defense policy goal of deterrence as stated in the current 2001 defense strategy requires a significant investment in today's superior conventional forces. Further, investing in transformation will also prove costly but is required to increase the capability and credibility of future deterrent forces.

The present threat situation could actually prove to be financially beneficial for the Defense Department. After 11 September 2001, the Defense Department received additional funds of approximately $18 billion. The primary purpose of the money is for Defense-related homeland security activities and prosecuting the war on terrorism. But some of these funds may find their way toward purchasing more effective conventional deterrence means. And more funding could be coming in the future. Additionally, the FY2002 defense budget of $343.3 billion includes a $33 billion increase over last year, sure to support transformation and procurement of additional conventional weapons platforms.[48]

Another potential limiting consideration is that credible conventional deterrence focused on the protection of U.S. allies and other interests requires not only strategic capacity and power projection, but also costly forward basing. This in turn reduces U.S. flexibility of action because forward basing increases the likelihood that U.S. forces will have to abide by restrictions and conditions of allies and host nations, which in some instances may conflict with U.S. policy and military objectives. A good example is reports of Pakistan's refusal and Saudi Arabia's reluctance to allow U.S. aircraft to launch and conduct offensive bombing missions against the Taliban and al Qaeda forces in Afghanistan from bases in both countries.

In response to high costs and reduced flexibility over the past decade, the U.S. has actually decreased its forward basing, relying more on its strategic conventional capability. The danger here is that this can lead to other strategic and tactical military difficulties, particularly if deterrence does fail and there is a need to defeat an adversary. Reduced forward basing presents adversaries with opportunities to undertake efforts that geographically deny the U.S. entry points and staging areas from which to launch attacks and logistically support its military actions. Such a predicament could reduce the capability of U.S. conventional forces and thereby the credibility of deterrence, at least initially during a campaign. Perceptions of ineffective conventional forces increase the likelihood that deterrent threats with those forces will fail.

Yet another situation that can alter the current conventional-nuclear relationship is technology transfer or proliferation. American military export controls are no longer adequate for the new security environment. The U.S. is faced with enormous expenditures on bureaucratic processes and controls that drive a wedge between the U.S. and its allies – in short an illusion of protection by a control system that simply complies with regulations rather than examining risk.[49] Equally important, current export controls on information technology derive from an era when the strategy of the U.S. and its allies was to deny technology to the Soviets and maintain the strength of the Western alliance.[50] While this is no longer the political

or strategic situation, controls haven't yet responded to the post-Cold War security structure. Therefore, global access to military technologies along with those commercially developed could erode U.S. conventional military advantages and degrade national security. Depending on the type of technology transferred and its intended use, the U.S. may be placed in a situation where it is forced to elevate to nuclear deterrent threats.

Precipitating technology transfer and complicating the issue is globalization, a double-edge sword. Earlier discussion demonstrated that globalization actually favors conventional deterrence because of the interrelationships and global binding of nation-states' industries and economies. However, globalization is also responsible for "out of control" technologies transfer because such heightened nation-state interrelationships actually facilitate availability of technology to would be aggressors. As U.S. Secretary of Defense Donald Rumsfeld recently testified before the House Armed Services Committee, "This proliferation of dangerous technologies is aided by the same globalization that is helping to fuel our current prosperity."[51]

Continued technology proliferation due to inadequate controls and subversive measures could actually shift the deterrence balance to a greater nuclear focus depending on what actors obtain what technology and for what purpose. If current and future technological capabilities are fully exploited by regional belligerents, a hegemonic power could emerge and threaten regional stability. If the U.S. is unable to produce or employ credible, superior conventional forces to deter that adversary, it could duplicate a situation much like the Cold War when nuclear weapons were a deterrent against superior conventional forces.

In such circumstance, nuclear deterrence could again emerge as a dominant strategy. There is a great need for U.S. policy and funding to continue addressing military superiority, regional stability, and proliferation of key technology and nuclear weapons, in order to arrest any resurgence of an atmosphere marked by domination of nuclear deterrence.

