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Department of Political Science

The University of British Columbia
Vancouver, Canada

Date August 19th, 2002
Abstract

This thesis examines the current Bush administration's nuclear weapons strategy. It argues that the current U.S. strategy is based on the concept of asymmetrical deterrence against 'rogue states' that, rather than having a comparable or even minimal nuclear arsenal, have or are developing nuclear, biological, or chemical (NBC) weapons. This form of asymmetrical deterrence can therefore be seen as comparable to the U.S. deterrent posture in the 1940's to 1960's against the Soviet Union, and contrasted with the symmetrical deterrent posture reflected in the context of mutually assured destruction (MAD). In addition, this paper offers some preliminary conclusions on the problems associated with this posture, specifically with regard to the non-proliferation regime and the symmetrical U.S. deterrent posture directed towards Russia and China.

Rather than a new strategy, asymmetrical deterrence has been the de facto U.S. policy of the post-Cold War period. This strategy changes the calculus of deterrence by expanding U.S. nuclear strategy to incorporate conventional counterproliferation elements such as conventional strike options, preventive war and missile defense. This development is largely due to the changing U.S. threat perception towards rogue states, which have since replaced the Soviet Union as the most significant strategic threat facing the United States. While a de facto policy throughout the post-Cold War period, it has attained a pre-eminent status under the Bush administration. This has been most explicitly reflected in the 2002 Nuclear Posture Review (NPR) Report, which outlines the strategic concept of the New Triad consisting of offensive strike systems (nuclear and non-nuclear), defenses (active and passive), and a revitalized defense infrastructure.
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Finally, I would like to thank my family, who have consistently supported me in my academic pursuits.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABL</td>
<td>Airborne Laser</td>
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<tr>
<td>ABM</td>
<td>anti-ballistic missile</td>
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<td>ADM</td>
<td>Agent Defeat Weapons</td>
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<tr>
<td>ASAT</td>
<td>anti-satellite</td>
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<tr>
<td>BMD</td>
<td>ballistic missile defense</td>
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<tr>
<td>BMDO</td>
<td>Ballistic Missile Defense Organization</td>
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<tr>
<td>BTWC</td>
<td>Biological and Toxic Weapons Convention</td>
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<tr>
<td>BW</td>
<td>biological weapon</td>
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<tr>
<td>C1</td>
<td>Capability 1</td>
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<tr>
<td>C2</td>
<td>Capability 2</td>
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<tr>
<td>C3</td>
<td>Capability 3</td>
</tr>
<tr>
<td>C3I</td>
<td>command, control, communications, and intelligence</td>
</tr>
<tr>
<td>CAV</td>
<td>Common Aero Vehicle</td>
</tr>
<tr>
<td>CB</td>
<td>chemical or biological</td>
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<tr>
<td>CIA</td>
<td>Central Intelligence Agency</td>
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<tr>
<td>CICBM</td>
<td>conventional intercontinental ballistic missile</td>
</tr>
<tr>
<td>CINC</td>
<td>command-in-chief</td>
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<tr>
<td>CONPLAN</td>
<td>Concept Plan</td>
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<td>CPI</td>
<td>Counterproliferation Initiative</td>
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<td>CTBT</td>
<td>Comprehensive Test Ban Treaty</td>
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<td>CW</td>
<td>chemical weapon</td>
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<tr>
<td>CWC</td>
<td>Chemical Weapons Convention</td>
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<td>DGZ</td>
<td>Designated Ground Zero</td>
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<td>DMZ</td>
<td>De-Militarized Zone</td>
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<td>DNA</td>
<td>Defense Nuclear Agency</td>
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<tr>
<td>DPRK</td>
<td>Democratic People's Republic of Korea</td>
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<td>DSP</td>
<td>Defense Support Program</td>
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<tr>
<td>EPW</td>
<td>Earth-Penetrating Warhead</td>
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<td>FMCT</td>
<td>Fissile Material Cutoff Treaty</td>
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<td>GMD</td>
<td>Ground-based Midcourse Defense</td>
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<tr>
<td>HDBT</td>
<td>hard and deeply buried target</td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
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<td>ICBM</td>
<td>intercontinental ballistic missile</td>
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<td>JCS</td>
<td>Joint Chiefs of Staff</td>
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<td>JLRSE</td>
<td>Joint Long Range Strategic Estimate</td>
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<td>JSCP</td>
<td>Joint Strategic Capabilities Plan</td>
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<td>JSOP</td>
<td>Joint Strategic Objectives Plan</td>
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<tr>
<td>KV</td>
<td>kill vehicle</td>
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<tr>
<td>LNO</td>
<td>Limited Nuclear Option</td>
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<td>MAD</td>
<td>Mutually Assured Destruction</td>
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<td>MAO</td>
<td>Major Attack Option</td>
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<td>MDA</td>
<td>Missile Defense Agency</td>
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<td>MEADS</td>
<td>Medium Extended Air Defense System</td>
</tr>
<tr>
<td>MIRV</td>
<td>Multiple Independently-targetable Reentry Vehicle</td>
</tr>
<tr>
<td>MNNRV</td>
<td>Maneuverable Non-Nuclear Reentry Vehicle</td>
</tr>
<tr>
<td>MSP</td>
<td>military space plane</td>
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<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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</tr>
<tr>
<td>NAW</td>
<td>Navy Area Wide</td>
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<tr>
<td>NBC</td>
<td>nuclear, biological, or chemical</td>
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<td>NMD</td>
<td>national missile defense</td>
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<td>NNSA</td>
<td>National Nuclear Security Administration</td>
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<td>NNWS</td>
<td>non-nuclear weapon states</td>
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<td>NPR</td>
<td>Nuclear Posture Review</td>
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<td>NPT</td>
<td>Non-Proliferation Treaty</td>
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<td>NSAM</td>
<td>National Security Action Memorandum</td>
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<td>NSC</td>
<td>National Security Council</td>
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<td>NSDD</td>
<td>National Security Decision Directive</td>
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<tr>
<td>NSDM</td>
<td>National Security Decision Memorandum</td>
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<tr>
<td>NSPD</td>
<td>National Security Presidential Directive</td>
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<tr>
<td>NTPR</td>
<td>Nuclear Targeting Policy Review</td>
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<tr>
<td>NTW</td>
<td>Navy Theater Wide</td>
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<tr>
<td>NUWEP</td>
<td>Nuclear Weapons Employment Policy</td>
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<tr>
<td>NWC</td>
<td>Nuclear Weapons Council</td>
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<td>NWS</td>
<td>nuclear weapon state</td>
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<tr>
<td>PAC</td>
<td>Patriot Advanced Capability</td>
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<tr>
<td>PAAMS</td>
<td>Principle Anti-Air Missile System</td>
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<tr>
<td>PD</td>
<td>Presidential Directive</td>
</tr>
<tr>
<td>PDD</td>
<td>Presidential Decision Directive</td>
</tr>
<tr>
<td>PGM</td>
<td>precision guided munition</td>
</tr>
<tr>
<td>QDR</td>
<td>Quadrennial Defense Review</td>
</tr>
<tr>
<td>REACT</td>
<td>Rapid Execution and Combat Targeting</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>research and development</td>
</tr>
<tr>
<td>RMA</td>
<td>Revolution in Military Affairs</td>
</tr>
<tr>
<td>RNEP</td>
<td>Robust Nuclear Earth Penetrator</td>
</tr>
<tr>
<td>RNO</td>
<td>Regional Nuclear Option</td>
</tr>
<tr>
<td>RV</td>
<td>reentry vehicle</td>
</tr>
<tr>
<td>SAC</td>
<td>Strategic Air Command</td>
</tr>
<tr>
<td>SAM</td>
<td>surface-to-air missile</td>
</tr>
<tr>
<td>SAO</td>
<td>Selective Attack Option</td>
</tr>
<tr>
<td>SBIRS</td>
<td>Space-Based Infrared System</td>
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<tr>
<td>SBM</td>
<td>Sea-based Midcourse Defense</td>
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<tr>
<td>SDI</td>
<td>Strategic Defense Initiative</td>
</tr>
<tr>
<td>SDIO</td>
<td>Strategic Defense Initiative Organization</td>
</tr>
<tr>
<td>SIOP</td>
<td>Single Integrated Operating Plan</td>
</tr>
<tr>
<td>SLBM</td>
<td>submarine-launched ballistic missile</td>
</tr>
<tr>
<td>SORT</td>
<td>U.S.-Russia Strategic Offensive Reductions Treaty</td>
</tr>
<tr>
<td>SRS</td>
<td>SLBM Retargeting System</td>
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<tr>
<td>SSBN</td>
<td>nuclear powered ballistic missile submarines</td>
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<tr>
<td>SPACECOM</td>
<td>Space Command</td>
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<tr>
<td>STRATCOM</td>
<td>Strategic Command</td>
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<tr>
<td>STSS</td>
<td>Space Tracking and Surveillance System</td>
</tr>
<tr>
<td>SWPS</td>
<td>Strategic War Planning System</td>
</tr>
<tr>
<td>THAAD</td>
<td>Theater High Altitude Area Defense</td>
</tr>
<tr>
<td>TMD</td>
<td>theater missile defense</td>
</tr>
<tr>
<td>UNSCOM</td>
<td>United Nations Special Commission</td>
</tr>
<tr>
<td>WMD</td>
<td>weapons of mass destruction</td>
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Introduction

The current Bush administration has brought about significant changes in the nuclear strategy of the United States. Traditionally, the U.S. has maintained a nuclear Triad based on intercontinental ballistic missiles (ICBMs), sea-launched ballistic missiles (SLBMs), and long-range bombers. This concept was expanded and modified in the Bush administration's classified Nuclear Posture Review (NPR) Report, completed on January 2002.¹ This classified document outlined a 'New Triad' strategic concept, based on nuclear and non-nuclear weapons, ballistic missile defense (BMD) systems, and a revitalized defense infrastructure. Following from the recommendations of that report, the U.S. has placed a renewed emphasis on nuclear and non-nuclear targeting of 'rogue states' armed with nuclear, biological, or chemical (NBC) weapons and the development of smaller yield and more accurate nuclear weapons alongside a significant BMD capability.

The Bush administration's nuclear strategy subsumes three important and inter-related developments of the post-Cold War period. The first is the growth of the doctrine of counterproliferation as an integral component of American nuclear strategy. During the Cold War, U.S. nuclear doctrine was focused on the threat of the Soviet Union and ranged between two extremes. At one extreme was the idea of Mutually Assured Destruction (MAD) and deterrence of both superpowers. At the other extreme was the idea of nuclear war-fighting, which implied 'escalation dominance,' and ultimately the assured destruction, of the Soviet Union and 'damage limitation' for the United States.² Although the doctrines were incompatible, they did


² For two excellent treatments of this debate, see Charles-Philippe David, Debating Counterforce: A Conventional Approach in a Nuclear Age (Boulder: Westview Press, 1987) and Robert Jervis, The Logic of American Nuclear Strategy (Ithaca: Cornell University Press, 1984). While MAD was often the declaratory doctrine, the operational...
share a common perspective: “the United States recognized only one enemy, the Soviet Union, and strategic thought was obsessed with the Soviet threat”.

‘Horizontal’ proliferation of NBC weapons, with the exception of China, was not viewed as a strategic threat and, for the purposes of nuclear strategy, largely ignored.

With the seemingly inevitable horizontal proliferation of NBC weapons in the post-Cold War period, which was forcefully communicated to American leaders during the 1990-91 Persian Gulf War and the 1994 nuclear crisis on the Korean Peninsula, the U.S. began focusing less on ways of preventing the spread of NBC weapons, and more on ways of fighting and winning wars in an NBC environment. The end result was the growth of the Department of Defense’s Counterproliferation Initiative (CPI), which was announced by Secretary of Defense Les Aspin in 1993 and codified under Presidential Decision Directive 18 (PDD-18). According to Aspin, the CPI accepts that proliferation could still occur despite the best efforts of non-proliferation: “At the heart of the Defense Counterproliferation Initiative, therefore, is a drive to develop new military capabilities to deal with this new threat”.

The second development is the incorporation of NBC-armed rogue states in U.S. nuclear targeting. Numerous states armed with NBC weapons were incorporated into the U.S. Single

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5 According to the U.S. military, an NBC environment includes “the deliberate or accidental employment or threat of NBC weapons and attacks with other chemical, biological, or radiological or toxic industrial materials”. Joint Chiefs of Staff, Joint Doctrine for Operations in Nuclear, Biological, or Chemical (NBC) Environments, Joint Pub 3-11 (Washington D.C.: Joint Chiefs of Staff, July 11, 2000), 1-1.

6 While no White House factsheet was presented on the DCI or PDD/NSC 18, Lee Aspin’s remarks has been posted on the Federation of American Scientists’ website, at http://www.fas.org/irp/offdocs/pdd18.htm
Integrated Operating Plans (SIOPs) of the 1990’s. This policy development has also led to an emphasis on more useable nuclear weapons specifically tailored for counterproliferation missions. For example, the Clinton administration modified an existing nuclear warhead to give it some limited earth-penetrating capability, and subsequently threatened to use this weapon on Libya’s underground chemical weapons facility in 1996.

The third development is what Dean Wilkening calls the third American debate on ballistic missile defense. While the first and second debate took place during the Cold War in the context of the nuclear threat posed by the Soviet Union, the third debate differs from the first two in terms of the justification for missile defense, which now emphasizes the proliferation of NBC weapons and missile to rogue states, and the “broad bipartisan consensus...developed within the US political establishment in support of the basic idea [of missile defense]”8. The end result has been the ongoing policy, evident throughout the 1990’s, of developing theater-missile defense (TMD) and national missile defense (NMD) systems, the latter of which was codified in the controversial 1999 National Missile Defense Act.9 While the counterproliferation doctrine was justified as a conventional approach to NBC proliferation, the latter two policy developments are indicative of the growing incorporation of counterproliferation as an integral component of U.S. nuclear strategy.

This thesis has two inter-related arguments. First, this thesis will argue that the current U.S. nuclear strategy is based on the concept of asymmetrical deterrence against rogue states

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7 As pointed out by Bruce Blair, U.S. Strategic Command (STRATCOM) assumed major responsibility for planning nuclear and non-nuclear strikes against third world nations armed with NBC weapons, the number of targets of which “could easily reach many hundreds and might approach a thousand”. Bruce G. Blair, Global Zero Alert for Nuclear Forces (Washington D.C.: The Brookings Institution, 1995), 6.


9 According to Section 2 of that Act, “It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate)”. Section 2, National Missile Defense Act (1999). The text of the National Missile Defense Act has been posted on the Center for Defense Information website, at http://www.cdi.org/hotspots/missiledefense/act.html
that, rather than having a comparable or even a minimal nuclear arsenal, are seen to have or to be developing NBC weapons. In sharp contrast to the Cold War, the U.S. has since expanded its definition of strategic threats to include rogue states armed with NBC weapons. Unlike the Soviet Union, these potential adversaries are much weaker in conventional and non-conventional terms, but are considered to be undeterrable. The latter perspective has only been reinforced with the devastating suicidal terrorist attacks against the World Trade Center and the Pentagon on 9/11. This makes it imperative, from both an academic and policy-related perspective, to understand what constitutes the current administration’s nuclear strategy based on asymmetrical deterrence.

Second, this thesis will argue that recent changes in nuclear strategy carry with them important and potentially dangerous implications for international security. Of particular importance is the possibility that a narrow pursuit of counterproliferation could displace other national security goals. For example, the post-Cold War emphasis on missile defense for counterproliferation purposes heavily effected the threat perceptions and nuclear policies of countries such as Russia and China. This had important if unrealized consequences on U.S. relations with these nuclear weapon states (NWSs). While attention has increasingly focused on the (to be sure legitimate) dangers of horizontal NBC weapon proliferation, little attention has been paid to the dangers of ‘vertical’ proliferation in the post-Cold War period. In fact, the Bush administration seems to have reached a consensus on the role of nuclear weapons as a means of

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10 While the wisdom of linking rogue states with international terrorist organizations can certainly be questioned, it does seem to have made recent changes on nuclear weapons doctrine and policy more justifiable than it would have otherwise been.

11 This would be similar to previous incident where U.S. fixation on non-proliferation goals was detrimental to its regional security interests. For instance, during the 1994 nuclear crisis on the Korean peninsula, non-proliferation as a policy temporarily and dangerously displaced regional security and U.S. relations with China and Japan. See Michael Mazarr, “Going Just a Little Nuclear: Nonproliferation Lessons from North Korea,” International Security, 20, 2 (Fall 1995), 92-122 and C. S. Eliot Kang, “North Korea and the U.S. Grand Security Strategy,” Comparative Strategy, 20, 1 (January-March 2001), 25-44. Another more recent case of this problem can be seen with the Bush administration’s focus on Iraq and the impact this policy has had on Russia, China, key NATO allies, and the UN.

deterring and, perhaps worrisome, defeating rogue states armed with NBC weapons.

Unfortunately, the vertical proliferation of nuclear weapons as advocated by current U.S. nuclear strategy should also be viewed as a proliferation issue independent of but related to horizontal proliferation.\(^{13}\)

This argument will be developed in four chapters. Chapter One will provide an analytical narrative of U.S. nuclear strategy during the Cold War period. Specific attention will be paid to the concepts of asymmetrical and symmetrical deterrence as related to changing U.S. nuclear doctrine and policy during that period. Chapter Two will examine how the current U.S. nuclear strategy is based on asymmetrical deterrence, and how this can be differentiated from Cold War deterrence. Chapter Three will examine the 2002 Nuclear Posture Review and its concept of a ‘New Triad,’ which consists of (i) offensive nuclear and conventional strike options, (ii) active and passive defenses, and (iii) a revitalized defense infrastructure. Chapter Four will examine the potential problems and trade-offs that the adoption of an asymmetrical strategy might entail.

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Chapter One: Overview of U.S. Nuclear Strategy during the Cold War

The nuclear strategy of the United States originated in the uncertain and dangerous twilight period between the end of the Second World War and the start of what was later coined the Cold War. With the bombing of Hiroshima and Nagasaki at the end of the Second World War, the United States became the only country to actually use nuclear weapons in warfare.\textsuperscript{14} Despite the recommendation for the use of nuclear weapons in a tactical fashion, in order to support a ground invasion of the Japanese islands, the use of nuclear weapons during these two incidents followed directly from the principles of strategic bombardment, where the bombardment of socio-economic "targets behind enemy lines provided an independent means to the strategic end of enemy defeat".\textsuperscript{15} Following these incidents, the United States began to formulate a coherent nuclear strategy, a lengthy and controversial endeavour due to the particular, some would say revolutionary, characteristics of nuclear weapons. Despite the debates in the 1940's and 1950's on the useable nature of such weapons, a doctrinal consensus was developed based on the idea that the sheer destructive power of nuclear weapons made their use problematic in all but the most extreme situations. As pointed out by Nina Tannenwald, "The non-use of nuclear weapons...remains the single most important phenomena of the nuclear age".\textsuperscript{16} That being said, the threat of using nuclear weapons became an integral aspect of U.S. operational policy since the beginning of the Cold War.

\textsuperscript{14} Following from Nina Tannenwald's definition, the use of nuclear weapons refers to the "dropping or launching of nuclear weapons in all circumstances, other than testing". Nina Tannenwald, "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use" International Organization, 53, 3 (Summer 1999), 433 f.l


The goals of this chapter are two-fold. First, it will provide context to the changing nature of nuclear strategy in the post-Cold War period. For instance, a common mistake of those who deride the Bush administration's nuclear strategy is arguing that it represents a sharp departure from the Cold War consensus on deterrence based on MAD. But as will be shown below, the Cold War consensus was neither as monolithic nor as sharp a departure from the post-Cold War nuclear strategy as the critics maintain. Second, and more importantly, this chapter will illustrate how the changing nature of the perceived Soviet threat contributed to changes in U.S. nuclear strategy. Prior to the Soviet attainment of parity in nuclear weapons, when the strategic relationship between both powers was still highly asymmetrical, the U.S. was able to both define the definition of deterrence as being based on U.S. nuclear superiority and consider a greater variety of options in dealing with the Soviet threat. With the gradual development of nuclear parity and strategic symmetry, the U.S. began defining deterrence as mutual deterrence based on assured destruction (i.e. MAD), a concept that was both frightening in its uncertain implications for global stability and foreign to previous U.S. definitions of deterrence based on superiority. While some saw MAD as a situational fact arising from the mutual capability of each side to destroy the other, others argued that MAD was a doctrine that should be challenged. In the 1970's and 1980's, the United States attempted to escape from the implications of nuclear parity, to transform the definition of deterrence into escalation dominance. The impact of changing threat perception on U.S. nuclear strategy during the Cold War carries with it significant implications for a post-Cold War nuclear strategy defined heavily by the threat of rogue states armed with NBC weapons.