THEORETICAL SEAMS

Conventional deterrence like its nuclear predecessor has limitations. To begin with, detailed analyses have demonstrated that a great many potential adversaries would be undeterrable in some circumstances despite superior conventional forces by the deterrer. From an historical perspective, then, conventional deterrence is not a panacea and routinely fails while nuclear deterrence is considered as more reliable and therefore, less likely to fail.[52] The analysis of documented conventional deterrence failures reveals most resulted from a lack of credibility in the deterrent threat. Despite evidence of capability and communication, the

deterrer's resolve is undoubtedly the most difficult component of the deterrent equation to convey. [53]

All this notwithstanding, conventional deterrence for the U.S. has never been more feasible. Conditions exist today, as we have seen, in which U.S. conventional weapons and military doctrine are so superior to any potential adversary's capabilities that the deterrence value of American conventional forces is the highest to date in history. Moreover, capabilities monopolized in the past by nuclear strategy are transferable to conventional forces due to superior technologies and operational doctrine, such as range, accuracy, survivability and lethality. Most importantly, critics traditionally have set impossible standards for the success of conventional deterrence. Any form of deterrence can fail and since deterrence is a "perishable commodity," conventional failure actually provides an opportunity to show the cost of aggressive action, renew the credibility of conventional deterrence and reestablish a period of stability based on that credibility.[54]

Despite the often-cited limitation that conventional deterrence is likely to fail, it is insufficient for preventing its employment as the dominant deterrent tool of U.S. defense strategy. Although nuclear deterrence has not failed, neither is there confirmed evidence it has been successful. And it should never be ruled out that nuclear deterrence might also fail. Still, successive conventional deterrence failures could set off resurgence of nuclear deterrence primacy.

CONCLUSION

Nuclear deterrence was a cornerstone of U.S. defense policy and strategy for decades but fundamental changes in the security environment from the Cold War to post-Cold War era provided the impetus for a dominant conventional deterrence strategy. It is unlikely that the primacy of conventional deterrence will diminish in the near future, although it could decline over time. Conventional deterrence, of course, like nuclear deterrence has limitations. And many situations, such as nuclear weapons proliferation, technology transfer, increased nuclear arsenals and further degradation of Russian conventional forces, can develop to again elevate nuclear deterrence. It is in the interests of the international community as a whole to curtail nuclear proliferation and nuclear weapons threats because of the enormous destructive effect they can have on the complex economic and industrial interdependencies created by globalization.

While many situations can result in a resurgence of nuclear deterrence, it is more probable that conventional deterrence will remain the primary U.S. deterrent strategy for at least the next decade. Further, proper investment in Service transformation efforts and future

weapons technology will help maintain the supremacy of this strategy. The future environment could very well become more complicated and threatening, but superior American conventional forces should be able to deter most threats. In any event, for those non-state actors such as terrorists that are sometimes beyond the reach of either conventional weapons and/or the moral, rational logic associated with deterrence, nuclear threats will be no more effective than conventional ones. Notwithstanding potential failure, future uncertainty and the growing threat of nuclear proliferation, it appears the future of conventional deterrence is secure, at least for now.

(WORD COUNT = 8220)

ENDNOTES

[1] For history of conventional military deterrence see: Raoul Naroll, Vern L.Bullough and Frada Naroll, *Military Deterrence in History: A Pilot Cross-Historical Survey* (New York: State University New York Press, 1974); John M. Mearsheimer, *Conventional Deterrence* (New York: Cornell University Press, 1983); George H. Quester, "Deterrence before Hiroshima: The Past as Prologue," in *The Search for Strategy: Politics and Strategic Vision*, ed. Gary L. Guertner, (Westport, CT: Greenwoood Press, 1993). For history of nuclear deterrence see: Joseph M. Siracusa and David G. Coleman, "Scaling the Nuclear Ladder: Deterrence from Truman to Clinton," *Australian Journal of International Affairs* 54 (November 2000): 277-296 [database on-line]; available from UMI ProQuest, Bell & Howell; accessed 2 October 2001; John Garnett, "Face To Face With Armageddon," *History Today*, March 1999; available from <http://www.findarticles.com/cf_0/m1373/3_49/54175535/print.jhtml>; Internet; accessed 7 September 2001.

[2] See Richard Lowry, "Deterrence, But Updated," *National Review* Aug 6, 2001: 1-2 [database on-line]; available from UMI ProQuest, Bell & Howell; accessed 2 October 2001; Patrick J. Garrity and Sharon K. Weiner, "U.S. Defense Strategy After the Cold War," *The Washington Quarterly* 15 (Spring 1992): 67.