NSC-68: Conventional Parity and Nuclear Hedging

While the only instance of nuclear weapons use reflected the successful application of strategic bombardment concepts, the Truman administration was initially quite hesitant about the
military and political utility of nuclear weapons. This however does not imply that Truman did not perceive the Soviet Union as a threat. In 1947, the President signed the National Security Act, a piece of legislation that created both the Central Intelligence Agency (CIA) and the National Security Council (NSC), and restructured the previously independent military services (under the War and Navy Departments) into a Department of Defense under a civilian Secretary of Defense. In 1950, the Truman administration began a sustained increase of U.S. military strength under NSC-68, which called for a rapid build-up of the West’s military, economic, and political strength in order to “deter, if possible, Soviet expansion, and to defeat, if necessary, aggressive Soviet or Soviet-directed actions of a limited or total character”. While the U.S. defense budget did not dramatically increase after NSC-68, with the planned ceiling of $13.5 billion for fiscal year 1951, the advent of the Korean War turned NSC-68 into official government policy. For example, the final congressional budget for fiscal year 1951 came to $48.2 billion, an increase of 257 percent from the original requested budget. Under the Truman administration, large amounts of military and economic aid were given to Turkey and Greece and, with the advent of the Marshall Plan, the economic reconstruction of Western Europe had finally begun. In effect, the Truman Doctrine called for the U.S. to prevent the further expansion of Soviet influence in areas deemed vital to the United States, specifically on the European continent.

17 Although, as Richard Smoke points out, the National Security Act attempted to compensate the military services, one of which was the newly created U.S. Air Forces (which was previously the air corps of the army), by creating a permanent Joint Chiefs of Staff institution. For more on these developments, see Richard Smoke, National Security and the Nuclear Dilemma: An Introduction to the American Experience in the Cold War, 3rd Edition (New York: McGraw-Hill, 1993), Chp.4.


19 Gaddis, Strategies of Containment, 113.

20 To be sure, there was much contention as to what areas should be considered vital. For instance, while Truman was initially prone to accept the strong point defense as advocated by the likes of George Kennan, the invasion of Korea (which was not considered a strong point) brought Truman towards the idea of a perimeter defense. This view was later buttressed by the domino theory of the 1960’s. See Gaddis, Strategies of Containment.
In contrast to the significant efforts to conventionally contain the Soviet Union, the Truman administration displayed a certain ambiguity on the possible role of nuclear weapons in this containment. Nuclear weapons were viewed as distinct from conventional weapons, as weapons of terror rather than part of the conventional military arsenal: “You got to understand,” President Truman told a group of advisers in 1946, “that this isn’t a military weapon. It is used to wipe out women and children and unarmed people, and not for military use”. While many have hailed this period as one defined by the U.S. nuclear monopoly, the number of nuclear weapons and delivery systems was actually quite small. These problems were noted immediately after the end of the Second World War in the ‘Spaatz Report,” which determined that the scarcity of atom bombs and the limited range of the delivery vehicle (the B-29 bombers) made the utility of nuclear weapons infeasible. These problems were to remain constant for most of the Truman administration: “There were only two weapons in the stockpile at the end of 1945, nine in July 1946, and fifty in July 1948”. Not only were the weapons few in number and extremely unyieldy, being the 10,000 pound ‘Fat Man’ implosion devices, but the available delivery systems through 1948 were limited to 30 B-29s in Roswell, New Mexico. This is not to say that nuclear weapons were of no utility. Even the Truman administration threatened nuclear weapons on two occasion (the 1948 Berlin crisis and the 1950-52 period of the Korean War). However, as pointed out by Richard K. Betts, these two cases of nuclear signalling were remarkable for their ambiguous and hesitant nature. In other words, the Truman administration, while certainly

24 Richard K. Betts, Nuclear Blackmail and Nuclear Balance (Washington, D.C.: The Brookings Institution, 1987), Chp. 2. The Korean War saw ambiguous remarks by Truman during a press conference, in which he stated that ‘every weapon’ was under consideration for the conflict. The Berlin crisis saw the movement of 60 B-29 bombers to Britain, a signal that can be considered the ‘shadow of deterrence’. While none of the bombers contained nuclear weapons, the planes were well known for their role in the Hiroshima and Nagasaki bombings. Additionally, the Strategic Air Command (SAC) was placed on initial alert and, in December 1948, a SAC warplan was approved by
hedging on the potential utility of nuclear weapons, focused extensively on U.S. conventional capability to contain the Soviet Union. This was a symmetrical response to the apparent Soviet advantage in conventional capability. As the NSC-68 argued, “atomic weapons alone would not deter limited aggression, and Washington lacked the conventional military means necessary to cover all contingencies”.

While the Truman administration was itself hesitant on the utility of nuclear weapons, it should be noted that the framework for subsequent U.S. nuclear strategy was formulated during this period. In other words, despite the conventional military approach advocated by President Truman and codified in NSC-68, operational nuclear policy did indeed envisage the use of nuclear weapons as strategic weapons. In 1948, the National Security Council approved NSC-30 (“United States Policy on Atomic Weapons), which stated that the “National Military Establishment must be ready to utilize...all appropriate means available, including atomic weapons, in the interest of national security and must therefore plan accordingly”. In 1952, nuclear war planning was institutionalized: the Joint Strategic Capabilities Plan (JSCP) governed wartime operations for the fiscal year; the Joint Strategic Objectives Plan (JSOP) governed force requirements for the next three to five years; and the Joint Long Range Strategic Estimate (JLRSE) governed R&D requirements past the five year JSOP plan. These plans, which were to form the basis of the Single Integrated Operations Plan (SIOP) in the 1960’s, advocated nuclear weapons use only as an option of last resort. The Truman administration also approved steps that would lead to the production of tactical nuclear weapons and thermonuclear ‘super bombs’. To prepare for the possibility of nuclear weapons use in the European theatre, non-nuclear

the JCS, calling for atomic attacks on seventy Soviet cities, with casualties estimated at 6.7 million. See Sagan, Moving Targets, Chp. 1.

25 Gaddis, Strategies of Containment, 110.

26 Quoted in Sagan, Moving Targets, 16. However, while this document accepted the need for nuclear weapons in an emergency, it did little to clarify how and when these weapons would be used. See Saki Dockrill, Eisenhower’s New-Look National Security Policy, 1953-61 (New York: St. Martin’s Press, 1996), 49-50.

components of nuclear weapons (bomb casings or assemblies) were transferred to Britain and French Morocco; in the Pacific region, due to the escalating war in Korea, non-nuclear components and, later, nuclear capsules were deployed to Guam.\textsuperscript{28} While conventional capabilities were emphasized in NSC-68, it seems fair to say that Truman was hedging on the potential usability of nuclear weapons.

Many of these decisions stemmed from the perceived inevitability of a Soviet nuclear arsenal. As NSC-68 notes, “It is estimated that, within four years, the USSR will attain the capability of seriously damaging vital centers of the United States”. The year of ‘maximum danger’ was considered to be 1954, when it was estimated that the Soviet Union would have 200 nuclear bombs. The document made clear that the “existence of two large atomic capabilities in such a relationship might well act...as an incitement for war”.\textsuperscript{29} As pointed out by Marc Trachtenberg, the Soviet development of nuclear weapons initiated a whole host of questions regarding the feasibility of a preventive war against the Soviet Union:

If they were so hostile and aggressive even in the period of America’s nuclear monopoly, what would they be like once this monopoly had been broken? There was no reason to assume that a nuclear world would be stable; wouldn’t the Soviets some day try to destroy the one power that prevented them from achieving their goals by launching a nuclear attack on the United States?...Wasn’t some sort of more “positive” policy worth considering?\textsuperscript{30}

\textsuperscript{28} See Robert S. Norris, “Where They Were,” The Bulletin of the Atomic Scientists, 55, 6 (1999), 26-35. Much of this article’s evidence comes from the recently declassified ‘History of the Custody and Deployment of Nuclear Weapons: July 1945 Through September 1977,’ which is a historical narrative that documents the growth of the U.S. nuclear arsenal and the global deployment of nuclear weapons (especially tactical nuclear weapons). In July and August of 1950, non-nuclear components were temporarily transferred to Canada.

\textsuperscript{29} NSC-68, Section 8.

While this idea was rejected in favour of containment, as Section Nine of the NSC-68 makes clear, more serious deliberation would take place in the next administration.  

The New Look’s Massive Retaliation and Overkill

In 1949, the Soviet Union tested its first nuclear bomb; the age of U.S. nuclear monopoly had come to an end. While the event took place under the watchful and anxious eyes of President Truman, it was to be the Eisenhower administration that would have to deal with its implications. Two factors heavily conditioned the administration’s threat perception. First, while the Truman administration saw communism as an instrument of Soviet’s threatening policy, the Eisenhower administration (specifically Secretary of State John Foster Dulles) saw Soviet communism “overwhelming weak states through a combination of propaganda, subversion, and limited war”. This perspective increased the importance of confronting Soviet aggression in places outside of the European regional theatre. The second factor was the gradual development of a rudimentary nuclear capability by the Soviet Union. While far from being significant, its inevitable vertical proliferation created a slowly shrinking window of nuclear superiority for the United States. Rather than challenging the Soviets symmetrically, as the previous administration sought to do, Eisenhower announced an asymmetrical strategic concept, which became labelled the ‘New Look’. This response, based on the idea of reacting to an adversary’s challenges by applying one’s strength against the other side’s weakness, involved a combination of alliances, psychological warfare, covert action, negotiations, and nuclear weapons.

31 While the Truman administration did reject plans for preventive war, military leaders did generate numerous draft plans for preventive war involving conventional and nuclear weapons against the Soviet Union. See Gian P. Gentile, “Planning for Preventive War, 1945-1950,” Joint Forces Quarterly (Spring 2000), 68-74.

32 Gaddis, Strategies of Containment, 137.

33 See Gaddis, Strategies of Containment, Chp. 5. For a comprehensive examination of Eisenhower’s asymmetrical strategy, see Dockrill, Eisenhower’s New-Look National Security Policy. While the works of the two authors are complementary, one difference does emerge. While Gaddis maintains that Eisenhower’s New Look strategy was asymmetrical, Dockrill argues that the United States actually “responded symmetrically to the increasing Soviet nuclear threat” (52).
While all components of the New Look were certainly important, the key of the new strategy seems to be the nuclear component, a doctrine that became known as Massive Retaliation. This doctrine, alongside the other components of the New Look strategic concept, was enshrined in NSC-162/1 on Basic National Security Policy, which argued that “Unwillingness to base more conventional forces overseas would be compensated for by a greater readiness to issue deterrent threats...and to employ ‘tactical’ nuclear weapons”. 34 This perspective on the political and military utility of nuclear weapons was buttressed by a number of comments that depicted the general usability of nuclear weapons. For instance, at a Bermuda conference in December 5, 1953, Eisenhower told the British Prime Minister that “atomic weapons were now coming to be regarded as a proper part of conventional armament”. 35 According to the doctrine of massive retaliation, deterrence was defined as the capability to deter the Soviet Union through nuclear superiority. As Lawrence Freedman makes clear,

It must be remembered that it had been felt originally that deterrence depended on an imbalance of terror in the West’s favour. It was the preponderance of US nuclear forces, enhanced by the dynamism of her technology, that would keep the Soviet Union’s expansive tendencies in check”. 36

The gradual acquisition of significant nuclear capabilities by the Soviets was therefore seen in an alarmist light, as the perceived bomber gap of 1956 and the missile gap of the late 1950’s seem to indicate. The fear of a growing Soviet capability even led Eisenhower to briefly examine preventive war options. For instance, in a memorandum from to Secretary of State John Foster Dulles, Eisenhower noted that when the Soviets acquired thermonuclear weapons, the U.S. might find itself vulnerable to a crippling strike. According to Eisenhower, “In such circumstances, we would be forced to consider whether or not our duty to future generations did not require us to

34 Freedman, The Evolution of Nuclear Strategy, 82.
35 Quoted in Dockrill, Eisenhower’s New-Look National Security Policy, 54.
initiate war at the most propitious moment we could designate". In May 1954, Eisenhower was briefed on an Advance Study Group paper by the Joint Chiefs of Staff (JCS) that "proposed that the U.S. consider 'deliberately precipitating war with the USSR in the near future,' before Soviet thermonuclear capability became a 'real menace'". The preventive war option was finally ruled out in an updated Basic National Security Policy paper in the fall of 1954.

While it would be easy to assume that the Massive Retaliation doctrine was simply rhetorical or declaratory, and therefore not associated with operational nuclear policy, there are two reasons to doubt this argument. First, the Eisenhower administration applied its policy on nuclear deterrent threats and signals in numerous crises during its time in office. For example, Richard Betts has documented cases of U.S. nuclear blackmail in at least 6 cases during this period. To be sure, these instances of nuclear coercion can be considered bluffs. However, in a comprehensive study by on the 1954 Quemoy and Matsu crisis, Gordon H. Chang argues that Eisenhower was determined to privately defend the islands with nuclear weapons if necessary. Based on documentary evidence, it seems clear that (at least in this case) Eisenhower's private deliberations on nuclear use were more concrete than even the administration's declaratory doctrine. Interestingly, these deliberations took place at a time when the Soviet nuclear capabilities, while far from reaching parity with the U.S., were significant enough to seriously

38 Ibid., 34.
39 The reasons for dismissing the concept of preventive war stems largely from the un-American and aggressive nature of preventive war. In effect, preventive war was seen as a type of aggression that countries like Imperial Japan employed, and therefore not appropriate for the United States. This was noted in NSC-68, and reiterated in the Eisenhower administration by those like Army Chief of Staff Mathew Ridgeway. One can also note the operational infeasibility of preventive war, based on the conventional strength of the Soviet Union and the expected domestic resistance to U.S. rule, made it a very unattractive option. For an excellent examination of early preventive war thinking, see Trachtenberg, "A 'Wasting Asset,'" 5-49.
40 According to Betts, these cases included (1) the Korean War; (2) French Indochina in 1954; (3) Matsu and Quemoy in 1954-55; (4) Suez in 1956; (5) Lebanon in 1958; and (6) Matsu and Quemoy in 1958. See Betts, Nuclear Blackmail and Nuclear Balance, Chp. 2.
damage U.S. territory. In other words, while seeking to use U.S. nuclear superiority in order to undertake instances of 'nuclear blackmail,' the Eisenhower administration did not appreciate that the growing Soviet nuclear capability made this strategy potentially dangerous.

Second, the actual policies on nuclear weapons implemented by the Eisenhower administration largely corresponded to the massive retaliation doctrine. For instance, while the stockpile of nuclear weapons numbered 1,000 in 1953, it had ballooned to nearly 18,000 by the end of the Eisenhower administration. The NSC-162/1 document had given three priorities that were reflected in the 1953 approval of a three-year defense program, with a focus on (i) offensive striking power; (ii) tactical nuclear weapons; and (iii) defense against nuclear attacks. Between 1954 and 1957, the Air Force (specifically the Strategic Air Command or SAC) received 47 percent of the total defense appropriations. The ultimate objective of the 1954-1957 defense program was for SAC to have 137 wings. It was also during this period that a de facto policy on a nuclear Triad of forces was developed, based on the initiation of the Minuteman ICBM and the Polaris SLBM programs. Tactical nuclear weapons, which were effectively nuclear weapons with a smaller yield designated to work in tandem with conventional forces, were also given a strong priority under the Eisenhower administration. To combat the growing

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42 See Richard Betts, "A Nuclear Golden Age? The Balance Before Parity," International Security, 11, 3 (Winter 1986/87), 3-33. Due to the lack of adequate continental air defense systems, the U.S. remained highly vulnerable to Soviet nuclear attacks. This vulnerability was only increased by the Soviet thermonuclear capability. For instance, a February 1952 research group calculated the hypothetical results of a Soviet attack on 100 urban areas with 100 bombs (of which 11 were thermonuclear). The conclusion was that there would be 19 million fatalities.

43 Additionally, the propeller driven medium bomber and reconnaissance force was in the process of converting to the all-jet 600 mile per hour B-47.

44 Definitions of tactical nuclear weapons have often been problematic and notoriously difficult. For instance, definitions have often rested on the characteristics of the weapon, whether it be range, yield, target, national ownership, delivery vehicle, or capability. A better definition would be based on the role of the weapon. While strategic nuclear use would be based on their independent impact against the enemy, tactical nuclear use would be in support rather than independent of conventional operations. Smaller yield weapons, with greater pre-delegation to the military commanders and often but not necessarily with shorter range (i.e. for theatre use) would therefore be critical characteristics. Such weapons would include nuclear landmines, nuclear artillery shells, and air-dropped or missile-launched nuclear warheads. For more on tactical nuclear weapons, see Alistair Millar and Brian Alexander, Uncovered Nukes: Arms Control and the Challenge of Tactical Nuclear Weapons, Policy Brief (Washington D.C.: Fourth Freedom Forum, November 30, 2001). The U.S. perspective, while originally based on the tactical nature of the weapon, seems to have moved towards the tactical usage of the weapon. See Joint Chiefs of Staff, Doctrine for Joint Theater Nuclear Operations, Joint Pub 3-12.1 (Washington D.C.: Joint Chiefs of Staff, February 6, 1996).
communist threat, strategic and tactical nuclear weapons were deployed to various regions, many
of which were under the Neither Confirm Nor Deny (NCND) policy. In European theatre,
beginning in 1955, complete nuclear weapons were deployed to Germany, Britain, Italy, France,
and Turkey. The number of deployed nuclear weapons (tactical and strategic) reached 3,000 by
1960. In the Pacific, nuclear weapons were deployed to Guam, Hawaii, Okinawa Japan, South
Korea, the Philippines and Taiwan. By 1960, 1,600 nuclear weapons were in the region, most of
them (800 strategic and tactical weapons) in Japan.45 A trend towards greater miniaturization of
nuclear weapons had also begun—the 10,000 pound implosion fission bombs were replaced by
the 3,000 pound Mark 5, the 2,700 pound Mark 7, and the 1,000 pound Mark 12.46 Continental
air defense systems, to protect the U.S. nuclear capabilities and people, were also improved
throughout the Eisenhower administration.47

Lastly, the war plans created by SAC featured both nuclear overkill and pre-emption.
Overkill referred to the excessive nature of the planned nuclear attack. According to the first
SIOP (designated SIOP-62), a nuclear attack would consist of launching the entire strategic force
of 3,500 nuclear weapons against 1050 Designated Ground Zeroes (DGZs) in the Soviet Union,
Communist China, and satellite nations. This plan blurred the type of targets to be attacked,

45 By 1958, Matador nuclear-armed cruise missiles were deployed in Taiwan and atomic artillery, Honest John
missiles, Matadow cruise missiles, bombs, and atomic demolition munitions were deployed to South Korea. Japan
contained strategic bombs for long-range B-52 bombers and tactical bombs and nuclear air-to-air missiles for
fighter-bombers, including the Genie air-to-air missile with W25 warhead and the Nike-Hercules surface-to-air
missile (SAM) system. See Norris and al., “Where They Were,” 26-35 and Hans M. Kristensen, Japan under the
Nuclear Umbrella: U.S. Nuclear Weapons and Nuclear War Planning in Japan during the Cold War, Working Paper
(Berkeley, CA: The Nautilus Institute, July 1999).

46 The Eisenhower administration significantly increased the U.S. nuclear stockpile. Between 1958 and 1960, the
U.S. nuclear stockpile tripled in size, from 6,000 to 18,000 weapons. When Eisenhower left office, SAC had 538 B-
52s, 1,292 B-47s, and 19 B-58 bombers. There were also 12 Atlas ICBMs in the U.S., 60 Thor intermediate range
ballistic missiles (IRBMs) in Britain, 30 Jupiter IRBMs in Italy, and plans to deploy IRBMs in Turkey. Lastly, plans
for 650 additional ICBMs and IRBMS were initiated, alongside fourteen Polaris submarines, each armed with 16

47 The measures for continental defense initiated during the Eisenhower administration included: radar early-
warning networks extending above the Artic Circle; conventional and, in 1957, nuclear armed jet interceptor
squadrions and surface-to-air batteries throughout the United States; low frequency analysis and recording sound
surveillance system (SOSUS); alternate joint and national command posts; and initiating an annual series of
Operation ALERT exercises to test the ability of governmental relocation. Rosenberg, “The Origins of Overkill,” 32.
incorporating features of both counterforce and countervalue targeting, and lacked any political or military objectives. Pre-emption referred to the possibility of a U.S. nuclear attack on the Soviet Union “when there were strong grounds for believing that a Soviet strike was imminent”. Eisenhower’s top secret review of “U.S. Policy in the Event of War,” approved by the NSC in March 1959, “appears to have kept the option of preemptive response to an impending Soviet strike”. Both nuclear overkill and pre-emption would remain constant features of the SIOP for the duration of the Cold War.

From Flexible Response to Mutual Deterrence

While the Eisenhower administration had to publicly deal with the possibility of nuclear parity between the U.S. and the Soviet Union, as can be seen in the bomber and missile gap crises, it was to be the Kennedy administration that had to realistically deal with a substantial Soviet nuclear capability and the attendant U.S. vulnerability. The strategic concept that was to drive both the Kennedy and Johnson administration was ‘Flexible Response,’ which called for an increase in both nuclear and conventional capabilities in order to, as Kennedy stated in March 1961 in his first message to Congress on defense issues, “deter all wars, general or limited, nuclear or conventional, large or small—to convince all potential aggressors that any attack would be futile”. In a manner consistent with the precepts of NSC-68, the Flexible Response strategic concept called for a decreased reliance on nuclear weapons to deter limited aggression.

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48 For more on the formation of SIOP-62, see Rosenberg, “The Origins of Overkill,” 3-71 and Ball, “The Development of the SIOP, 1960-1983,” 57-83. The original SIOP, by the estimates of the JCS, would have caused the fatalities of between 350 and 425 million people. It should be noted that, according to Lawrence Freedman, the number of DGZs for SIOP-62 consists of 1,077 targets. Lawrence Freedman, Kennedy’s Wars: Berlin, Cuba, Laos, and Vietnam (Oxford: Oxford University Press, 2000), 98.


51 Gaddis, Strategies of Containment, 214. Interestingly, the term ‘flexible response,’ which bears a striking similarity to NSC-68 (at least with regard to conventional capabilities), was coined in Maxwell Taylor’s book The Uncertain Trumpet, which was a critical analysis of Eisenhower’s New Look asymmetrical strategy. For more on the development of flexible response as the Democratic Party’s strategic concept, see Freedman, Kennedy’s Wars, Chp. 2.
and an attendant focus on the need to boost conventional capabilities, with specific reference to contingencies in the European theatre involving Berlin. With this perspective in mind, the United States called for the creation of thirty-two fully manned, combat-ready divisions on the North Atlantic Treaty Organization’s (NATO’s) central region, of which the U.S. portion would be increased to six divisions. This led to the ‘Poodle Blanket’ contingency matrix, a plan that included four phases of graduated response to Soviet provocations towards Berlin, of which only the fourth phase included the use of nuclear weapons. This plan would be approved as National Security Action Memorandum 109 (NSAM-109) in October 1961.52

Although the Flexible Response strategy has become best known for its emphasis on conventional military capabilities, it also had a significant nuclear component, based in large part on the need to create more flexible and credible nuclear options to replace the pre-planned massive retaliation response enshrined in SIOP-62. The dissatisfaction of massive retaliation and the overkill targeting of SIOP-62 can be seen during a high level review of U.S. nuclear options during the 1961 Berlin Crisis, where George McBundy, the Special Assistant for National Security Affairs, reported to President Kennedy that “the current plan [SIOP-62] calls for shooting off everything we have in one shot, and is so constructed as to make any more flexible course very difficult”.53 As McNamara pointed out in 1962, “Nuclear and non-nuclear power complement each other...just as together they complement the non-military instruments of policy”.54 While conventional capabilities were expanded in order to reduce the reliance on nuclear weapons, this was accompanied by the expansion of the nuclear arsenal, in an apparent

52 Freedman, Kennedy’s Wars, 94-95. The Kennedy administration also had a long-term plan to boost combat-ready Army divisions from eleven to sixteen, which was the estimated force necessary to combat two major wars (in Europe and Asia) and a minor crisis simultaneously. Counter-insurgency warfare also received a significant boost during the Kennedy administration, in large part due to the advocacy of men like Walt Rostow. While an increase in conventional capabilities was central to Flexible Response, other areas would also receive significant attention. These include renewal of alliances; emphasis on non-military instruments of coercion; domestic resource management; and renewed efforts at U.S.-Soviet negotiations. See Gaddis, Strategies of Containment, Chp. 7.

53 Quoted in Sagan, Moving Targets, 28.

54 Quoted in Gaddis, Strategies of Containment, 218.
attempt to make nuclear deterrence more credible and nuclear war, if it indeed takes place, more limited.

Two developments followed from this perspective. First, the nuclear arsenal was gradually expanded. By mid-1964, there was “an increase of 150 percent in the number of nuclear weapons available, a 200 percent boost in delivery megatonnage, the construction of ten additional Polaris submarines (for a total of 29) and of 400 additional Minuteman missile (for a total of 800) above what the previous administration had scheduled”. Furthermore, this focus on flexible nuclear options led to an increase in the amount of strategic and tactical nuclear weapons deployed to the Pacific, to deal with the threat posed by the Soviet Union, China, and the numerous communist insurgents. At the beginning of 1963, the on-shore deployments in the Pacific reached 2,400, a 66 percent increase from 1961. By 1967, the Pacific stockpile would peak at 3,200. Interestingly, while this expansion in nuclear weapons took place during the period of the supposed missile gap, and possible Soviet superiority, the actual result of this policy was to create a significant U.S. nuclear advantage. For instance, at the end of 1962, the Soviet Union only had 30 ICBMs, while the U.S. maintained 200 ICBMs and 144 SLBMs. In effect, “A counterforce strike by the United States in the early 1960s could perhaps have fully disarmed the Soviet Union”.

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55 Ibid.
56 Norris and al., “Where They Were,” 26-35. One interesting development was the deployment of weapons to the South Pacific. In the 1960’s, Nike-Zeus anti-ballistic missile systems with W50 nuclear warheads were stationed in the Marshall Islands while nuclear-armed Thor intermediate-range ballistic missiles (IRBM) were placed on Johnston island.
57 Ball, “Development of the SIOP,” 65. For a critical examination of U.S. first strike capability, see Betts, “A Nuclear Golden Age?” 3-33. To be sure, Richard Betts does an excellent job at examining U.S. vulnerability during the supposed ‘golden age’ of U.S. strategic superiority. However, while his analysis does bring to question the possibility of a splendid first strike against the Soviet Union, even he admits that U.S. strategic superiority was a possibility in the early 1960’s. In addition, the idea of fully disarming the Soviet Union in the early 1960’s should not imply a splendid first strike. Instead, it seems more comparable to the idea of ‘damage limitation,’ whereby the U.S. is able to limit enough damage to itself (though a pre-emptive strike and passive measures) in order to make nuclear war conceivable and, as the end goal, winnable.
Second, the Kennedy administration began looking at ways to expand and restructure the nuclear targeting options codified in SIOP-62. Rather than only one plan, whereby the U.S. would launch its entire nuclear arsenal against all the Communist Bloc countries, the new plan involved flexible and selective nuclear options that range from "those against Soviet retaliatory forces, to those near cities, to command and control systems, to an all-out 'spasm' attack".  

According to Desmond Ball, the U.S. paid particular attention to the strategic utility of counterforce attacks, which would minimize the number of attacks and attendant fatalities in Soviet cities. Out of the Soviet Bloc Target List projected for June 1969, only 11.3 percent of 1,860 Soviet-bloc targets were urban-industrial, the rest being nuclear delivery systems, surface-to-air missile (SAM) sites and aircraft bases, command and control centres, and NBC production and storage facilities. The Flexible Response strategic concept therefore led to a nuclear doctrine and policy that heavily leaned towards the idea of 'no cities' or 'city avoidance'. As Secretary of Defense Robert McNamara pointed out in a June 1962 commencement address at the University of Michigan, the "principle military objectives, in the event of a nuclear war...should be the destruction of the enemy's military forces, not of his civilian population". Not surprisingly, the U.S. emphasis on creating options for 'no cities' counterforce attacks against Soviet nuclear and conventional forces elicited a hostile reaction from the Soviet Union, which saw the possibility of a U.S. first strike capability against the Soviet forces. This fear was certainly understandable.

Not only was the Soviet Union in an inferior nuclear position, but the U.S. Air Force had also come to associate counterforce with the capability to fight and win a nuclear war. As Lawrence Freedman writes, Air Force officers justified new expensive programs under the 'counterforce'  

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59 Ball, "Development of the SIOP," 65.
label and “spoke and wrote about nuclear war, as a normal military operation rather than as a hideous eventuality, involving deep horror and tragedy”.\footnote{Freedman, The Evolution of Nuclear Strategy, 243. The 1961 Berlin crisis seems to have play a pivotal role in the policy of strengthening both conventional and nuclear counterforce capabilities. For instance, the Air Force advocated a nuclear first strike during the 1961 crisis in order to limit damage to the United States. Furthermore, civilian staff planner under Assistant Secretary of Defense Paul Nitze developed a secret Berlin-related contingency plan involving first strike counterforce targeting of Soviet nuclear capabilities. It was estimated that U.S. fatalities could be kept between 5-12 million. See Betts, “A Golden Age?” 18. Interestingly, Paul Nitze was among the foremost advocates of a U.S. first strike capability. See Freedman, Kennedy’s Wars, Chp. 11.}{60}

Partly due to the adverse Soviet reaction (among others), and partly due to the knowledge that the destruction of missiles would become infeasible as the Soviet arsenal gradually expanded, the ‘city avoidance’ doctrine was eventually replaced by the MAD doctrine. This refers to the U.S. and, most controversially, Soviet Union attainment of assured destruction capability, which was defined as the ability to:

Deter a deliberate nuclear attack...by maintaining at all times a clear and unmistakable ability to inflict an unacceptable degree of damage upon any aggressor [sic] or combination of aggressors – even after absorbing a surprise first strike.\footnote{Alain C. Enthoven and K. Wayne Smith, How Much is Enough? Shaping the Defense Program 1961-1969 (New York: Harper & Row, 1971), 174, quoted in Freedman, The Evolution of Nuclear Strategy. 245.}{61}

According to the United States, the unacceptable degree of destruction commonly cited was 20-33 percent of the Soviet population and 50-75 percent of its industrial capacity. This concept represents a sharp departure from ideas prevalent in the 1950’s. During the Eisenhower and early Kennedy period, deterrence was based on the idea of nuclear asymmetry or U.S. nuclear superiority; nuclear symmetry was a danger that was best to be avoided, lest a ‘delicate balance of terror’ be created.\footnote{For the seminal piece on the delicate balance of terror, see Albert Wohlstetter, “The Delicate Balance of Terror,” Foreign Affairs, 37, 2 (January 1959).}{62} With the acceptance of MAD, due in large part to the dangers epitomized in the 1962 Cuban Missile Crisis, nuclear symmetry began to be seen in a more positive and reassuring light; the balance of terror was seen as ‘stable’ rather than ‘fragile’. To be sure, the movement away from the concept of damage limitation and towards assured destruction was far
from immediate. In fact, the declaratory doctrine from 1964 to 1966 included both damage limitation and assured destruction. It was only after 1967 that the declared doctrine of the United States was dominated by talk of assured destruction and MAD. That being said, while the doctrine departed from Flexible Response concept by supposedly limiting nuclear attacks against countervalue targets like cities, the actual policy remained focused on a mixture of countervalue and counterforce targeting. For instance, at a time when the dominant doctrine was MAD, the February 1967 Joint Strategic Objectives Plan “stressed such notions as options, control, flexibility, and sequential attacks”\(^\text{63}\). A disjunction was therefore created between doctrine and policy under the Kennedy administration that would continue to plague his successors.

One final point regarding the Kennedy administration is in order. While declaratory doctrine if not policy was moving towards MAD vis-à-vis the Soviet Union, it was also during this period that concern grew about the strategic implications of China’s nuclear weapons program, a program that was increasingly revealed through the U.S. surveillance capability over Chinese (and Soviet) territory in the early 1960’s.\(^\text{64}\) The manner in which U.S. officials saw this threat bears a remarkable similarity to the U.S. perception of the Soviet Union during American nuclear monopoly and, later, superiority in the late 1940’s to 1950’s. As mentioned earlier, preventive war was seriously considered during that period, due to U.S. perception of Soviet irresponsibility and irrationality. This threat perception was transferred to the People’s Republic of China; as pointed out by William Burr and Jeffrey Richelson, it was the U.S. view that “the position of the Soviet leadership on peaceful coexistence and the dangers of nuclear escalation was substantially more responsible and less dangerous than Beijing’s”.\(^\text{65}\) This led to serious

\(^{63}\) Ball, “Development of the SIOP,” 70.


\(^{65}\) Burr and Richelson, “Whether to ‘Strangle the Baby in the Cradle,’” 67.
discussions on unilateral or joint U.S.-Soviet preventive action on Chinese nuclear facilities. In addition, it was the limited ICBM threat posed by China that President Johnson and McNamara to propose a Sentinel anti-ballistic missile (ABM) system, which would include long-range, nuclear-armed interceptor missiles (Spartans) and short-range, rapid-acceleration, kiloton-yield interceptors (Sprints) for local defense of the U.S. nuclear deterrent. To be sure, the Johnson administration rejected both preventive action against China, instead only undertaking a massive intelligence campaign, and substantial ABM deployments. However, this incident remains an interesting example of changing U.S. threat perception. While horizontal proliferation was not generally considered a strategic threat during the Cold War, with the notable exception of nuclear proliferation to the Soviet Union, the China incident remains the only instance during the Cold War where horizontal proliferation was (albeit briefly) considered a strategic threat.

The Post-MAD Period: The Search for a Countervailing Nuclear Posture

The MAD doctrine was based on the idea of assured destruction parity between the U.S. and the Soviet Union. While both countries maintained an assured second strike capability, the Soviet Union still lagged behind the U.S. forces in both nuclear weapons and delivery systems. In effect, the Soviet Union under Khruschev adopted a “minimum deterrent” posture. This changed with the replacement of Khruschev by Brezhnev. Between 1965 and 1966, new missile sites appeared through the Soviet Union. “By the start of the 1970s the Soviet Union had caught

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66 The military options considered by Kennedy included: covert or paramilitary sabotage operations by Taiwanese commandoes and CIA operatives; blockades; multi-sortie conventional air attacks against nuclear facilities; and even the use of a tactical nuclear weapon on a Chinese Communist target. See Ibid., 54-99.

67 Douglas A. Ross, Coping with Star Wars: Issues for Canada and the Alliance, Aurora Papers 2 (Ottawa: Canadian Centre for Arms Control and Disarmament, 1985), 28.

68 Freedman, The Evolution of Nuclear Strategy, 264. This minimum deterrent posture, and the attendant change to a more robust nuclear strategy, bears some similarities to the contemporary Chinese movement away from minimum deterrence and towards "limited deterrence". For more on this development, see Alastair Iain Johnston, “China’s New ‘Old Thinking’: The Concept of Limited Deterrence,” International Security, 20, 2 (Winter 1995/96), 5-42. Interestingly, Khruschev, aside from relying on a minimum deterrent based on ICBMs, also sought to reduce the conventional forces of the Soviet Union (in something akin to a New Look strategy of his own).
up in numbers of ICBMs and was building up fast in numbers of SLBMs.\textsuperscript{69} This danger was magnified by the advent of Multiple Independently-targetable Reentry Vehicle (MIRV) technology. In the past, one rocket booster would carry one reentry vehicle (RV) warhead. With MIRV technology, one rocket booster could launch a bus carrying numerous RVs that would be detached and launched at different targets, “which might be separated by hundred of miles.”\textsuperscript{70} The fact that the Soviets were developing large rockets such as the SS-9, which would eventually be able to carry more MIRVs than the U.S. Minuteman equivalent, created the possibility of a Soviet counterforce advantage, at least against the U.S. ICBM force.

While the Kennedy and Johnson administrations were not alarmed by the Soviet build-up, due largely from the diminishing returns after the assured destruction criteria had been met, the Nixon administration saw the actual attainment of nuclear parity with trepidation. As stated by Admiral Thomas Moorer, Chairman of the JCS in 1970, “We do think today, now that we have this situation off approximate parity, that a mutual deterrent exists.”\textsuperscript{71} The political ramifications of parity were certainly significant for the Nixon presidency. After all, this was a period during which America’s confidence and security guarantees were being questioned due to the debacle of Vietnam. Defense expenditures were also being reduced. However, the military threat posed by strategic parity should not be underestimated. First, the very real nuclear parity between the two superpowers placed in question the credibility of U.S. extended deterrence guarantees, especially in Western Europe.\textsuperscript{72} Second, the rapid nature of the Soviet build-up raised questions as to Soviet intentions, specifically regarding whether the Soviets would be

\textsuperscript{69} Freedman, The Evolution of Nuclear Strategy, 246.

\textsuperscript{70} Smoke, National Security and the Nuclear Dilemma, 154. While the U.S. did have rockets that carried three warheads prior to MIRV technology, these RVs would be delivered to the same target area.


\textsuperscript{72} This dilemma originates under the Kennedy administration’s dual focus on Flexible Response towards Europe, based primarily on conventional forces, and acceptance of a mutually assured destruction relationship between the two superpowers.
satisfied with parity or would attempt to obtain superiority. By mid-1975, the Soviet Union had not only reached a correlation or parity with the United States nuclear forces but, to a certain extent, had exceeded them. Three very large missiles, the SS-17, SS-18 and SS-19, were being deployed. While all three were larger than their American equivalent, the SS-18 was particularly worrisome; in contrast to the Minuteman III’s three MIRVs, it was able to carry eight. In addition, the Soviet Navy was busy improving its SLBM forces, specifically with two improved SLBMs with ranges of 5,000 miles (one of which was MIRVed) and the construction of a monstrous new submarine (the Typhoon). The Soviet Backfire bomber was improved, numerous ICBM silos were 'superhardened,' and an extensive civil defense system continued apace.73

In response to nuclear parity, U.S. administrations from Nixon to Reagan pursued three inter-related developments in nuclear strategy, which altogether would modify the U.S. nuclear doctrine and expand on its existing operational nuclear weapons policy. First, while the MAD doctrine would never be fully rejected by any subsequent administration, numerous modifications to the doctrine would indeed be made. Under the Nixon administration, the achievement of nuclear parity with the Soviet Union led the United States to announce the idea of sufficiency. This concept carries with it two meanings. On one hand, it refers to the need to maintain forces that are able to inflict a sufficient level of damage against an aggressor in order to deter him. To secure this capability, Secretary of Defense Melvin Laird advocated the doctrine of the Triad, which effectively rationalized and justified the pre-existing policy on nuclear weapons deployments. This doctrine called for each leg of the Triad of ICBMs, SLBMs, and bombers to maintain an independent second-strike deterrent capability.74 While this meant

73 Smoke, National Security and the Nuclear Dilemma, Chp. 10. One should also note the deployment of ABM systems around Moscow during the late 1960’s and early 1970’s.
74 Freedman, The Evolution of Nuclear Strategy, Chp. 22. While the Triad concept seems to have originated under Melvin Laird, it had de facto existed for most of the Cold War. In fact, the Triad seems to be based on the interservice rivalry notorious in the U.S. military. For instance, while the SLBM leg of the Triad seems sufficient for a minimum second-strike capability (as the Navy originally advocated), other services like SAC advocated for the maintenance of other capabilities. See Rosenberg, "The Origins of Overkill," 3-71.
negating any possible Soviet first strike capability, which was exaggerated to include the Soviet capability to disarm the American ICBM force, it also included expanding the range of targeting action in order to reinforce and make more credible the extended deterrence of Europe. On the other hand, it refers to the maintenance of forces necessary to ensure that U.S. ability and resolve to protect its interests are not underestimated. The concept of sufficiency was ambiguous at best, an uncertain and nervous reaction to the Soviet nuclear build-up. As Deputy Secretary of Defense David Packard remarked on the meaning of sufficiency: “It means that it’s a good word to use in a speech. Beyond that it doesn’t mean a God-damned thing”.  

75 Secretary of Defense James Schlesinger expanded this doctrine in 1974 in what became labelled the Schlesinger Doctrine, which was enshrined under National Security Decision Memorandum 242 (NSDM-24). In an attempt to escape the credibility problem of MAD, the Schlesinger Doctrine focused on having “targeting options which are more selective and which do not necessarily involve major mass destruction on the other side”.  

76 In order to make nuclear threats more credible in a period of nuclear parity, “Schlesinger wished the Soviet leaders to be uncertain whether the United States would respond to a provocation with a limited use of nuclear weapons”.  