[3] Leon Sloss, "The Current Nuclear Dialogue," *National Defense University Strategic Forum* 156 (January 1999): 2; David C. Gompert, "Rethinking the Role of Nuclear Weapons," *National Defense University Strategic Forum* 141 (May 1998): 5-6.

[4] Goodpaster Committee, "The Declining Utility of Nuclear Weapons," *The Washington Quarterly* 20 (Summer 1997): 93; John C. Hopkins and Steven A. Maaranen, "Nuclear Weapons in Post-Cold War Deterrence," available from <http://www.nap.edu/readingroom/ books/pcw/ Dt-e.htm>; Internet; accessed 6 September 2001; Andrew F. Krepinevich, Jr., "Forging a Path to a Post-Nuclear U.S. Military," *Issues in Science and Technology* Spring 1997; [database on-line]; available from UMI ProQuest, Bell & Howell; accessed 2 October 2001.

[5] Colin S. Gray, "Deterrence in the 21st Century," *Comparative Strategy* 19 (July-September 2000): 258.

[6] These components are typically viewed as the basic foundation for deterrence to operate successfully. Some theorists site a fourth component of rationality; however, this actually relates more to the complexities of deterrence elements and practice than it is a requirement. Through direct use of capabilities and action, a deterrer can control the three required components but cannot dictate the rationality of the deterred. Rationality is a factor influencing a leader's calculations to accept deterrence or not, where the leader must "logically assess" the perceived benefits against the perceived costs in order to determine a course of action. It is in this realm that the leader's cost-benefit analysis results in choosing to be deterred or some other, potentially aggressive course of action. See Thomas C. Schelling, *Arms and Influence*, (New Haven: Yale University Press, 1966), 36-43; Robert P. Haffa, Jr., "The Future of Deterrence in a New World Order," in *The Search for Strategy: Politics and Strategic Vision*, 149; Timothy Garden, *Can Deterrence Last: Peace Through a Nuclear Strategy* (London: Buchan & Enright, 1984), Chapter One, pg. 1; and Gerald Steinberg, "The Iraq-Israel Relationship: Lessons From 'The Mother of All Wars,'" available from <http://faculty.biu.ac.il/ ~steing/arms/iraq.htm>; Internet; accessed 10 September 2001.

[7] Robert H. Dorff and Joseph R. Cerami, "Deterrence and Competitive Strategies: A New Look at an Old Problem," in *Deterrence in the 21st Century*, ed. Max G. Manwaring, (Portland: Frank Cass & Co., 2001), 111.

[8] Colin S. Gray, "To Confuse Ourselves: Nuclear Fallacies," in *Alternative Nuclear Futures: The Role of Nuclear Weapons in the Post-Cold War World*, eds. John Baylis and Robert O'Neill (Oxford: Oxford University Press, 2000), 13.

[9] Ibid., 244.

[10] Gregory F. Treverton, Marten van Heuven and Andrew E. Manning, "Toward the 21st Century: Trends in Post-Cold War International Security," presented at the 3rd International Security Forum, Zurich, Switzerland, Section 3, pg 1.

[11] Bruce W. Jentleson, *American Foreign Policy: The Dynamics of Choice in the 21st Century*, (New York: W.W. Norton & Company, 2000), 246.

[12] R. Craig Nation, "Regional Studies and Global Strategy," *U.S. Army War College Guide to Strategy*, eds. Joseph R. Cerami and James F. Holcomb, Jr. (Carlisle Barracks, PA.: Strategic Studies Institute, 2001), 70.

[13] Phillip L. Ritcheson, "Regional Deterrence in the Future Security Environment," July 1996; available from <http://www.wws.princeton.edu/~jpia/July96/ritches.html>; Internet; accessed 17 September 2001, 7.

[14] Nation, 72.

[15] Keith B. Payne, *The Fallacies of the Cold War Deterrence and a New Direction*, (Kentucky: The University of Kentucky Press, 2001), 17-18.

[16] Jentleson, 246.

[17] James Robinson, "Technology, Change and the Emerging International Order," in *Volume I, Part Four: International Affairs; The Information Age: An Anthology on its Impacts and Consequences*, eds. David S. Alberts and Daniel S. Papp (Washington, D.C.: National Defense University, 1997), 598.