77 This was meant to provide the United States with escalation control, which signified the potential “to hold some enemy targets hostage” and to control “the timing and pace of attack execution”.  

78 In other words, the focus on more flexible and selective targeting options in order to achieve escalation control is indicative of the post-MAD attempt to ‘conventionalize’ nuclear

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75 Freedman, The Evolution of Nuclear Strategy, 341. Interestingly, while Packard seems to refer to the ambiguous nature of sufficiency, at least as Freedman uses the quote, he could have easily referred to the disjunction between official doctrine and operation policy. After all, the actual relevance of official doctrine, aside from being useful for a speech, can certainly be questioned with regard to operational planning.  


weapons, to plan for a nuclear war whereby the U.S. could fight and claim some definition of victory. This was meant to both further reinforce precepts of deterrence (especially extended deterrence in Europe) by making nuclear weapons use more credible and plan for a winnable (i.e. damage limitation) nuclear war if deterrence indeed failed.  

This focus on escalation control became increasingly important as the Soviet nuclear build-up (consisting of missiles with substantial throw-weight and MIRV capability) continued, threatening the U.S. Minuteman III ICBM force and giving the impression of potential first strike capability. In response, the Carter administration outlined what Secretary of Defense Harold Brown on August 1980 labelled the ‘countervailing strategy’. This re-evaluation of targeting policy and goals was the result of an 18 month study under the Nuclear Targeting Policy Review (NTPR), which resulted in the codification of the countervailing strategy under Presidential Directive 59 (PD-59) on Nuclear Weapons Employment Policy. According to this nuclear doctrine, the United States would maintain “countervailing strategic options such that at a variety of levels of exchange, aggression would either be defeated or would result in unacceptable costs that exceed gains”.  

According to Scott Sagan, while the Reagan administration never used the term countervailing, it did follow its predecessor remarkably closely. In fact, the Reagan administration seems to have expanded on the precepts of the countervailing strategy to its natural conclusion. This refers to the concept of escalation dominance, which means “having military capabilities that can contain or defeat the adversary at all levels of violence with the

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possible exception of the highest". While the Carter administration sought to prevent the Soviet Union from using its nuclear capabilities to obtain escalation dominance, a very real fear due to the growing perception of Soviet nuclear superiority, the Reagan administration sought escalation dominance in order to buttress deterrence and, if necessary, defeat the Soviet Union. This necessitated a focus on damage limitation capabilities (through counterforce nuclear weapons and active defenses) that would give the U.S. a measure of intrawar deterrence and some degree of victory in the event of a nuclear war. For instance, the National Security Decision Directive (NSDD) of October 1981 had the goal of “prevailing” in a nuclear war of up to 180 days. While Lawrence Freedman argues that Reagan’s interest in escalation dominance was replaced by his enthusiasm for strategic defenses, a convincing case can be made that strategic defenses played an integral role in Reagan’s escalation dominance doctrine.

Second, while the nuclear doctrine of the U.S. underwent gradual modifications and refinements away from the MAD of the 1960’s, the nuclear weapons targeting policy continued and even expanded on what has always been a de facto flexible counterforce and countervalue policy. In other words, rather than signifying something new, the changing nuclear doctrine simply lessened the disjunction between nuclear doctrine and policy that began in the Kennedy administration. The Nixon administration, following McNamara’s early emphasis on flexible no-cities targeting, focused on the idea of smaller, more limited and discriminate nuclear options. As pointed out by Terry Terriff, this was designed to achieve two goals: flexibility and selectivity. Flexibility refers to having numerous preplanned target sets and force capability, “such as

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82 Jervis, The Illogic of American Nuclear Strategy, 131. Escalation dominance has its intellectual roots in the work of Herman Kahn at Rand in the 1950’s, specifically his idea of the escalation ladder and the need to control and dominate the escalation process. For an interesting critique of Kahn’s work, see John C. Garnett, “Herman Kahn,” in Makers of Nuclear Strategy, eds. John Baylis and John Garnett (London: Pinter Publishers, 1992), 70-97.


84 For this perspective, see Ross, Coping with Star Wars. Also see Sagan, Moving Targets, Chp. 3.

85 As pointed out by Robert Jervis, while public pronouncements have changed dramatically, changes to actual targeting and SIOPs have been "evolutionary". Jervis, The Illogic of American Nuclear Strategy, 65.
retargeting capability and employment adaptability”. Selectivity “was a function of target grouping…and of minimizing collateral damage”.86 After a long Defense Department process and the promulgation of NSDM-242, this targeting policy was initially enshrined under the Nuclear Weapons Employment Policy (NUWEP) of April 4, 1974 and later formed the foundation of SIOP-5 on January 1, 1976. Aside from providing different categories of nuclear options, including Major Attack Options (MAOs), Selected Attack Options (SAOs), Limited Nuclear Options (LNOs) and Regional Nuclear Options (RNOs), the SIOP-5 emphasized the thesis that “the real (and ultimate) deterrent to Soviet risk-taking/adventure is the threat that our strategic nuclear forces pose to the Soviet recovery economy”.87 Interestingly, it was also under the Nixon administration that deployed nuclear weapons began to be significantly reduced in the Pacific region. By 1974, the number of weapons had been reduced to 1,600. By the end of the 1970’s, only South Korea maintained the forward basing of U.S. nuclear forces (which itself ended in 1991).88

The focus on finding targets that the Soviet leaders would value continued under the Carter administration. After undergoing a major Nuclear Targeting Policy Review between 1977-1979 and the issuing of NUWEP-80 on October 1980, the targeting policy moved towards political rather than economic recovery, and included the targeting of the leadership and cadres of the Communist Party, KGB headquarters, Soviet international security forces, the army units along the Chinese borders and, in some proposals, even ‘ethnic targeting’ against the Russians

86 Terriff, The Nixon Administration, 3. Flexibility’s focus on pre-planned target sets also emphasized the use of less than all its nuclear forces. Schilling, “U.S. Strategic Nuclear Concepts.” 62.
87 Gray, “Nuclear Strategy,” 65. For more on SIOP-5 and its different nuclear options, see Ball, “U.S. Strategic Forces,” 31-60.
88 Norris and al., “Where They Were,” 26-35. While definitive conclusions as to the reasons for this reduction cannot be made, it does seem likely that the changing threat perceptions and interest of the U.S. and the host countries, alongside the fear of terrorism and the increased capability to use strategic weapons for tactical purposes, are key reasons for this reduction.
but not the Soviet minority groups.  

Emphasis on more survivable command, control, and communications (C³) was also incorporated in order to reduce the threat of decapitation and to support extended nuclear war and intrawar deterrence. With Reagan administration’s issuing of NUWEP-82, which guided the creation of the SIOP-6 plan, the counter-economic recovery mission was replaced with the narrower emphasis on war-supporting industries. In addition, counterforce targeting by MX ICBMs (which could carry 10 MIRVs) and Trident II D5 SLBMs, which would greatly increase the hard-target capability of U.S. strategic forces, was emphasized quite heavily in the new SIOP, specifically directed at Soviet mobile weapons, leadership, and C³ systems. While the leadership attack option was considered a ‘withhold’ option in order to enhance escalation control for most of the 1980’s, this policy changed on October 1989 with the advent of SIOP-6F, which called for prompt counterleadership and counter-C³ capabilities. The need for more accurate, earth-penetrating nuclear weapons for decapitation strikes also contributed to the research and development (R&D) of various advanced weapon systems. As pointed out by Scott Sagan and Robert Toth, the “new plan represents the most radical change in both the substance and structure of the U.S. strategic nuclear war plan since the preparation of SIOP-63 in 1961-62”.

Third, the growing emphasis on escalation control and dominance led to a growing interest in anti-ballistic missile (ABM) systems in order to protect the perceived vulnerability of the Minuteman ICBM forces and, more consequentially, to obtain some level of damage

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90 Ball and Toth, “Revising the SIOP,” 68. For a good look at the threat of decapitation, see John D. Steinbruner, “Nuclear Decapitation,” Foreign Policy, 45 (Winter 1981-82), 18-28.

91 This includes shallow and rigid EPW; Maneuuvrable Reentry Vehicles (MARVs), which would be able to evade Soviet interceptor missiles, slow down to minimize the impact, and position the warhead for maximum penetration; larger nuclear weapon yields (up to 22-megatons); the B-2 Stealth Bomber; rapid retargetable Minuteman ICBMs and Tomahawk Land Attack sea-launched cruise missile (SLCM). For more on these concepts, see Ball and Toth, “Revising the SIOP,” 65-92.

92 Ibid., 66.
limitation. The U.S. interest in missile defense systems reflected a long-standing interest in obtaining active defenses against nuclear delivery systems. Active defenses refer to measures "involving detecting, tracking, and shooting down an incoming offensive force". In the 1950's and early 1960's, active defenses included those radar and air-defense systems necessary to protect against the opposing side's fleet of bombers. Passive defenses such as fallout shelters would in turn complement this goal of damage limitation. With the advent of the ballistic missile, attention began focusing on ways to create active defenses against incoming ballistic missiles. As mentioned earlier, the Johnson administration considered the possibility of a Sentinel ABM system against the dangerous prospects of Chinese ICBMs. While supposedly directed against the threat posed by China, it should be noted that the Sentinel BMD system was implicitly directed at the Soviet Union. As pointed out by D. G. Brennan, "much of the support (both inside and outside the Government) for the Sentinel decision came from those who believed that the system would eventually have significant capability against large Soviet attacks". In response to the growing threat posed by the Soviet MIRVed ICBM forces, the Nixon administration authorized the deployment of the Safeguard ABM system, which would provide limited protection to the U.S. Minuteman ICBM's and important components of the U.S. command and control system.

However, both Johnson and Nixon pursued an agreement to ban the deployments of ABMs, which eventually resulted in the 1972 Anti-Ballistic Missile Treaty (ABM Treaty). Article 3 of the Treaty limited the deployment of ABM systems to the Party's capital and an area containing ICBM silo launchers, with each site having no more than 100 interceptor missiles and

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94 D. G. Brennan, "The Case for Missile Defense," Foreign Affairs, 47, 3 (April 1969), 433. Of course, it should be noted that the Johnson administration was not the first to examine the feasibility of missile defense. After all, BMD dates back to the 1956 Nike-Zeus anti-ballistic missile (ABM) system pioneered by the U.S. Army. The Nike-Zeus ABM system was finally shelved in 1962. However, the successor to the Nike-Zeus system was the Nike-X, which formed the core of the Johnson administration's Sentinel ABM system.
100 launchers. According to Warner Schilling, this decision to limit ABM systems can be attributed to three sources: the budgetary constraints of the administrations; the need to maintain a state of MAD; and the significant reservations on the military effectiveness of the system.

While the ABM Treaty restrained the deployment of missile defenses, research and development on the military feasibility of ABM technology continued throughout the 1970's and 1980's. This culminated under the Reagan administration. In a speech on March 23, 1983, President Reagan offered a new vision of strategic relations between the two superpowers. Rather than relying on nuclear weapons as deterrents, Reagan saw a vision where “we could intercept and destroy strategic ballistic missiles before they reached our soil or that of our allies.” In 1984, the Department of Defense submitted to Congress a Strategic Defense Initiative (SDI) program, which was a long-term R&D program that would lead to missile defense options for subsequent Presidential administrations in the 1990’s. Of course, some see a differentiation between Reagan’s earlier interest in escalation dominance and his later enthusiasm for strategic defenses. The actual feasibility of Reagan’s ultimate vision for missile defense, which essentially was an impenetrable many-tiered shield over the United States, made it easy to dismiss the role of SDI in the Reagan administration’s nuclear strategy. However, as pointed out by Douglas A. Ross, the hidden agenda for SDI seems to be the more realistic “protection of vulnerable ICBM fields and command and control ‘architecture’.”

The connection between missile defense and nuclear targeting and policy is reflected in several articles.

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98 Ross, Coping with Star Wars, 11. This argument is reiterated in Sagan, Moving Targets, Chp. 3.
studies undertaken by the Strategic Defense Initiative Organization (SDIO) and the Defense Nuclear Agency (DNA), which foresaw the “implications of shifting from a national strategy based on offensive deterrence to one based on both offensive and defensive weapon systems”. The links between a hard-target kill capability—evident in the Reagan administration programs for MX ICBMs and Trident II D-5 SLBMs (among others)—and limited missile defenses pointed to a U.S. interest in maintaining a dominant position in the escalation ladder and, according to the worst fears of the Soviet leadership, the potential for an American first strike capability.

This brief historical overview of U.S. nuclear strategy during the Cold War has revealed two developments that are integral for fully understanding the post-Cold War changes in U.S. nuclear strategy. The first development is the disjunction between nuclear doctrine and nuclear weapons policy throughout the Cold War. This was even evident with the Truman and Eisenhower administration. While Truman can be considered the president most hesitant on the military and political usability of nuclear weapons, it was also under his administration that the framework for nuclear policy for subsequent administrations was created. Eisenhower departed from his predecessor by invoking nuclear threats on numerous occasions. However, while the threats themselves were ambiguous, the operational nuclear weapons policy displayed none of this ambiguity. The Kennedy administration, after a brief interest in a no-cities doctrine, introduced the concept of MAD. Although this doctrine captured the popular imagination, and remained a remarkably resilient and robust nuclear doctrine, operational nuclear weapons policy continued and expanded on its focus of war-fighting. Terms like escalation control, escalation dominance, damage limitation, intrawar deterrence, and war termination continued to dominate

99 Ball and Toth, Revising the SIOP,” 81-82. While these studies had little impact on the Reagan administration’s SIOP-6F, due mainly to the R&D nature of the SDI program, it does bring up the question as to the interaction between offense and defense. For instance, the battle management system that would direct defenses must be connected to the system that directs the strategic forces. This interaction is reflected in the incorporation of Space Command into Strategic Command, and the prospective role of NORAD and Canada in any prospective missile defense system.
the thinking of nuclear policy planners. With Nixon’s focus on sufficiency and limited nuclear options, and Carter and Reagan’s emphasis on escalation dominance and prevailing in a protracted nuclear war, the disjunction between doctrine and policy inherent in nuclear strategy lessened. In effect, doctrine began to reflect actual nuclear weapons policy. As will be seen in the subsequent chapter, while the post-Cold War nuclear strategy has also developed a disjunction between doctrine and policy, there has also been a simultaneous trend towards doctrine better reflecting nuclear weapons policy.

Second, the relative strategic balance between the United States and the Soviet Union had a remarkable impact on U.S. nuclear strategy, the meaning of deterrence, and the available options for dealing with the threat. When the relationship was highly asymmetrical, with the U.S. having either a nuclear monopoly or at least superiority, the U.S. definition of deterrence was based on a U.S. nuclear superiority deterring the Soviet Union. Parity and mutual deterrence were dangers that were best to be avoided. Additional options like preventive war were also considered during this period, and were most acute prior to the Soviet obtaining a significant nuclear capability in 1954, the year of ‘maximum danger’. However, with the advent of nuclear parity and the acceptance of MAD, the definition of deterrence was changed to mutual deterrence. While this did not fully impact nuclear policy itself, subsequent administrations would place increasing emphasis on mitigating the impact of nuclear parity. Options included the gradual redefinition of deterrence as constituting escalation dominance, and the need to obtain damage limitation through counterforce weapon systems, leadership and C² targeting, and missile defense systems. In the post-Cold War period, the massive asymmetrical relationship between the U.S. and NBC-armed rogue states has both changed the definition of what constitutes deterrence and opened up a whole variety of options for policy-makers, to an extent not witnessed in either the ‘golden age’ of U.S. nuclear strategy in the 1940’s to 1950’s, or the post-Kennedy emphasis on damage limitation and escalation dominance.
Chapter Two: A Post-Cold War Asymmetrical Deterrence Nuclear Strategy

The U.S. nuclear doctrine during the Cold War was directed at the threat posed by the Soviet Union, based on both its conventional and nuclear capabilities. The threat in the post-Cold War period is viewed as being more diverse and uncertain. The proliferation of NBC weapons and their delivery systems to rogue states has taken an increasingly prominent place in the threat perception of the United States. As Gilles Andreani points out, while the Pentagon went through numerous scenarios against which to devise their strategies, ranging from peacekeeping to large-scale regional conflicts, “only those involving nuclear, biological and chemical weapons...could conceivably pose a direct threat to the United States and its population”. To be sure, the 9/11 attacks have certainly complicated this consensus by displaying the dangerous capabilities of transnational terrorist organizations. However, the current Bush administration has created a new security paradigm that combines the threat of NBC weapons and rogue states with that of international terrorism. In the end, it seems probable that the U.S. has decided to follow Paul Wolfowitz’s advice: “that the time is ripe to deal with all of the United States’ enemies and problems...and to further consolidate an already dominant U.S. power position”.

Not surprisingly, the current administration places a heavy emphasis on NBC-armed rogue states. After all, components of the New Triad have been justified by the need to neutralize hard and deeply buried targets (HDBTs) and NBC weapons and facilities associated with rogue states. One can also see the same association with the New Triad’s focus on mobile and relocatable targets, a problem that was especially problematic during the Gulf War against Iraq’s

101 One can see this in the Axis of Evil speech in the President’s 2002 State of the Union Address, at http://www.whitehouse.gov/news/releases/2002/01/20020129-11.html While the Bush administration has certainly moved away from the rhetoric of an ‘Axis of Evil,’ its growing focus on regime change in Iraq seems to indicate the movement away from immediately dealing with Al-Qaeda and towards dealing with rogue states armed with NBC weapons.
mobile Scud missiles.\textsuperscript{103} In addition, it should be noted that the third debate on BMD differs from past debates by its focus on the threat posed by ballistic missiles in the hands of NBC-armed rogue states. The incorporation of BMD in the New Triad has simply reinforced this trend. As the NPR states,

North Korea, Iraq, Iran, Syria, and Libya are among the countries that could be involved in immediate, potential, or unexpected contingencies. All have longstanding hostility toward the United States and its security partners; North Korea and Iraq in particular have been chronic military concerns. All sponsor or harbor terrorists, and all have active WMD and missile programs.\textsuperscript{104}

While the NPR does certainly focus on this threat, it would be a mistake to consider this recent development in U.S. nuclear strategy a fundamental change. With the dissolution of the Soviet Union, the United States has increasingly perceived NBC-armed rogue states as the most significant strategic threats facing the United States. This led to changes in nuclear doctrine and nuclear weapons policy in the 1990's that played an integral role in the formation of the Bush administration's nuclear strategy. Interestingly, a significant portion of the post-Cold War administrations' nuclear policies have their antecedents in the Cold War policies that were intended to mitigate or even reverse the negative consequences of nuclear parity between the two superpowers. In other words, many of the nuclear policies (and, to a lesser extent, even some of the doctrine) of the Cold War period have been applied in the current context towards different threats. For these reasons, the Bush administration's nuclear strategy seems to be the latest and most explicit manifestation of nuclear strategy in the post-Cold War period, which in itself is heavily indebted to certain developments in the Cold War period.

\textsuperscript{103} The Air Force and Navy flew 1,460 sorties against mobile Scud missiles and failed to destroy a single launcher; See Vernon Loch, “U.S. Gains in Attacking Mobile Arms,” \textit{Washington Post} (July 5, 2002), A14. The NPR's focus on mobile and relocatable targets can be found on \textit{Nuclear Posture Review}, 24-25.

\textsuperscript{104} \textit{Nuclear Posture Review}, 16.
This chapter will illustrate that the post-Cold War nuclear strategy of the United States is based on the perception that NBC-armed rogue states pose a strategic threat to the U.S. and its vital interests. Interestingly, this threat perception has been magnified and even expanded under the current Bush administration. This has gradually led to a strategy of asymmetrical deterrence, which refers to a type of deterrence that is in large part defined by the asymmetrical nature of the relationship between the United States and rogue states. On one hand, the United States maintains a massive and ever expanding superiority in military capabilities, both conventional and nuclear. This superiority has even led some former nuclear planners to advocate the abolition of nuclear weapons and the increased reliance on conventional capabilities for deterrence.\textsuperscript{105} On the other hand, by relying on unconventional and asymmetrical tactics and weapons, NBC-armed rogue states offset much of the U.S. advantage and increase the difficulty of U.S. deterrence (both conventional and nuclear). This can be seen on two levels. First, while the military power of the United States cannot be challenged symmetrically by these states, the possibility that rogue states gradually acquiring mass casualty NBC weapons promises to mitigate the U.S. conventional superiority.\textsuperscript{106} This can be done by threatening to attack American territory (through various overt or covert delivery systems) or, more realistically in the short-term, U.S. regional allies and the forward basing areas in the territory of allies.\textsuperscript{107}


\textsuperscript{106} Of course, this asymmetry is only magnified by the problem of finding an appropriate and proportionate response to such attacks (especially a successful use of biological weapons). This point is noted in Richard K. Betts, “The New Threat of Mass Destruction,” Foreign Affairs, 77, 1 (January-February 1998), 26-41. Scholars seem divided as to necessary response for such an attack. On one hand, some argue that declaratory policy should emphasize a massive conventional response. On the other hand, some argue that certain attacks (i.e. biological weapons) are so destructive as to require an explicit declaratory policy of nuclear retaliation. For the former, see Sagan, “The Commitment Trap,” 85-116. For the latter, see

\textsuperscript{107} The target can also be a third party that, while friendly to the United States, is not directly involved in the conflict. For an excellent examination of such ‘triangular deterrence,’ see Robert E. Harkarvy, “Triangular or Indirect Deterrence/Compellence: Something New in Deterrence Theory,” Comparative Strategy, 17, 1 (January-March 1998), 63-82.
Secondly, by being able to threaten either U.S. territory or its forward deployed bases and allies, NBC-armed rogue states would be able to create a critically important decoupling between the interests of the United States and its allies. For instance, the capability to significantly damage the United States would certainly place into question the U.S. interest in the region, therefore creating an opportunity for blackmail by any aggressive NBC-armed rogue state. This is comparable to the Cold War dilemma of extended deterrence in Europe: would the U.S. sacrifice New York for Ridayh, Tel Aviv, or Seoul? Such a situation could weaken critical U.S. extended deterrence guarantees, and lead regional states towards independent or regional solutions to this security problem. Similarly, by being able to threaten those regional states necessary for the forward deployment of U.S. forces, there is a possibility that regional states would bandwagon rather than balance any NBC-armed rogue state. This could reduce or even forestall a U.S. intervention despite an apparent American commitment to do so.\textsuperscript{108} Rather than accepting such weapons as a means of deterring the United States, and therefore creating something akin to a stable situation of mutual assured deterrence, there is the possibility that rogues might view such weapons as a means of compellence and blackmail, a shield to protect the fruits of aggrandizement.\textsuperscript{109}

Due to this highly ambiguous strategic situation, the United States has gradually developed a strategy of asymmetrical deterrence, based on a combination of conventional capabilities, nuclear weapons, and missile defense systems. Conventional capabilities, specifically the possibility of a conventional preventive war, would be applied for both deterrence and, if the state is viewed as being undeterrable, for regime change. Nuclear weapons would be made more credible for both the deterrence of rogue states and, if necessary, the proportionate retaliation during instances of NBC warfare. In addition, nuclear pre-emption or

\textsuperscript{108} This seems to have been the case with regard to U.S. containment of Iraq. See Kenneth M. Pollack, The Threatening Storm: The Case for Invading Iraq (New York: Random House, 2002).

\textsuperscript{109} For a detailed examination of this possibility, using the case study of Iraq, see Ibid.
prevention of NBC capabilities might in certain instances be seen as necessary or required. To protect and buttress the U.S. deterrent and capability to intervene in NBC environments, missile defense and damage limitation becomes necessary. In effect, rather than directed against undeterrable opponents, many of the measures implemented by the United States in the post-Cold War period are meant to reinforce U.S. deterrence and reduce the deterrence or compellence capability of rogue states armed with NBC weapons.

This chapter will examine the post-Cold War strategy of asymmetrical deterrence in two parts. First, the developments in nuclear strategy during the post-Cold War period that culminated under the Bush administration will be examined. Specific attention will be paid to the role of the counterproliferation doctrine and the nuclear targeting of and missile defense protection against rogue states. Second, the manner in which asymmetrical deterrence will be applied to NBC-armed rogue states will be examined.

The Incorporation of Counterproliferation in Nuclear Doctrine and Policy

As mentioned in the preceding chapter, the United States focused heavily on the strategic threat of the Soviet Union during the Cold War; the dangers inherent in further horizontal proliferation, with the brief and temporary exception of China, were considered a separate and non-strategic threat, to be handled by alternative and non-nuclear instruments. Until the end of the Cold War, the U.S. has primarily relied on multilateral non-proliferation regimes to deal with horizontal NBC weapon proliferation, aimed primarily at regulating the supply of weapons and their related technology to states. Non-proliferation measures continued into the 1990’s, and

110 For a history of non-proliferation, see Henry D. Sokolski, Best of Intentions: America’s Campaign Against Strategic Weapons Proliferation (Westport, Conn.: Praeger, 2001). Of course, this is not to imply that the U.S. did not unilaterally deal with states, nor that it did not attempt to address issues of demand. By promising negative security assurances to NNWS, the United States has shown an attempt to reduce the need for NBC proliferation by reducing the security demand for such weapons. And the U.S. has shown a proclivity for dealing with allies on proliferation issues in a bilateral manner, especially in Asia. See Andrew Mack, “Proliferation in Northeast Asia” Occasional Paper 28, The Henry L. Stimson Center (July 1996).
achieved some remarkable successes. Perhaps the high point of non-proliferation was in 1995, when the U.S. convinced the non-nuclear weapon states (NNWS) to indefinitely extend the Non-Proliferation Treaty (NPT) in the 1995 Review Conference. According to Leonard Spector, non-proliferation has had numerous successes in the early 1990's:

For the first time in history...a nuclear state – South Africa – has eliminated its nuclear weapons. Belarus, Kazakhstan and Ukraine have agreed to transfer the Soviet nuclear weapons that were on their territory to Russia and have formally renounced the future development of such arms by joining the NPT. Argentina and Brazil, after years of resisting comprehensive nuclear controls, have accepted them... Romania has similarly halted an apparent nuclear-weapons effort that was revealed in 1992. Algeria, after secretly building a suspicious large research reactor in the 1980s...joined the NPT in January 1995. North Korea, too, may well emerge as a successful case of prevention.\footnote{Leonard S. Spector, "Neo-npnonproliferation," \textit{Survival}, 37, 1 (Spring 1995), 69.}

Regarding biological and chemical weapons, the Biological and Toxic Weapons Convention (BTWC) entered into force in 1975 and the Chemical Weapons Convention (CWC) was more recently completed in 1997. Movement on a Comprehensive Test Ban Treaty (CTBT) and a Fissile Material Cutoff Treaty (FMCT) were also integral parts to the development of non-proliferation norms in the 1990's. As Angus McColl points out, “Under US leadership, classical diplomatic approaches to WMD nonproliferation are enjoying broader international support than ever before”.\footnote{Angus McColl, “Is Counterproliferation Compatible with Nonproliferation: Rethinking the Defense Counterproliferation Initiative," \textit{Airpower Journal} (Spring 1997), 100.}

However, despite the limited successes attributed to multilateral non-proliferation measures, the perception that horizontal proliferation posed an increasingly important strategic threat to the United States gradually replaced the threat posed by the Soviet Union. The realization that the U.S. might have to undertake combat activity in an NBC environment was unveiled in two key incidents in the early post-Cold War period. First, there was the 1990-1991 Gulf War and the implicit threat chemical or biological (CB) weapons use by Iraq. This
possibility was made all the more credible due to the extensive use of ballistic missiles and chemical weapons during the preceding Iran-Iraq War. This led the U.S. not only to undertake active and passive defenses for its troops, but also to attempt conventional strikes to pre-empt possible Iraqi use of NBC weapons. One particular danger was the potential Iraqi threat of biological attacks against Israel, which one scholar has argued led to a successful Iraqi deterrence of an Allied invasion of Baghdad. The fact that Iraq had 160 R-400 aerial bombs and 26 Al-Hussein missiles (600 kilometer range) filled with aflatoxin, anthrax, and botulinum toxin and deployed to four sites during the Gulf War, with the possibility of pre-delegation to the Iraqi Security Organization, made this threat all the more significant.

Second, the 1994 Korean nuclear crisis and the possible acquisition of nuclear weapons by the Democratic People's Republic of Korea (DPRK) reinforced the changing threat perception in the United States. Military options were severely limited during this crisis; according to one military estimate, the U.S. and South Korean military would suffer 300,000 to 500,000 casualties, with civilian casualties numbering in the hundred of thousands. While these casualties would be due to the massive amounts of artillery placed near the De-Militarized Zone (DMZ), issues of NBC weapons did play a significant role. For instance, regional allies like

113 During the Gulf War, the U.S. mounted 970 air strikes against NBC targets and 1,500 air strikes against Iraqi ballistic missile capabilities. However, these strikes were of little effectiveness. See Barry R. Schneider, Radical Responses to Radical Regimes: Evaluating Preemptive Counter-Proliferation, McNair Paper 41, (Washington D.C.: Institute for National Strategic Studies, National Defense University, May 1995), 17. For a full outline of Schneider's analysis of counterproliferation, see Barry R. Schneider Future War and Counterproliferation: US Military Responses to NBC Proliferation Threats (Westport, Conn.; London: Praeger, 1999).

114 See Avigdor Haselkorn, The Continuing Storm: Iraq, Poisonous Weapons, and Deterrence (New Haven and London: Yale University Press, 1999). Interestingly, while most contemporary opponents of a U.S. pre-emptive war against Iraq point to the efficacy of U.S. deterrence during the Gulf War and Saddam's non-use of BC weapons, their arguments against regime change frequently focus on the potential for biological and chemical use during such an invasion. However, the latter argument seems to support the notion that the U.S. did not invade Baghdad in 1991 because of this threat. In other words, it was successfully (but not totally) deterred.


Japan (with their crucially important forward deployed bases) were quite hesitant of any U.S. military action. This hesitancy would only increase as North Korea increases its capability to attack Japan with NBC weapons. In addition, while the development of a couple nuclear weapons was considered a danger, the possibility that the regime might develop a dozen weapons made this incident a very serious crisis; after all, this amount of weapons could be sold to other countries or lead to regional countries nuclearizing. Not surprisingly, reports indicate that the U.S. briefly considered pre-emptive military action against the DPRK between 1993 and 1994.\footnote{Mazarr, "Going Just a Little Nuclear," 113-114. Any strikes on Korea's nuclear facilities, or even sanctions, could have resulted in a second Korean war with horrific casualties. For a more detailed account of the 1994 North Korea crisis, see Michael J. Mazarr, \textit{North Korea and the Bomb: A Case Study in Non-proliferation} (New York: St. Martin's Press, 1995).}

In the growing context of horizontal proliferation as a strategic threat, the U.S. counterproliferation doctrine was unveiled as an integral adjunct to non-proliferation in Secretary of Defense Les Aspin's speech to the National Academy of Sciences on December 7, 1993. He outlined a Defense Counterproliferation Initiative as a supplement to traditional non-proliferation initiatives. Counterproliferation was defined as the Defense Department's "new effort to apply US military resources to address the threat posed by emerging nuclear, chemical and biological-weapon capabilities and their accompanying missile-delivery systems".\footnote{Spector, "Neo-nonproliferation," 67. Of course, while the definition was the original idea behind counterproliferation, this was later modified in subsequent statements by U.S. officials. See Thomas G. Mahnken, "A Critical Appraisal of the Defense Counterproliferation Initiative," \textit{National Security Studies Quarterly} (Summer 1999), 93.} A key part of this program was the preparation for combating NBC weapons in future battlefields, through changes in contingency planning, doctrine, equipment, training, and "tighter coordination of U.S. defense and intelligence operations directed against emerging programs and arsenals".\footnote{Schneider, \textit{Radical Responses to Radical Regimes}, 1.} Other institutional developments included the creation of a Department of Defense Counterproliferation Council and the development of a Counterproliferation Concept Plan (CP...
CONPLAN 0400), the latter of which consists of the planning for national level counterproliferation policy in terms of objectives and supporting tasks, and is being used by the regional commander-in-chiefs (CINC}s) to develop their own area-specific counterproliferation CONPLANs. According to Barry R. Schneider, the CPI introduced a new mission to the Defense Department, a mission that “requires improved active and passive defenses, development of large area decontamination capabilities after suffering NBC attacks, improved deterrence against regional adversaries armed with small but growing NBC arsenals, and improved counterforce capabilities to destroy adversary WMD should that prove absolutely necessary”. 

By focusing on conventional means of fighting in an NBC environment, the CPI acknowledged the problems associated with multilateral non-proliferation measures. Additionally, and perhaps more importantly, this emphasis on conventionally fighting in an NBC environment also implicitly acknowledges that the U.S. nuclear deterrent is insufficient for deterring and retaliating against NBC-armed rogue states. As the Joint Doctrine for Operations in an NBC Environment makes clear, “Should deterrence fail, US forces will need to survive, avoid or mitigate the effects of NBC employment, fight, and win in a contaminated battlespace. Key to operational success may be the...ability to eliminate or reduce the adversary’s capabilities with available and appropriate means”. However, as pointed out by Jason D. Ellis, the Clinton administration’s approach emphasized diplomatic dissuasion rather than military operations, with counterproliferation clearly subordinate to multilateral non-proliferation measures. This contrasts with the Bush administration, which has placed the counterproliferation mission squarely at the

120 Schneider, Future War and Counterproliferation, 56. Interestingly, while the Clinton administration did prepare for a two war strategy in its ‘Bottom-Up Review,’ this planning did not explicitly take into account the use of NBC weapons by these states. It should also be noted that the combined Department of Defense and Energy’s investment on counterproliferation for fiscal year 2003 is $12.5 billion. See Report on Activities and Programs for Countering Proliferation and NBC Terrorism, Executive Summary, Counterproliferation Program Review Committee (May 2002), 4.

121 Schneider, Future War and Counterproliferation, 46.

122 Joint Chiefs of Staff, Joint Doctrine for Operations in an NBC Environment, I-7 (emphasis added).
forefront of U.S. national security.\textsuperscript{123} As the 2002 \textit{National Security Strategy of the United States} elaborates on proactive counterproliferation measures:

We must deter and defend against the threat before it is unleashed. We must ensure that key capabilities—detection, active and passive defenses, and counterforce capabilities—are integrated into our defense transformation and our homeland security systems. Counterproliferation must also be integrated into the doctrine, training, and equipping of our forces and those of our allies to ensure that we can prevail in any conflict with WMD-armed adversaries.\textsuperscript{124}

Interestingly, while the Clinton administration’s 1999 \textit{National Security Strategy} detailed multilateral initiatives like the BTWC, the NPT, the CTBT, and the START agreements, “the Bush document outlined nonproliferation activities in one paragraph that only mentioned a recent Group of Eight agreement to assist with weapons disposal in Russia”.\textsuperscript{125} The counterproliferation doctrine was further codified under National Security Presidential Directive 17 (NSPD-17 or the \textit{National Strategy to Combat Weapons of Mass Destruction}), which outlines three inter-related components of counterproliferation: interdiction; deterrence; and defense and mitigation.\textsuperscript{126}

Much of the sophisticated conventional strike systems emphasized in the NPR and the New Triad can be seen as the latest manifestation of weapon systems purposely designed for


\textsuperscript{124} \textit{The National Security Strategy of the United States} (September 2002), 14. This document can be found at http://www.whitehouse.gov/nsc/nss.pdf.

\textsuperscript{125} Christine Kucia, “Counterproliferation at Core of New Security Strategy,” \textit{Arms Control Today} (October 2002). It should be noted that the \textit{National Strategy to Combat Weapons of Mass Destruction} does outline these multilateral non-proliferation measures (though with the conspicuous absence of the CTBT).

\textsuperscript{126} NSPD-17 has also been codified under Homeland Security Presidential Directive 4 (HSPD-4). While the classified document has yet to be released, the public version (\textit{National Strategy to Combat Weapons of Mass Destruction}) can be found at http://www.fas.org/irp/offdocs/nspd/nspd-wmd/pdf. Despite the Bush administration’s proclivity for unilateralism, there does seem to be the possibility that an emerging regime for the interdiction of NBC weapons, delivery systems, and their components is in the midst of formation. This can be seen with the Bush administration’s Proliferation Security Initiative. See Wade Boese, “U.S. Pushes Initiative to Block Shipments of WMD, Missiles,” \textit{Arms Control Today} (July-August 2003) and Rebecca Weiner, “Proliferation Security Initiative to Stem Flow of WMD Material,” Center for Non-Proliferation Studies Research Story (July 16, 2003), at http://cns.miis.edu/pubs/week/030716.htm .
counterproliferation missions. Other notable changes can also be noted. For instance, as pointed out by Peter Lavoy, the Bush administration has moved away from simply threatening to punish rogue states to “increasingly credible threats to deny adversaries any meaningful political or military advantage from using WMD”. In addition, while the Clinton administration located the threat squarely with the proliferation of NBC weapons, the current administration has chosen to emphasize the particular state that has these weapons. As clearly stated in President Bush’s 2002 State of the Union Address, “The United States of America will not permit the world's most dangerous regimes to threaten us with the world's most destructive weapons”.

While the administration of George W. Bush has closely followed and expanded upon the Clinton administration’s approach to counterproliferation, the emphasis on certain components of counterproliferation has certainly increased. This can be seen in two areas. On one hand, President Bush has dramatically increased the emphasis on BMD as a tool of counterproliferation. The role of active defenses like BMD in the counterproliferation doctrine should not be underestimated. While passive measures (such as the avoidance of NBC hazards; the protection of units and personnel from NBC hazards; and the decontamination to restore operational capability) do have an integral role in counterproliferation, active defenses like BMD also “play an important role in a coordinated operation concept to reduce NBC threats by reducing the number of missiles and aircraft arriving at key defended sites...it may [even] be possible to rely on contamination avoidance at key sites”. This point is reiterated in the

127 For instance, both the CPI and the NPR focus on shallow buried targets, advanced energetic materials (i.e. extreme heat, chemical reaction or thermobaric effects), hard and deeply buried targets, special operations forces, and capabilities against mobile missiles. See Center for Counterproliferation Research (CCR), The Counterproliferation Imperative: Meeting Tomorrow’s Challenges, CCR Report (Washington, D.C.: National Defense University, November 2001), Chp. 5.


130 Joint Chiefs of Staff, Joint Doctrine for Operations in an NBC Environment, III-13.
CONPLAN 0400-96, which is the current campaign plan for U.S. counterproliferation efforts. In effect, the U.S. would be able to provide deterrence and protection against attack, preserve U.S. freedom of action, and strengthen the credibility of U.S. alliance commitments. In effect, the U.S. would be able to more freely undertake counterproliferation missions against NBC-armed rogue states while reducing the probability of successful NBC retaliation.

The emphasis on missile defense under the Clinton administration should not be forgotten. In many ways, there is certainly a continuity between the Reagan administration SDI program, the Bush administration Global Protection Against Limited Strikes program, and the Clinton administration's own missile defense programs. However, while the Cold War emphasized a multi-tiered BMD system in order to limit the impact of a Soviet nuclear strike, the Clinton administration placed particular emphasis on theater and tactical missile defense programs. A TMD system would use a kill vehicle (KV) interceptor to protect a smaller area from far fewer incoming missiles from 'rogue states' rather than from great powers, (such as Russia), with larger arsenals. This could protect both American troop deployments and its allies in theatres like the Middle East or in Northeast Asia. Tactical missile defense, a subset of TMD, are designed to defense the U.S. against the tactical use of NBC weapons. Of course, both programs are heavily interconnected. For instance, Patriot Advanced Capability 3 (PAC-3)

132 Nuclear Posture Review, 7.
133 Of course, this does not take into account alternate means of NBC delivery, the ineffectiveness of defenses (as indicated by unsuccessful use of Patriot batteries in the Gulf War), and the potential for holding third countries not part of a TMD system hostage.
135 For an excellent overview of the impact of this kind of BMD in the Asia-Pacific, see Thomas J. Christensen, "China, the U.S.-Japan Alliance, and the Security Dilemma in East Asia," International Security, 23, 4 (Spring 1999), 49-80.
136 Clark, A False Sense of Security, 11.
systems deployed to Kuwait in the recent Iraq War were also used as tactical systems in southern Iraq. The impetus for TMD systems can be attributed to the threat that short and medium range missiles armed with NBC weapons pose to U.S. forward deployed forces and bases and U.S. allies (which often host these bases). This was first observed in the Iran-Iraq War, clearly demonstrated in the Gulf War, and periodically shown with North Korea’s relatively impressive post-Cold War missile tests. To counter this growing proliferation threat, theater missile defense programs proliferated in the 1990’s. For example, the U.S. began developing the PAC-3 system, the Airborne Laser (ABL), the Theater High Altitude Area Defense (THAAD) system, the (now cancelled) Navy Area Wide (NAD) system, and the Navy Theater Wide (NTW) system. In addition, the United States pursued joint TMD programs with numerous allies, including the Arrow system (with Israel) and the Medium Extended Air Defense System or MEADS (with Germany and Italy). Funding for France’s own Naval and Ground Surface to Air Moyenne Portee (Samp-N and SAMP/T) and the French, British and Italian Principle Anti-Air Missile System (PAAMS) was also initiated. Despite its belated and ambiguous enthusiasm for national missile defense, funding for TMD systems dominated the Clinton administration’s approach to missile defense. For example, the FY2001 budget request called for 2.8 billion for TMD programs in contrast to the $1.9 billion for the NMD program.