[18] Robert J. Holton, *Globalization and the Nation-State*, (New York: St. Martin's Press, 1998), 56.

[19] Garrity and Weiner, 64.

[20] Though the main purpose of the Nuclear Non-Proliferation Treaty (NPT) is to prevent the spread of nuclear weapons, among other treaty features the U.S., Great Britain and the then Soviet Union gave assurances they would not use nuclear weapons against non-nuclear countries that were signatories to the NPT. Additionally, the U.S. issued a policy statement in 1978 to reaffirm that commitment, which to date has not been withdrawn. The NPT became effective on 5 March 1970, and was extended indefinitely in 1995. Currently, there are 185 signatories. The Treaty and signatory list is available from <http://www.state.gov/www/ global/arms/treaties/ npt1.html>.

[21] Frank Cilluffo and Robert Kupperman, "Between War and Peace: Deterrence and Leverage," available from <http://www.csis.org/goc/ao970231.html>; Internet; accessed 17 September 2001, 2.

[22] Colin Gray, "Deterrence in the New Strategic Environment," *Comparative Strategy* 11 (July-September 1992): 253-254.

[23] Ibid.

[24] Willie Curtis, "The Assured Vulnerability Paradigm: Can it Provide a Useful Basis for Deterrence in a World of Strategic Multi-polarity?" *Defense Analysis* 16 (December 2000): 244.

[25] Stanley R. Sloan, "NATO Nuclear Strategy Beyond the Cold War," in *Controlling Non-Strategic Nuclear Weapons: Obstacles and Opportunities*, eds. Jeffrey A. Larsen and Kurt J. Klingenberger (Colorado: U.S. Air Force Institute for National Security, 2001), 48.

[26] Ibid., 57-58; Patrick Donley and Charles A. Krupnick, "The European Union and a Nuclear Security and Defense Policy," in *Nuclear Deterrence and Defense: Strategic Considerations*, ed. James M. Smith (Colorado: U.S. Air Force Institute for National Security Studies, 2001), 143.

[27] Robert J. Lieber, "Foreign Policy Challenges Facing the Bush Administration," *U.S. Foreign Policy Agenda*, (March 2001): 26.

[28] Ibid.

[29] Lawrence J. Korb and Alex Tiersky, "The End of Unilatralism? Arms Control After September 11," *Arms Control Today* 8 (October 2001), 4; "U.S. Lending Legitimacy to Russia's Chechnya Campaign," *Strategic Forecasting*, 10 January 2002; available from <http://stratfor.com/CIS/commentary/0201102220.htm>; Internet; accessed 14 January 2002; John Parachini, "Non-Proliferation Policy And the War on Terrorism," *Arms Control Today* 8 (October 2001), 15; "Geopolitical Agenda Turned on its Head," *Strategic Forecasting*, 3 January 2002; available from <http://stratfor.com/northamerica/commentary/0201032330.htm>; Internet; accessed 14 January 2002.

[30] Charles T. Allen, "Extended Conventional Deterrence: In from the Cold and Out of the Nuclear Fire," *The Washington Quarterly* 17 (Summer 1994): 221.

[31] The Army's big five refers to the following weapons systems, developed and acquired in the 1970's to 1980's: the M1 Main Battle Tank; the M2 Bradley Fighting Vehicle; the AH-64 Apache attack helicopter; the UH-60 Black Hawk utility transport helicopter; and the PATRIOT air defense missile system.

[32] Lawrence Freedman, "Does Deterrence Have A Future?" *Arms Control Today* 30 (October 2000): 5-6.

[33] Donald H. Rumsfeld, *Quadrennial Defense Review Report* (Washington, D.C.: The Pentagon, September 2001), 29-47.

[34] Sam J. Tangredi, "All Possible Wars? Toward a Consensus View of the Future Security Environment, 2001-2025," McNair Paper 63, November 2000; available from <http://www.ndu.edu/inss/macnair/mcnair63/m63cvr.html>; Internet; accessed 10 October 2001, Chapter Six, 18.

[35] Thomas R. Wilson, "Global Threats and Challenges Through 2015," *Senate Armed Services Committee, Prepared Statement*, 8 March 2001; available from <http://www.senate.gov/~armed_services/statemnt/2001/010308tw.pdf>; Internet; accessed 15 January 2002. Throughout his testimony Wilson makes numerous references to future, potential WMD threats from Iran, Iraq and North Korea, clearly indicating they currently do not possess nuclear weapons.