That being said, Clinton administration did oversee the gradual if reluctant movement towards a national missile defense system, which would be designed to protect “the US against small accidental or unauthorized attacks by Russia, or accidental, unauthorized or intentional

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138 Ibid., 11-12. For more on the current state of these programs, see Arms Control Association, “U.S. Missile Defense Programs at a Glance”.

attacks by other states to which intercontinental ballistic missiles (ICBMs) might proliferate”\textsuperscript{140}. In the ‘Bottom-Up Review,’ the theater missile defense program was allocated $12 billion over the course of five years, in contrast to the $3 billion given to national missile defense.\textsuperscript{141} While the Clinton administration initially emphasized the aspect of technology readiness, pressure for a less ambiguous national missile defense policy was increasing. Perhaps the most significant pressure came from the July 1998 release of the Report of the Commission to Assess the Ballistic Missile Threat to the United States, which stated that new ballistic missile equipped nations (such as North Korea, Iran, and Iraq) “would be able to inflict major destruction on the U.S. within about five years of a decision to acquire such a capability (10 years in the case of Iraq)”.\textsuperscript{142} This dire warning, alongside the Iranian testing of a Shahab-3 missile and the North Korean testing of a Taepo Dong-1 missile, created the impetus for the further developing of a NMD system. Not surprisingly, the Clinton administration quickly signed the 1999 National Missile Defense Act. The logic of deploying a NMD system followed closely from that of the TMD system. For instance, NMD systems “may also become necessary as regional threats like Iraq and North Korea develop and deploy missiles capable of reaching U.S. territory”.\textsuperscript{143} As the Joint Doctrine for Operations in NBC Environments notes, the U.S. military has the “responsibility to consider the implications of an adversary’s NBC capabilities...in other regions,

\textsuperscript{140} Wilkening, Ballistic Missile Defense, 7. However, as Glaser and Fetter correctly note, it seems unlikely that any limited BMD system could protect the U.S. against launches from Russian nuclear forces. See “National Missile Defense,” 61-65.

\textsuperscript{141} An additional $3 billion would be allocated to a technology program, with potential benefits applicable to both programs. Of course, the BUR’s total budget of $18 billion was far less than its predecessor’s planned $39 billion budget for missile defense. Not surprisingly, while the national missile defense component was allowed to continue in a much reduced form, the theater missile defense component’s development schedules were not disrupted. See Donald R. Baucan, “Ballistic Missile Defense: A Brief History,” from the Missile Defense Agency website, at http://www.acq.osd.mil/bmdo/bmdolink/html/briefhis.html.

\textsuperscript{142} This Report departed sharply from the traditional intelligence community’s assessment of the ballistic missile threat. For instance, the November 1995 national intelligence estimate (NIE) predicted that a threat to the U.S. would not take place for at least 15 years. The Executive Summary of the Report can be found at http://www.house.gov/hasc/testimony/105thcongress/BMThreat.htm.

\textsuperscript{143} Ashton B. Carter and L. Celeste Johnson, “Beyond the Counterproliferation Initiative to a ‘Revolution in Counterproliferation Affairs,” National Security Studies Quarterly (Summer 1999), 86.
including the United States”. 144 In other words, both national and theater missile defenses are designed to make proactive counterproliferation more feasible.

On the other hand, perhaps the most significant aspect of the current administration’s counterproliferation doctrine has been the clarification of what has always been left unstated: “whether these options were confined to wartime measures...or whether they also included the pre-emptive use of force”. 145 After all, if multilateral non-proliferation measures and nuclear deterrence are ineffective, which is an implied assumption of the counterproliferation doctrine, a preventive or pre-emptive strike becomes a much more attractive option. This harkens back to the 1940’s and 1950’s, when the U.S. contemplated preventive action to forestall the Soviet nuclear threat. The fact that the balance of military power is massively unequal between the U.S. and a rogue states only increases the feasibility of a pre-emptive attack. The concept of pre-emption was first codified in the 2002 National Security Strategy document. As it makes clear, the “United States will, if necessary, act preemptively”.

However, as articulated by Secretary of State Daniel Webster during the Caroline incident in 1837, the concept of pre-emption is based on the requirement of necessity, of an imminent danger of attack. 146 The Bush administration has sought to expand this definition of necessity based on the unique characteristics of NBC weapons. As the National Security Strategy document states, “We must adapt the concept of imminent threat to the capabilities and objectives of today’s adversaries”. 147 While still referred to as a pre-emptive doctrine, the Bush administration has in fact incorporated within the counterproliferation doctrine the far more controversial concept of preventive war. While pre-emption is based on the threat of an

144 Joint Chiefs of Staff, Joint Doctrine for Operations in NBC Environments, I-3.
imminent attack by an adversary with sufficiently dangerous capabilities, preventive war is based on the threat posed by an adversary's potential attainment of dangerous capabilities. In effect, preventive war is a pre-emptive attempt to weaken an adversary prior to a significant change in the balance of power. While pre-emption can be justified (albeit with difficulty) under notions of *jus ad bellum* and international humanitarian law, the same cannot be said of preventive war, which is commonly viewed under the stigma of aggression.\(^{148}\)

While the U.S. did contemplate preventive war against the Soviet Union, it soundly rejected the notion due to the normative stigma attached to such an action as well as the infeasibility of successfully invading the Soviet Union. This calculus has changed in the post-Cold War period for two reasons. First, unlike during the early Cold War period, the ever widening power imbalance between the U.S. and the various rogue states makes the successful application of U.S. military power a possibility. As pointed out by John Steinbruner, preventive war “might well succeed if practiced against a smaller adversary early enough in the cycle of weapons development”.\(^{149}\) This option was apparently demonstrated during the recent, highly successful campaign of regime change in Iraq. Second, the devastation of the 9/11 attacks has reduced the opprobrium of what were previously unacceptable options. Due to the perception that certain actors cannot be deterred, preventive action became seen as an unpleasant necessity, a “rational response to the changed strategic circumstances that the United States now

\(^{148}\) It is for perhaps that reasons that the Bush administration has muddled the existing definitions on preventive and pre-emptive attacks by subsuming both concepts under the term pre-emptive, which denotes a far more limited and less revolutionary approach to politics (and one more defensible under international humanitarian law). See Arend, “International Law,” 89-103 and O’Connell, “The Myth of Preemptive Self Defense”. For more on *jus ad bellum* and international humanitarian law, see Yoram Dinstein, *War, Aggression and Self-Defence*, 3rd Edition (Cambridge; New York: Cambridge University Press, 2001).

This differs sharply from the Cold War, where preventive war was dismissed for being a very ‘un-American’ activity.

While the counterproliferation doctrine has gradually achieved a central position in the national security strategy of the United States, it has played a more limited role in U.S. nuclear doctrine. In fact, with regard to rogue states armed with CB weapons, the U.S. has maintained a “calculated ambiguity” nuclear doctrine. According to this doctrine, while the United States chooses not to specify what response would be given in the event of a CB attack, it does state that any retaliatory response would be devastating. As pointed out by Secretary of Defense William Cohen in November 1998, “We think the ambiguity involved in the issue of nuclear weapons contributes to our security, keeping any potential adversary who might use either chemical or biological [weapons] unsure of what our response would be.”

This doctrine was aptly demonstrated in the 1990-91 Gulf War, where senior U.S. officials issued messages that nuclear weapons might be used in the event of an Iraqi chemical or biological attack. Perhaps the most clear warning came from a letter written by President Bush and delivered to Saddam Hussein on January 5, 1991, which warned that “unconscionable acts” like the use of CB weapons would “demand the strongest possible response” and that “you and your country will pay a terrible price”. Such calculated ambiguity was also shown during the more recent 2003 Iraq War, where senior U.S. officials downplayed the possible retaliatory use of nuclear weapons but did not foreswear nuclear retaliation in the event of an Iraqi CB attack.

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150 James J. Wirtz and James A. Russell, “U.S. Policy on Preventive War and Preemption,” The Nonproliferation Review (Spring 2003), 113. Of course, as the authors go on to argue, a preventive war doctrine will unlikely to be fully implemented due to normative and practical constraints.


If the nuclear doctrine of the United States has only hesitantly incorporated counterproliferation, the same cannot be said of operational nuclear policy, which throughout the 1990's has increasingly focused on the threat posed by NBC-armed states. For instance, the U.S. nuclear targeting policy has increasingly focused on counterproliferation missions throughout the 1990's—a fact noticeably absent from most current discussions on the counterproliferation doctrine.\footnote{A noticeable exception is Kristensen and Handler, “The USA and Counter-Proliferation,” 387-399.}

With the near collapse of the Soviet Union, the JCS published a Military Net Assessment in March 1990 that cited “increasingly capable Third World threats” as a new justification for maintaining nuclear weapons. This was quickly followed by Secretary of Defense Dick Cheney’s June 1990 testimony to the Senate Appropriations Committee, which focused on the threat posed by the horizontal proliferation of NBC weapons as a rationale for maintaining the U.S. nuclear arsenal.\footnote{Ibid.}

Nuclear planning for the post-Soviet and post-Cold War era had begun.\footnote{For a good examination of U.S. nuclear planning in the post-Cold War period, particularly the impact that the end of the Soviet adversary created, see Charles L. Glaser, “Nuclear Policy without an Adversary,” International Security, 16, 4 (Spring 1992), 34-78.}

This planning received a significant impetus in the immediate aftermath of the Gulf War, due largely to the revelations on both Iraq’s clandestine nuclear weapons program (utilizing a uranium-enrichment process) and, with the defection of Lt. Gen. Hussein Kamel, its large and relatively sophisticated biological weapons program. The International Atomic Energy Agency (IAEA) and the United Nations Special Commission (UNSCOM) were perceived as being incapable of either preventing the acquisition of NBC weapons or of verifying the dismantling of pre-existing programs. Immediately after Kuwait’s liberation, the Bush administration released its Nuclear Weapons Employment Policy (NUWEP), which directed the nuclear planners to focus on regional NBC capabilities. In March 1991, the Joint Military Net Assessment identified the utility of non-strategic weapons for these post-Cold War roles, and recommended upgrades
for the U.S. C³ capabilities.157 These developments led General Lee Butler, the commander of Strategic Command (STRATCOM), to establish a Deterrence Study Group chaired by former Secretary of the Air Force Thomas Reed. The Reed Panel, as it became known, began a process of new threat monitoring that led eventually to the conclusion that expanded nuclear targeting was needed, even against non-nuclear weapon states armed only with CB weapons.158 While certain officials were alarmed with this notion, especially since it would damage non-proliferation efforts by negating the negative security assurances given to the NNWSs, nuclear war planning for contingences in the Third World continued unabated. This was codified on June 1, 1992 with SIOP-93, which was the “first overall nuclear war plan formally to incorporate Third World WMD targets”.159 While the Bush and Yeltsin unilateral disarmament initiatives complicated the process of new targeting options, an updated NUWEP-82 and JSCP, which directed the military objectives of nuclear targeting, continued to emphasize the new targeting options. These options were maintained in the spring of 1993 with SIOP-94. While the Clinton administration was publicly ambiguous on the utility of nuclear weapons serving as a deterrent against CB capabilities, military planners were under no such illusion. As the JCS’s Doctrine for Joint Nuclear Operations states, “the fundamental purpose of US nuclear forces is to deter the use of weapons of mass destruction”.160

To be sure, the Clinton administration did attempt to undergo a major nuclear policy review in the 1994 Nuclear Posture Review. Despite the best efforts of Assistant Secretary of Defense Ashton Carter, the 1994 NPR effectively codified the earlier views of STRATCOM:

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157 Kristensen and Handler, “The USA and Counterproliferation,” 389. One upgrade identified was the MILSTAR/SCOTT satellite communication systems.


160 Joint Chiefs of Staff, Doctrine for Joint Nuclear Operations, Joint Pub 3-12 (Washington D.C.: Joint Chiefs of Staff, December 15, 1995), I-1. This Doctrine saw the need for nuclear weapons (including low-yield and precision-guided) for possible retaliation in regional wars. See Kristensen, “The USA and Counter-Proliferation,” 390.
"When the results were briefed to Congress in September 1994, nuclear weapons featured prominently in counter-proliferation roles such as to ‘deter WMD acquisition or use’".\textsuperscript{161} Buoyed by its success, STRATCOM attempted to further reinforce this new counterproliferation role with what has been termed the Silver Books, classified documents with “plans for military strikes against WMD facilities in a number of ‘rogue’ nations”.\textsuperscript{162} While this project was terminated, STRATCOM’s increasing focus on Third World targets was formally enshrined in the Clinton administration’s PDD-60 and the JCS’s 1996 \textit{Doctrine for Joint Theater Nuclear Operations}. In addition, the military also began focusing on changing its weapon systems. For example, the Navy began installing the SLBM Retargeting System (SRS) and the Air Force began installing its Rapid Execution and Combat Targeting (REACT) system.\textsuperscript{163} The modernization of these systems was an integral component of the complete modernization of the Strategic War Planning System (SWPS), which was “a name for the compilation of facilities and capabilities that are used to analyze targets, assign warheads to targets and deliver the weapons”.\textsuperscript{164} In the process of SWPS modernization, the traditional distinction between strategic and tactical nuclear planning would be erased. The eventual goal of SWPS modernization was to create a revolutionary ‘Living SIOP,’ which would have “SIOP generation in less than 24 hours and re-targeting of up to 1000 relocatable targets per day”.\textsuperscript{165}

This section has sought to situate the current Bush administration’s nuclear strategy in the broader context of evolving U.S. doctrine towards NBC-armed rogue states. Initially, the U.S.

\textsuperscript{161} BASIC, “Nuclear Futures,” 14. For more on the disproportionate role and influence of STRATCOM in the formulation of U.S. nuclear forces, see Hans Kristensen, \textit{The Matrix of Deterrence: U.S. Strategic Command Force Structure Studies} (Berkely, CA: The Nautilus Institute, May 2001), 1-23. This report details numerous STRATCOM studies that heavily influenced government policies throughout the 1990’s.

\textsuperscript{162} Ibid., 15. Silver Books stands for Silver or Strategic Installation List of Vulnerability Effects and Results.

\textsuperscript{163} Kristensen and Handler, “The USA and Counterproliferation,” 392.


\textsuperscript{165} BASIC, “Nuclear Futures,” 12. It should be noted that a very rigid, pre-planned SIOP has been the mainstay of U.S. strategic forces throughout the Cold War. For more on this fact, see Bruce Blair, \textit{The Logic of Accidental Nuclear War} (Washington D.C.: Brookings Institution, 1993).
was guided by a doctrine of non-proliferation or the denial of NBC-weapons and technology to these rogue states. However, the U.S. has since moved in the direction of unilaterally countering such proliferation through the research and development of active defenses and offensive weapon systems (conventional and nuclear). The current administration has incorporated and codified these elements of the Clinton administration's counterproliferation doctrine into the New Triad.

The Strategy of Asymmetrical Deterrence in the Post-Cold War World

As the preceding section has shown, the counterproliferation doctrine has been gradually incorporated into nuclear doctrine and policy. This is largely the result of the transition from the Cold War period to the post-Cold War period. During the Cold War, the United States had a total fixation on the threat posed by the Soviet Union. As Secretary of Defense Lee Aspin later acknowledges, “It would be really impossible to overstate the degree to which our defense planning focused on the Soviet Union...It determined the size of the defense budget, the kinds of divisions we had, how we organized our forces...even how we designed [our] weapons”. Of course, the U.S. had often experienced serious conflicts with other nations, most of them in the Third World. But while these nations were seen as threats, this variable was often highly dependent on their connection to the Soviet Union. In effect, other countries were considered tactical threats to be subordinated to the far larger strategic Soviet threat. With the collapse of the Soviet Union, the threat perception that had guided United States' grand strategy for almost forty years also ended. This event necessitated a reconsideration of U.S. national security: “What are

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166 Quoted in Michael Klare, Rogue States and Nuclear Outlaws: America's Search for a New Foreign Policy (New York: Hill and Wang, 1995), 4. As Michael T. Klare goes on to note, every personnel in the U.S. military was trained to fight against Soviet combat units, specifically in a high-intensity conflict with the Warsaw Pact. Between 1947 and 1989, the U.S. Congress allocated an estimated $11.5 trillion in military appropriations, with additional billions on related military activities (i.e. nuclear weapons fabrication, foreign military assistance, intelligence collection, etc.).
U.S. interests and objectives? What are the threats to those interests and objectives? What are the appropriate strategic responses to those threats?".\textsuperscript{167}

The process of threat redefinition can be clearly seen in the U.S. Commission on Integrated Long-Term Strategy January 1988 report entitled Discriminate Deterrence. This report, while certainly emphasizing the threat posed by the Soviet Union, also focused on the potential threat posed by emerging regional powers and their rapidly expanding military arsenals (conventional and non-conventional). As the report goes on to note,

\begin{quote}
The [expanding] arsenals of the lesser powers will make it riskier and more difficult for the superpowers to intervene in regional wars. The U.S. ability to support its allies around the world will increasingly be called into question. Where American intervention seems necessary, it will [be necessary to] use our most sophisticated weaponry, even though this could compromise its effectiveness in a U.S.-Soviet war.\textsuperscript{168}
\end{quote}

Highly visible statements by senior U.S. officials quickly followed this report on the threat posed by emerging regional powers. For example, in December 1988, the Central Intelligence Agency Director William H. Webster spoke at length on the dangers posed by the proliferation of advanced weapons, particularly ballistic missiles and NBC weapons. This was quickly followed by Pentagon military officials emphasizing the threat posed by regional military powers and the increased likelihood of expansionist tendencies in such states. Near the end of the 1980's, a series of Congressional committee hearings on the dangers of horizontal proliferation took place. Initially, this threat redefinition emphasized the proliferation of conventional military capabilities. Using this capability-based threat analysis, an assortment of countries were considered possible threats, including but not limited to Egypt, Israel, India, South Korea, Iraq,

\textsuperscript{167} Barry R. Posen and Andrew L. Ross, “Competing Visions for U.S. Grand Strategy,” \textit{International Security}, 21, 3 (Winter 1996/1997), 5-53. Some scholars see this redefinition as not being only based on the objective threat posed by certain actors, but also being intimately connected to the self-interest and national identity of the United States. For a material argument, see Klare, \textit{Rogue States and Nuclear Outlaws}. For a critical theoretical argument, see David Campbell. \textit{Writing Security: United States Foreign Policy and the Politics of Identity} (Minneapolis: University of Minnesota Press, 1998).

Iran, Syria, and China. However, borrowing from the Reagan administration’s growing concern for state-sponsored terrorism, the threat analysis increasingly emphasized the political character of the countries in question. According to Klare, a rogue state doctrine gradually developed. This refers to the “characterization of hostile (or seemingly hostile) Third World States with large military forces and nascent WMD capabilities as ‘rogue states’ or ‘nuclear outlaws’ bent on sabotaging the prevailing world order”. With the advent of the Iraq invasion of Kuwait, the threat posed by rogue states had finally crystallized, and the rogue state doctrine had become internalized in U.S. threat perception.

The Clinton administration continued the post-Cold War trend towards defining NBC-armed rogue states as the main threat to the United States and main justification for the United States military size. This threat perception was reiterated by Assistant to the President for National Security Affairs Anthony Lake: “As the sole superpower,” wrote Anthony Lake in 1994, “the United States has a special responsibility for developing a strategy to neutralize, contain and, through selective pressure, perhaps eventually transform these backlash states [Cuba, North Korea, Iran, Iraq, Libya] into constructive members of the international community…In each case, we maintain alliances and deploy military capabilities sufficient to

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169 See Klare, Rogue States and Nuclear Outlaws, Chp. 1. Interestingly, this seems to better reflect the capabilities-based approach to force structure that is being emphasized by the current Bush administration. After all, the Bush administration seems to have accepted the NBC capabilities of some countries (i.e. India) while rejecting the same capabilities for other states (i.e. Iraq, Iran), based on the character of the regime in question.

170 Ibid., 26.

171 There has been attempts to achieve a more ambitious and robust grand strategy by emphasizing the threat posed by potential peer competitors, including even allies like European states and Japan. This was codified in 1992 with Undersecretary of Defense for Policy Paul Wolfowitz’s controversial Defense Policy Guidance (1994-1999). With the leak of this document to the New York Times, and the degree of criticism directed at the ambitious and imperial nature of the threat analysis and policy prescriptions, the Bush administration quickly repudiated this doctrine. Interestingly, the rogue state doctrine has allowed for a U.S. grand strategy that contained elements of the Wolfowitz prescriptions. With the current Bush administration, it seems that the United States has de facto accepted the policy guidance, though explicitly directed at the threat posed by rogue states and international terrorists. For more on the Defense Policy Guidance, see Patrick E. Tyler, “U.S. Strategy Plan Calls for Insuring No Rivals Develop,” The New York Times (March 7, 1992), at http://brandhast.airbeagle.com/DGP1992.htm.
deter or respond to any aggressive act". Following from this doctrine, the Clinton administration pursued a robust dual containment policy of Iraq and Iran in the Middle East, relying heavily on the forward deployment of troops to the region, and a combination of containment and engagement with North Korea. Rather than dismissing this doctrine as an attempt to limit the peace dividend possible with the end of the Cold War, much of the debate on the threat posed by rogue states centered on "how many of these countries the United States should be prepared to fight at any one time".

The current Bush administration has continued and expanded upon the rogue state doctrine of threat perception. As the 2001 QDR states, "Although the United States will not face a peer competitor in the near future, the potential exists for regional powers to develop sufficient capabilities to threaten stability in regions critical to U.S. interests". The development of sufficient capabilities refers to an adversary's acquisition of NBC weapons and delivery systems. Interestingly, with the 9/11 attacks taking place in late 2001, a serious challenge arose to the dominant consensus on the rogue state threat. This attack demonstrated that international terrorist groups had the undeterrable intention to inflict tremendous damage on the United States, and the organizational capability to do so. Given the continuous nature of the terrorist attacks in the 1990's, of which those on 9/11 were the most devastating, and the evident desire of such groups to obtain NBC weapons, a new threat nexus between international terrorists and NBC weapons was created that threatened to challenge the rogue state doctrine. After all, while rogue states had the apparent capabilities to threaten both U.S. territory and its interests, terrorists had the malignant and perhaps undeterrable intention if not the capability to do

172 Lake, "Confronting Backlash States," 46. Interestingly, the U.S. seems to have had difficulty accepting the transformation of backlash states. See Ray Takeyh, "The Rogue Who Came in From the Cold," Foreign Affairs, 80, 3 (May/June 2001), 62-72.
173 Klare, Rogue States and Nuclear Outlaws, 131.
175 See Ibid., 6.
so. But in a move reminiscent of the rogue state doctrine’s cooption of the state-terrorism threat, the Bush administration seems to have co-opted the international terrorist threat into its rogue state doctrine.

Three developments are discernable in the creation of this new rogue state threat nexus. First, there is the increasing connection between terrorists and NBC weapons. While most terrorists have previously only sought limited gains, international terrorist networks like Al-Qaeda seem to have the intention to inflict mass destruction against the United States. Of course, unlike states, terrorist groups often lack the competence and capability to develop and weaponize NBC weapons. The few high profile but unsuccessful attempts at terrorist use of NBC weapons—namely the 1995 sarin nerve gas attack in Tokyo and the 1993 attack on the World Trade Center, where the bomb contained cyanide—are indicative of this problem. That being said, despite the primary obstacle of insufficient capability, there is no denying the attractiveness of the NBC option for certain terrorist organizations.

Second, while international terrorist groups like Al-Qaeda often have only tenuous links to governments (in contrast to the state-sponsored terrorism of the 1980’s), the Bush administration has followed a process of territorialization of international terrorist networks. This was made clear in President Bush’s speech to Congress on September 21, 2001, in the immediate aftermath of the 9/11 attacks: “...we will pursue nations that provide aid or safe haven to terrorism...From this day forward, any nation that continues to harbor or support terrorism will be regarded by the United States as a hostile regime”. As the 2002 National Security Strategy states, one of the ways in which the U.S. will disrupt and destroy terrorist organizations is through “denying further sponsorship, support, and sanctuary to terrorists by convincing or

177 These cases are listed in Betts, “The New Threat of Mass Destruction,” 27-41.
compelling states to accept their sovereign responsibilities".\textsuperscript{179} This is seen as appropriate; after all, weak or failing states often provide fertile sanctuaries for international terrorist groups.

Third, there is the potential connection between terrorist groups and the threat posed by NBC-armed rogue states, a linkage made possible by the prior linkages between terrorist groups and NBC weapons and between terrorist groups and state territory. This threat conflation is largely due to the inability of terrorist groups to successfully and independently develop NBC weapons. Rogue states are therefore a double threat: "they not only seek to acquire WMD for themselves but also could transfer them to terrorist ‘allies’".\textsuperscript{180} While the 9/11 attacks created the possibility that the rogue state doctrine would be supplanted by the threat posed by international terrorism, the continued dominance of the rogue state doctrine was forcefully communicated in President Bush’s 2002 State of the Union Address, where he explicitly mentioned the rogue states of Iraq, Iran, and North Korea:

States like these, and their terrorist allies, constitute an axis of evil, arming to threaten the peace of the world. By seeking weapons of mass destruction, these regimes pose a grave and growing danger. They could provide these arms to terrorists, giving them the means to match their hatred. They could attack our allies or attempt to blackmail the United States.

This perspective is reflected in the 2002 U.S. National Security Strategy: "We must be prepared to stop rogue states and their terrorist clients before they are able to threaten or use weapons of mass destruction against the United States and our allies and friends".\textsuperscript{181} As Secretary of Defense Donald Rumsfeld points out, one can discern the emergence of a threat "nexus between terrorist networks, terrorist states, and weapons of mass destruction...that can make mighty adversaries of small or impoverished states and even relatively small groups of individuals".\textsuperscript{182}

\textsuperscript{179} National Security Strategy of the United States, 6.
\textsuperscript{180} Jeffrey Record, "The Bush Doctrine and War with Iraq," Parameters (Spring 2003), 6.
\textsuperscript{181} National Security Strategy of the United States, 14.
\textsuperscript{182} Quoted in Record, "The Bush Doctrine," 5.
Unlike the Soviet Union, the power imbalance between the U.S. and the assortment of rogue states is significant. While the Cold War witnessed American reliance on nuclear weapons to offset the superior conventional capabilities of the Soviet Union, the U.S. currently maintains an ever-expanding lead in conventional military capabilities. In effect, it not only follows but indeed defines what constitutes the revolution in military affairs. Rather than try to compete directly with the United States, rogue states have instead sought asymmetrical strategies to defeat U.S. forces. Such asymmetrical strategies are neither limited to NBC weapons and delivery systems nor limited to rogue states. For instance, Kristen Kolet lists asymmetrical strategies ranging from taking casualties at American hands or inflicting mass casualties on American troops to cyber attacks and urban warfare.\(^{183}\) China provides a good example of a state that both carefully analyzes U.S. military operations and seeks a “counterrevolution in military affairs” in its modernization program.\(^{184}\) However, NBC weapons are considered the primary means of any asymmetrical threat against the United States:

NBC weapons are now widely viewed as integral to the larger concept of asymmetric threats by which less capable adversaries will seek to counter U.S. advantages. This means NBC weapons are intended not only to counter U.S. nuclear capabilities as a ‘poor man’s atomic bomb’ but also to exploit perceived vulnerabilities in U.S. and allied conventional operations.\(^{185}\)

This threat is magnified by the growing proliferation of ballistic missiles to Third World states, especially to those states perceived as having NBC weapons programs. The use of ballistic missiles as a type of delivery system carries with it certain advantages. They deliver payloads faster than aircraft, are largely assured of penetrating airspace, and are “less hampered by poor weather and darkness than pilots and aircraft and, in many respects, are less technologically

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\(^{185}\) CCR, *The Counterproliferation Imperative*, 4.
demanding to maintain and support than modern combat aircraft.”\textsuperscript{186} The threat posed by these NBC-armed rogue states is especially acute in the Middle East and Northeast Asia. Both regions are highly important to U.S. interests and contain U.S. troops and basing areas in the vicinity.

In the Middle East, three states have posed a particular danger to U.S. interests. Firstly, the proto-typical (and now eliminated) rogue state of the post-Cold War period has been Saddam Hussein’s Iraq. Under Saddam Hussein, Iraq offered an ambitious ruler who gave the rogue state doctrine “its missing human face,” and gave military officials “the archetypal enemy of the post-Cold War era.”\textsuperscript{187} The Iran-Iraq War first demonstrated Iraq’s capabilities and apparent willingness to use chemical weapons. During that war, it was able to field over 50 army divisions, mount a sustained defense, develop an experienced air force (including mid-air refuelling and long-distance bombing), and accelerate its NBC weapons programs.\textsuperscript{188} Just prior to the Gulf War, Iraq had the fourth largest army with 800,000 men in early 1990, which was extremely well-equipped by Third World standards.\textsuperscript{189} While the Gulf War certainly changed the conventional balance of power, Iraq’s current and potential capabilities remains an important factor. It is the only Arab state with “a reasonably diversified (military, economic, demographic) powerbase” posing a potential conventional challenge to other Arab states, especially the much weaker Gulf States.\textsuperscript{190}

\textsuperscript{186} Richard L. Russell, “Swords and Shields: Ballistic Missiles and Defenses in the Middle East and South Asia,” Orbis (Summer 2002), 485-486.
\textsuperscript{187} Klare, Rogue States and Nuclear Outlaws, 37.
\textsuperscript{189} This included between 5,700 to 6,700 tanks, 7,000 other armoured vehicles, numerous anti-tank weapons, and an integrated air defense system. See Anthony Cordesman, Iran and Iraq: The Threat from the Northern Gulf (Boulder, Colorado: Westview Press, 1994), 187-189.
\textsuperscript{190} Rex Brynen and Paul Noble, “The Gulf Conflict and the Arab State System: A New Regional Order?” Arab Studies Quarterly, 13, 1 (Winter/Spring 1991), 123. For an excellent recent analysis of the threat posed by Iraq, see Pollack, The Threatening Storm. While Iraq certainly has the capability to harm the Gulf States (specifically Kuwait), it is likely that Iraq’s power projection capability has decreased significantly since the Gulf War. One can also note the military modernization programs and security cooperation among members of the Gulf Cooperation Council. See Jacquelyn K. Davis, Charles M. Perry and Jamal S. Al-Suwaidi, eds., Air/Missile Defense, Counterproliferation and Security Policy Planning: Implications for Collaboration Between the United States and the
Iraq also played a pioneering role in the development of NBC weapons. With regard to ballistic missiles, Iraq has a proven record of ‘missile diplomacy’ in the Gulf War and the Iran-Iraq ‘War of the Cities’, and has invested up to $3 billion in missile development.\(^{191}\) While some believe that Iraq only had 50 Al Hussein missiles (600 km range), its ambition in this field can be seen in its early development of long-range missiles like the Tammuz-1 (2,000 range) and the Al-Abid space-launch vehicle (3,000 range).\(^{192}\) In terms of chemical weapons, while UNSCOM has destroyed 3000 tons of agents and precursor chemicals, and 30,000 chemical munitions by 1994, the “quality and quantity of chemical weapons that remain in Iraq is a mystery”.\(^{193}\) What is known is Iraq’s proven ability to produce both WWI generation chemical-agents, such as phosgene and mustard agent, and more sophisticated nerve agents like tabun, sarin, and VX.\(^{194}\) In addition, there is evidence based on documents obtained during Kamil Hassan’s defection that Iraq had developed a significant BW program.\(^{195}\) These factors, among others, were used by the Bush administration to justify its conventional counterproliferation campaign to force regime change on Iraq in early 2003.

Secondly, Iran is a state with a large population, a relatively strong military, and a keen interest in NBC weapons. According to the U.S., Iran is a state that has a long-term nuclear weapons program, an unknown amount of biological weapons, and most developed of all, a

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\(^{191}\) Cordesman, Iran and Iraq, 236. Also see McNaughter, “Ballistic Missiles and Chemical Weapons,” 5-34.


\(^{194}\) The sophistication of this program can also be seen in the massive stockpile of chemical warfare-agents, including possible binary chemical weapons, and its probably capability to begin production even after 10 years of sanctions. See Stockholm International Peace Research Institute (SIPRI), “Factsheet: Iraq: The UNSCOM Experience,” (October 1998), at http://editors.sipri.se/pubs/Factsheet/unscom.htm For a skeptical view of Iraq’s capability for binary weapons, see Haselkorn, The Continuing Storm, Chp. 3.

\(^{195}\) See Haselkorn, The Continuing Storm, 109. For example, “Iraq may have produced up to 10 billion doses of anthrax, botulinum toxin and aflatoxin”. See SIPRI, “Iraq: The UNSCOM Experience".
capacity "to conduct a chemical war near its borders, to launch limited long-range air raids using
chemical bombs, and to use chemical weapons in unconventional warfare". While the nuclear
program was originally conceived as a long-term plutonium-based program, evidence has
recently emerged on a secret uranium-enrichment nuclear weapons program. This has led to
fears that "Iran may soon achieve sufficient indigenous capacity to develop nuclear weapons
without further outside assistance". While far less is known about Iran's biological warfare
capabilities, one credible source states that Iran is in the process of accelerating its program, with
the stated goal of tripling its biological weapons capability. Iran's primary delivery systems
consist of 200-300 Scud B (300 kilometer range) and Scud C (500 kilometer range) missiles on
15 mobile launchers. The government has also signed a contract with China for 200 CSS-8
missiles (modified SA-2 surface-to-air missiles), and a contract with North Korea for Scud C
missile kits. One can also note that Iran has four indigenous long-range missile systems under
development—the Shahab-3, Shahab-4, Shahab-5, and Shahab-6, altogether ranging from a 1300
kilometres missile to a 10,000 kilometers ICBM.

Thirdly, Syria, while not identified as part of the 'Axis of Evil', remains a potential threat
to both U.S. and (more acutely) Israeli forces in the region. While Syria has spent approximately

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196 Cordesman, Iran and Iraq, 99.
197 For more on Iran's long-term nuclear program, see Andrew Koch and Jeanette Wolf, "Iran's Nuclear
Procurement Program: How Close to the Bomb?" Nonproliferation Review, 5, 1 (Fall 1997), 123-135. According to
the Iranian insurgents that first brought evidence of these two facilities, there is also the possibility that Iran has two
small facilities for uranium enrichment alongside large uranium-enrichment and heavy water production facilities.
See Sheryl Gay Stolberg, "Group Says Iran Has Two Undisclosed Nuclear Laboratories," New York Times (May
198 George Perkovich, "Dealing With Iran's Nuclear Challenge," Carnegie Endowment for International Peace
(April 28, 2003), 2.
199 This accusation comes from domestic Iranian insurgents. While their evidence cannot be corroborated, they have
given credible accusations in the past, namely regarding Iran's nuclear weapons program. See Joby Warrick, "Iran
201 David R. Tanks, "Key Proliferation Trends and Their Likely Impact on the Balance of Power in the Gulf: A
Focused Evaluation," in Air/ Missile Defense, Counterproliferation and Security Policy Planning: Implications for
Collaboration Between the United States and the Gulf Co-operation Council Countries, eds. Jacquelyn K. Davis,
Charles M. Perry and Jamal S. Al-Suwaidi (Abu Dhabi, United Arab Emirates: The Emirates Center for Strategic
Studies and Research, 1999), 34-35.
$2 billion to purchase “hundreds of T-72 and T-60 tanks, as well as advanced Russian aircraft and other weapons,”\(^\text{202}\) it does seem likely that Syria's poor financial situation increases the attraction of NBC weapons as a cheaper means of balancing Israeli forces. According to Avigdor Haselkorn, Syria has built—with the erosion of Iraq—“the most advanced and extensive chemical arms program in the Arab world.”\(^\text{203}\) The Federation of American Scientists reports that Syria is seeking to manufacture VX agents and, in its current CW stockpiles, has “several thousand aerial bombs, filled mostly with sarin,” and between 50-100 ballistic missile warheads.\(^\text{204}\) Delivery systems include the Soviet SS-21 missile (120 km range), the Scud-C missile (600 km range), and the Mig-29 and Su-24 fighter/bomber aircraft.\(^\text{205}\) While Syria has so far concentrated primarily on chemical weapons, it has allegedly maintained a nuclear weapons program since 1979.\(^\text{206}\)

In Northeast Asia, the only NBC-armed rogue state that could potentially threaten either U.S. interests or its forces stationed in Japan and South Korea is the Democratic People's Republic of Korea.\(^\text{207}\) Aside from having a massive if outdated military force, North Korea has also maintained an active interest in nuclear weapons. This was most clearly seen with its plutonium-based program that gave Pyongyang enough weapons-grade plutonium for one or two nuclear devices. This program was only capped under the 1994 Agreed Framework after the U.S. agreed to supply the North with two light-water reactors and a shipment of heavy oil. But the DPRK has recently announced that it has had a clandestine uranium-based nuclear weapons


\(^{203}\) Haselkorn, *The Continuing Storm*, 189.


\(^{205}\) Gerald M. Steinberg, “Israel’s Response to the Threat of Chemical Warfare,” *Armed Forces & Society*, 20, 1 (Fall 1993), 96-98.

\(^{206}\) It should be noted that Syria’s financial situation prevents it from expanding or accelerating its NW program. Information on Syria’s nuclear program can be found at http://www.fas.org/nuke/guide/syria/index.html.

\(^{207}\) Of course, some hard-line Republican hawks might declare China to be a future ‘rogue state,’ or a current one based on its export of nuclear technology and delivery systems to states like Pakistan and Iran.
program. While the exact nature of the program and Pyongyang’s reasons for admitting its existence remain unknown, these facts do indicate a strong desire to build nuclear weapons, even if only as a bargaining chip. While it is likely that the DPRK does have a CB weapons program, very little is known about the extent of its capabilities in that area. In terms of delivery systems, North Korea has 500 Scuds (both B and C) alongside 30 launchers, and potentially up to 100 Nodong 1 missiles (1,000 kilometer range). It also maintains programs on the Nodong-2 (1,500 kilometer range), Taepodong-1 (up to 2,200 kilometers), and Taepodong-2 (up to 6,000 kilometers) missiles.

To combat these asymmetrical threats, the U.S. has developed a strategy of asymmetrical deterrence. While Cold War deterrence (both asymmetrical and symmetrical) relied heavily on the U.S. nuclear deterrent, the current strategy expands on nuclear deterrence by incorporating conventional prevention or pre-emption and missile defenses. This strategy, by incorporating non-nuclear components alongside nuclear weapons, represents a remarkable shift in the U.S. calculus of what is necessary for deterrence. This section will therefore conclude by examining the role of and relationship between each of these components.

First, the current U.S. emphasis on nuclear targeting of NBC-armed rogue states, even while violating the negative security assurances for NNWS (with the possible exception of North Korea), is based on the need to prevent the deterrence of the United States by the threat of CB weapons. After all, as noted by Richard K. Betts, the U.S. elimination of its own chemical and biological weapons has “practically precluded a no-first-use policy for nuclear weapons, since they become the only WMD available for retaliation”. This has led the United States not only

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209 This ambiguous view is offered in Mack, “Proliferation in Northeast Asia” 36-38.
to refocus its nuclear targeting process onto NBC-armed rogue states, but also to contemplate more useable and credible nuclear weapons. Rather than moving away from the concept of deterrence to war-fighting, as some critics maintain, such weapons are meant to reinforce deterrence by making threats credible. "To begin with, a deterrent threat must be believable. If we want to deter an opponent from attacking, the opponent must actually believe our threats to some degree". 212 This is similar to the Cold War's goal of modernizing nuclear forces in order to increase the credibility of the deterrent. In the post-Cold War period, when dealing with threats that are not comparable to nuclear weapons (i.e. CB weapons), credibility implies a certain degree of proportionality; this is meant to reduce the asymmetrical advantage of threatening CB weapons, of which no equivalent U.S. retaliation can be given. Of course, the conventional forces of the United States can give an alternate and more proportionate response. While this is certainly true, and the U.S. emphasis of counterproliferation and conventional pre-emption indicates that the current administration acknowledges this fact, two problems remain. On one hand, chemical and, more importantly, biological weapons are increasingly being seen by U.S. officials as highly destructive strategic weapons, which in turn merits the use of a nuclear deterrent. On the other hand, conventional deterrence is traditionally viewed as more ambiguous and more prone to failure. According to Edward Rhodes, "Conventional deterrence is much less likely than nuclear deterrence to result in a robust, stable stalemate". 213 In fact, as Rhodes goes on to argue, conventional deterrence and its probable failure would be closely connected to the possibility of conventional war (with the attendant risk of CB weapons use).