[36] Bruce G. Blair, *Senate Armed Services Committee, Subcommittee on Strategic Forces, Prepared Statement*, 31 March 1998; available from <http://www.senate.gov/~armed_services/statement/980331bb.htm>; Internet; accessed 15 January 2002.

[37] Wilson, 9.

[38] The Nunn-Lugar programs – named for U.S. former Senator Sam Nunn and Senator Richard Lugar – were initiated in 1992, to provide financial and technical assistance to former Soviet countries so the U.S. can pursue non- and anti-proliferation of nuclear and chemical weapons. Thus far, the Nunn-Lugar programs have eliminated nuclear weapons in Kazakhstan, Ukraine and Belarus. The programs focus on dismantling nuclear weapons and destroying underground nuclear testing facilities; protecting and storing nuclear material; and preventing former Soviet scientists from selling their skills.

[39] Robert L. Butterworth, "Out of Balance: Will Conventional ICBMs Destroy Deterrence?" *Air Power Journal* (Fall 2001); available from <http://www.airpower.maxwell.af.mil/airchronicals/ajp/apj01/fal01/butterworth.html>; Internet; accessed 4 January 2002, 6.

[40] Ibid.; Blair, 2; Wilson; 138; Robert F. Mozley, *The Politics and Technology of Nuclear Proliferation*, (Seattle: University of Washington Press, 1998), 216.

[41] David Mutimer, *The Weapons State – Proliferation and the Framing of Security* (Boulder, CO: Lynne Rienner Publishers, 2000), 99.

[42] Charles Krauthammer, "Unilateral? Yes, Indeed," *Washington Post*, 14 December 2001, sec. 1A, p. 45.

[43] It's not believed at this time that Russia would initiate an increase in its nuclear arsenal in response to U.S. ABM withdrawal, because currently it possess sufficient nuclear capability to penetrate proposed U.S. missile defenses. A similar situation is not true of China and other nuclear weapons states. For example see: Michael Wines, "Facing Pact's End, Putin Decides To Grimace And Bear It," *New Your Times*, 14 December 2001, sec. 1A, p. 12; Elisabeth Rosenthal, "China Voices Muted Distress At U.S. Blow to ABM Treaty," *New York Times*, 14 December 2001, sec. 1A, p. 13; Steven Mufson and Dana Milbank, "U.S. Sets Missile Treaty Pullout," *Washington Post*, 14 December 2001, sec. 1A, p. 1,4.

[44] Walter Pincus, "U.S. to Cut Arsenal to 3,800 Nuclear Warheads," *Washington Post*, 10 January 2002, sec. 1A, p. 10

[45] Joseph Cirincione and Jon B. Wolfsthal, "What if the New Strategic Framework Goes Bad," *Arms Control Today* 31 (November 2001): 8.

[46] George Lindsey, "How Much Nuclear Deterrence is Enough?" *National Network News* 4 (January 1997); available from <http://www.sfu.ca/~dann/nn4-1_5.htm>; Internet; accessed 15 November 2001.

[47] Hopkins and Maaranen, 5.

[48] Helen Dewar, "Defense Bill Passes; Base Closings Delayed," *Washington Post*, 14 December 2001, sec. 1A, p. 43.

[49] Center for Strategic and International Studies, Panel report on *Technology and Security in the Twenty-First Century,* (Washington, DC: The CSIS Press, 2001).

[50] Center for Strategic and International Studies, Panel report on *Computer Exports and National Security in a Global Era*, (Washington, DC: The CSIS Press, 2001).

[51] Donald H. Rumsfeld, *Senate Armed Services Committee, Prepared Testimony*, 21 June 2001; available from <http://www.defenselink.mil/speeches/2001/s20010621-secdef2.html>; Internet; accessed 15 January 2002.

[52] Edward Rhodes, "Conventional Deterrence," *Comparative Strategy* 19 (July-September 2000): 221-222; Gray, "To Confuse Ourselves: Nuclear Fallacies," 258.

[53] Haffa, 55, 153.

[54] Gary L. Guertner, "Deterrence and Conventional Military Forces," In *Deterrence in the 21st Century,"* 61-62.

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