While nuclear weapons are a necessary component of asymmetrical deterrence, it is not viewed as being sufficient. This is largely due to what the U.S. perceives as being the growing deterrent capabilities of NBC-armed rogue states. As recently stated by Keith B. Payne, "Are we

now to believe that vulnerability to North Korea is a condition we should perpetuate because it fits with an old deterrence concept? Not likely".\(^{214}\) Of course it would be easy to criticize this approach by comparing it to the Cold War concept of MAD. But while the Cold War did witness the achievement of nuclear parity between the United States and the Soviet Union, which buttressed the declaratory doctrine of mutually assured destruction, the United States only grudgingly accepted this situation, and spent much of the 1970’s and 1980’s attempting to escape from it. Not surprisingly, the post-Cold War period has witnessed the U.S. rejection of a comparable situation with rogue states. The reason for the dismissal of MAD stems from the perception of aggressive rogue states. Instead of simply relying on NBC-capabilities for defensive or deterrent purposes, the United States perceives rogue states as being “more willing to take risks, gambling with the lives of their people, and the wealth of their nations”\(^{215}\). NBC weapons, rather than simply for deterrent purposes, are seen as tools of compellence and blackmail. This can be done intentionally, by a lack of understanding of deterrent concepts, or even from poor leadership decisions.\(^{216}\) Keith Payne reiterates this perspective: “rogue leaders themselves…are known to be relatively unfamiliar with the variety of factors that shape Washington’s decision-making”\(^{217}\). To prevent this threat, in a manner remarkably similar to the 1940’s and 1950’s, the U.S. bases its concept of deterrence of rogue states on nuclear superiority.

At first glance, the argument that the U.S. is gradually losing its nuclear superiority appears exaggerated. After all, with the possible exception of North Korea, most NBC-armed rogue states only maintain sufficient capabilities for moderate amounts of CB weapons and lack the appropriate delivery systems for a successful attack against U.S. territory, and perhaps even

\(^{215}\) National Security Strategy of the United States, 15.
\(^{216}\) The latter argument, on the poor decisions of the leadership, is forcefully and convincingly made in Pollack, The Threatening Storm.
\(^{217}\) Keith B. Payne, The Fallacies of Cold War Deterrence and a New Direction (Kentucky: The University Press of Kentucky, 2001), 91.
its regionally deployed forces. However, by relying on asymmetrical tactics, there is the increasingly possibility that the U.S. can be deterred from intervening in certain regions. This is based on the concept of triangular deterrence, which according to Robert Harkavy is a situation whereby

a weaker power lacking the capability to deter a stronger and (importantly) distant power, might choose to threaten a nuclear (or chemical or biological, or also conventional) riposte against a smaller, closer or contiguous state, usually but perhaps not always one allied to the larger tormentor or to one of its clients (or providing them basing access in a crisis), but perhaps also a neutral state, one with no real political connection to the ongoing conflict.\(^{218}\)

This represents the use of the rogue states' asymmetrical advantage in order to create a situation of apparent *de facto* mutually assured deterrence. This is largely due to two factors. The first is the increasing rogue state capability to attack states in its region. After all, while rogue states are still unable to fully threaten U.S. territory with significant NBC arsenals due to the lack of appropriate and necessary delivery systems, the same cannot be said regionally, where short and medium range ballistic missiles have indeed proliferated. The fact that the U.S. is an extra-regional power, and therefore heavily dependent on the use of forward basing access for any regional conflict, makes the possible deterrence of the U.S., at least to American military planners and officials, a frightening and dangerous prospect. The second and related factor is the asymmetry of interest in any regional conflict. For example, by being an extra-regional superpower, the U.S. does maintain a very strong interest in the stability of certain regions. While rogue states can threaten such interest, it remains to be seen whether this extra-regional interest is sufficient in light of the possible risks of intervention. This point was seemingly demonstrated in the 1990-91 Gulf War.\(^{219}\) As reiterated by Colin S. Gray, "as regional powers

\(^{218}\) Harkavy, "Triangular or Indirect Deterrence," 64.
\(^{219}\) See Haselkorn, *The Continuing Storm*. Also see Avigdor Haselkorn, "Iraq's Biowarfare Options: Last Resort, Preemption, or a Blackmail Option?" *Biosecurity and Bioterrorism*, 1, 1 (2003), 19-26.
acquire even more potent armories of ballistic and cruise missiles, WMD, submarines...the risks from involvement in a regional conflict are apt to escalate way beyond the prospective positive returns".  

Second, in order to mitigate the impact of an asymmetrical situation of MAD between the U.S. and rogue states, the Bush administration has followed his predecessor by placing an increasing emphasis on a conventional counterproliferation doctrine. And in a novel expansion, the Bush administration has incorporated the attendant and subsidiary doctrine of pre-emptive self-defense and preventive war into the calculus of deterrence. Rather than doctrine independent of and displacing the concept of deterrence, this development plays an integral role in the post-Cold War strategy of asymmetrical deterrence vis-à-vis NBC-armed rogue states. As shown earlier, the increased uncertainty over the nuclear deterrent has forced military planners to contemplate possible and proportionate options for retaliating against the use of CB weapons. As a recent study by the Center for Strategic and International Studies notes: “In the twenty-first century, how the United States retaliates corresponds to WMD employment will be critical, both for restoring its deterrent against the perpetrator and for the credibility of its deterrent against other regional rogues contemplating challenges to the status quo”.  

Given the uncertain feasibility of nuclear weapons use as a retaliatory measure, despite the significant efforts for useable earth-penetrating and agent defeat weapons, the U.S. has invested significant resources for conventional and feasible counterproliferation missions. In the end, conventional counterproliferation alongside the development of more useable nuclear weapons seem to be an attempt to maintain escalation dominance over rogue states: “A government possessing this...

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capacity is thought better able to resort to nuclear threats in a crisis situation, as well as to impose ‘satisfactory war termination’ conditions on the adversary”. 223

The expansion of counterproliferation to explicitly incorporate pre-emptive and, more importantly, preventive war is collorary to the conventional counterproliferation doctrine. Some see it as a dangerous doctrine hostile to the very concept of a stable international order. As John Steinbruner argues, the Bush Doctrine (as embodied in the 2002 National Security Strategy document) provides a “blueprint for a perpetual series of hot wars and preventive strikes, initiated whenever it is determined that another state is accumulating threatening weapons or harboring terrorists”. 224 However, preventive war is a doctrine that has only been implemented in the regime change campaign in Iraq. Due to the more robust military capabilities of other NBC-armed rogue states, the likelihood of this doctrine being widely implemented can certainly be questioned. 225 In fact, its basic role in an asymmetrical deterrent posture is similar to conventional counterproliferation: it is meant to reinforce the U.S. capability to deter regional NBC-armed rogue states and, due to the possibility of deterrence failure, to dominate an NBC-polluted battlespace. In many ways, a preventive war doctrine mitigates the problems associated with conventional counterproliferation campaigns. First, by directing U.S. military forces to prevent the emergence of a future threat, this doctrine recognizes the unique dangers posed by rogue state acquisition of nuclear weapons. After all, while passive defense measures are able to reduce and mitigate the strategic impact of CB weapons in a conventional counterproliferation campaign, an equivalent damage limitation capability is impossible in the case of nuclear weapons. Second, while the U.S. has certainly advanced its capability to protect forward

223 Ross, Coping with Star Wars, 20. Escalation dominance can also refer to conventional as well as nuclear dominance. In that regard, the U.S. has sought to maintain escalation dominance over almost any state in the world. For a good recent example of this, see Robert S. Ross, “Navigating the Taiwan Straits: Deterrence, Escalation Dominance, and U.S.-China Relations,” International Security, 27, 2 (Fall 2002), 48-85.


deployed forces from CB attacks, any conventional counterproliferation greatly increases the risk of CB warfare against important regional population centers. The difficulties of obtaining a sufficient damage limitation capability for civilian populations and the need to obtain such a capability, in order to secure basing rights and other resources, necessitates preventive options, if only to limit the rogue states’ capability to deter a conventional counterproliferation campaign by the United States. 226

Lastly, the current Bush administration has placed an increasing emphasis on the role of BMD as an adjunct to the nuclear deterrence of NBC-armed rogue states. According to this perspective, missile defense would “decrease the value of WMD and raise the threshold of the level of weapons needed for a successful attack upon the United States or its allies”. 227 Theater missile defense would protect U.S. forward deployed forces and regional allies from the threat of NBC attacks. National missile defenses would protect U.S. territory from the seemingly inevitable if long-term development of long-range delivery systems by NBC-armed rogue states. As Keith Payne writes, “when deterrence fails or simply fails to apply in a future crisis, BMD promises protection for population centers against the use of ballistic missiles armed with weapons of mass destruction”. 228 While certainly a defensive system against the possibility of deterrence failure and a ‘bolt from the blue’ attack, a more probable situation is related to the possibility of counterproliferation campaigns, both retaliatory and pre-emptive/preventive. “Missile defense is, in effect, the shield that allows us to use the sword of conventional and/or tactical nuclear weapons in preemptive counterproliferation missions”. 229 In a similar fashion to the role of preventive war, missile defenses are meant to provide an additional degree of protection to U.S. troops, especially where passive defenses would be insufficient to minimize

226 Thanks to Kevin Warrian for pointing out the problems and prospects associated with the passive defenses of NBC weapons.
227 Clark, A False Sense of Security, 19.
the damage of an NBC attack (especially nuclear weapons), and to limit the capability of rogue state to deter U.S. military operations by triangular deterrence. In addition, by closely shadowing the reasons for preventive war, it is certainly possible that BMD would limit the necessity to undertake preventive war options; after all, preventive war can often be politically and militarily infeasible. Missile defenses could therefore provide the necessary protection for conventional counterproliferation military operations.

The current administration's policy represents the most explicit manifestations of an asymmetrical deterrent strategy directed against the perceived strategic threat of NBC-armed rogue states. This strategy is based largely on the need to incorporate conventional counterproliferation measures (preventive war and missile defense) in order to fix the problems associated with the U.S. nuclear deterrent and to mitigate the deterrent capabilities of NBC-armed rogue states. While often treated as a radical departure from the nuclear strategy of his predecessors (both Cold War and post-Cold War), the current administration's strategy is in fact the expansion of a post-Cold War asymmetrical deterrence nuclear strategy to its logical conclusion. Developments throughout the 1990's, in terms of threat perception, doctrine, and policy, played a significant role in the Bush administration's nuclear strategy. In fact, most of the policies first introduced to combat the possibility of nuclear parity between the U.S. and Soviet Union in the 1970's and 1980's have been applied to the post-Cold War context, to mitigate the impact of an asymmetrical nuclear parity between the U.S. and NBC-armed rogue states.
Chapter Three: The Bush Administration’s ‘New Triad’ Strategic Concept

In January 2002, the Bush administration completed the Nuclear Posture Review Report, the document that most clearly outlines the Bush administration’s approach to nuclear strategy. This classified report is a congressionally mandated review of the “policy, strategy, plans, stockpile, and infrastructure for U.S. nuclear forces”\(^{230}\). The NPR outlines a New Triad based on offensive strike systems (nuclear and non-nuclear), defenses (active and passive), and a revitalized defense infrastructure, all of which would be “bound together by enhanced command and control (C\(^2\)) and intelligence systems”\(^{231}\). Additionally, in a departure from the rules laid out by Washington’s own ‘negative security assurances’ (assurances towards non-nuclear weapon states that they will not be targeted with nuclear weapons), the report recommends new nuclear targeting options against ‘rogue states’ armed with nuclear, biological, or chemical weapons. The potential development of smaller yield, more accurate, and in the parlance of nuclear strategy, more ‘credible’ nuclear weapons were also given a priority. These could be used as Agent Defeat Weapons (ADW) for the destruction of CB facilities or weapons and as Earth-Penetrating Warheads (EPW) against hardened and deeply buried targets.

However, this document is only one in a series of Bush administration documents that, when taken together, are indicative of the codification of an asymmetrical strategy. The 2002 National Security Strategy of the United States of America, while not directly related to the U.S. nuclear doctrine, offers the primary codification of U.S. pre-emptive/preventive doctrine. In contrast to the early Cold War period, this doctrine is seen not as a replacement of but rather as a complementary component to nuclear deterrence. The National Strategy to Combat Weapons of Mass Destruction outlines U.S. counterproliferation doctrine. While U.S. doctrine has


\(^{231}\) Nuclear Posture Review, 1.
traditionally emphasized conventional rather than nuclear weapons, counterproliferation has become an integral doctrinal and policy component of U.S. nuclear strategy. As the classified version of NSPD-17 reportedly states, “The United States will continue to make clear that it reserves the right to respond with overwhelming force — including potentially nuclear weapons — to the use of [weapons of mass destruction] against the United States, our forces abroad, and friends and allies”. The National Policy on Ballistic Missile Defense, which is the unclassified version of NSPD-23, is the document outlining U.S. policy on missile defense systems. To be sure, missile defense has often been treated as an issue distinct from U.S. nuclear weapons policy in the post-Cold War period. That being said, the increasing incorporation of missile defense systems in U.S. nuclear policy, evident in the second-leg of the New Triad and the incorporation of U.S. Space Command (SPACECOM) into STRATCOM, indicates that such a casual distinction is becoming less appropriate or analytically useful.

The NPR has codified the Bush administration’s emphasis on asymmetrical deterrence in its strategic concept of the New Triad. As mentioned earlier, the original nuclear Triad was a doctrine based on the Cold War development of three separate strategic offensive systems for the delivery of the U.S. nuclear arsenal: ICBMs, SLBMs, and bombers. As Richard Smoke explains, under the Triad doctrine:

...each of the three should be able independently to impose unacceptable damage on the Soviet Union. The United States would have hedges against any Soviet Surprise attack. If one or even two legs of the triad were somehow destroyed in such an attack, the third could still retaliate. Knowing this, the Soviets would be completely vulnerable.

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234 Smoke, National Security and the Nuclear Dilemma, 109. To be sure, the United States did contemplate eliminating aspects of the Triad. For instance, there is evidence that the U.S. Strategic Command (STRATCOM) contemplated switching to a two-legged Triad based on ICBMs and SLBMs in the post-Cold War period. See Kristensen, The Matrix of Deterrence, 1-23.
The Cold War-era Triad was therefore a doctrine directed at the Soviet Union based on the idea of a secure and survivable second strike capability, or “the ability to absorb the other side’s strike and retain enough operating forces to strike back effectively”\(^\text{235}\). This is commonly associated with MAD: if one side decides to initiate a pre-emptive or preventive attack, the other side would still maintain enough forces to effectively destroy the initiator. As detailed in the preceding chapter, the U.S. has periodically attempted to replace this doctrine of mutual deterrence with one based on war-fighting, often by moving away from the countervalue targeting of civilian population centres and towards attempts at achieving victory or damage limitation by the countervalue targeting of enemy missile silos or command and control systems. However, despite the best efforts of some Cold War nuclear hawks, a rough doctrinal consensus seems to have been made regarding the fundamentally unusable character of nuclear weapons outside of mutual assured deterrence.\(^\text{236}\)

The New Triad is meant to be a new doctrine for the post-Cold War period, where the threats are seen as diverse and often unexpected. As the NPR points out, a new mix of nuclear, non-nuclear, and defensive capabilities “is required for the diverse set of potential adversaries and unexpected threats the United States may confront in the coming decade”\(^\text{237}\). The threats commonly cited include: the assortment of states labelled as ‘rogue states’ ‘states of concern,’ or ‘backlash states,’\(^\text{238}\); a rising China or perhaps a resurgent and aggressive Russia; and non-state...


\(^\text{236}\) For this argument, see Bernard Brodie, “The Development of Nuclear Strategy,” *International Security*, 2, 4 (Spring 1977), 66. This view on the fundamental change caused by nuclear weapons on deterrence and war comes from a 1945 Occasional Paper for the Yale Institute for International Studies that was later made into part of an edited volume entitled *The Absolute Weapon*.

\(^\text{237}\) *Nuclear Posture Review*, 7.

\(^\text{238}\) While the U.S. has commonly used the term ‘rogue states,’ this was changed during the second term of the Clinton administration, which began calling these states ‘states of concern’. The term ‘backlash states’ was used by Anthony Lake in his article: “Confronting Backlash States,” *Foreign Affairs* (March-April 1994), 45-56.
actors (i.e. international terrorist groups). For these reasons, the Report outlines a New Triad, composed of:

- Offensive strike systems (both nuclear and non-nuclear);
- Defenses (both active and passive); and
- A revitalized defense infrastructure that will provide new capabilities in a timely fashion to meet emerging threats.²³⁹

This New Triad is to be bound together by an enhanced command, control, communications and intelligence (C³I) system. In effect, the NPR is the latest manifestation of the current U.S. desire to exploit the ongoing ‘Revolution in Military Affairs’ (RMA) in order to achieve what Pentagon planning documents call “full spectrum dominance,” the capability to “conduct prompt, sustained, and synchronized operations with combination of forces tailored to specific situations and with access to and freedom to operate in all domains – space, sea, land, air, and information”.²⁴⁰ This development was noticeably advertised in the Gulf and Kosovo wars, which demonstrated U.S. dominance in “precision guided munitions (PGM), sophisticated surveillance equipment, stealthy weapon platforms, and ‘stand-off’ weaponry”.²⁴¹ But rather than simply accepting the RMA as a conventional revolution, the U.S. is fixed on expanding the revolution with new nuclear weapon and BMD capabilities, and sophisticated C³I systems.²⁴²

²³⁹ Ibid., 1.
²⁴¹ Ron Matthews, “Introduction: ‘Managing’ the Revolution,” in Managing the Revolution in Military Affairs, eds. Ron Matthews and John Treddenick (New York: Palgrave, 2001), 3. The increased use of PGMs has been among the most widely known aspect of the RMA. This should come as no surprise. After all, over the last ten years more than 35,000 non-nuclear PGMs were expended in a diverse range of U.S. military operations. Guthe, “The Nuclear Posture Review,” 8. The relative amount of PGMs have also increased, culminating in the recent Afghanistan and Iraq wars.
²⁴² By linking the changes in nuclear strategy to the RMA, this paper takes an intentionally limited perspective on the RMA. For instance, Ron Matthews offers a holistic analysis of what constitutes the RMA, which lays in the nexus of advances in defense, management and technology. With this perspective, he identified three aspects to the RMA: defense technology, defense management, and technology management. This paper will concern itself with defence technology, which includes offensive technological mediums for waging war alongside doctrine, organization, and training. See Matthews, “Introduction,” 1-18.
The NPR and its New Triad strategic concept embodies the Bush administration's approach to nuclear strategy and asymmetrical deterrence. This chapter will illustrate the key components of the New Triad. The first section will examine the offensive nuclear and conventional strike options of the New Triad. Particular attention will be paid to the NPR's emphasis on more useable and credible nuclear weapons. The second section will examine the active and passive defenses component of the New Triad. While the NPR mentions both active and passive defenses, this section will specifically emphasize the missile defense policy of the Bush administration. The third section will examine developments under the Bush administration on the revitalization of the defense and nuclear infrastructure.

Offensive Strike Systems

Offensive strike systems are one of the key components of the New Triad, and perhaps the most controversial. The Cold War saw the development of a strategic nuclear arsenal as an asymmetrical means to counter the superiority of the Soviet Union's conventional forces. However, the post-Cold War period saw the advent of American conventional dominance and the rise of potential asymmetrical threats against the United States. In this new and admittedly uncertain security environment, offensive strike systems (or the strike element of the New Triad) are meant to provide:

greater flexibility in the design and conduct of military campaigns to defeat opponents decisively. Non-nuclear strike capabilities may be particularly useful to limit collateral damage and conflict escalation. Nuclear weapons could be employed against targets able to withstand non-nuclear attack (for example, deep underground bunkers or bio-weapon facilities).

This asymmetrical policy was most evident under the Eisenhower's New Look strategy. Of course, this is not to say that the U.S. did not attempt to counter Soviet conventional superiority: periodic attempts to increase U.S. conventional military capabilities occurred during the Truman Doctrine, Kennedy's Flexible Response. However, it was always assumed that the Soviet Union maintained conventional superiority. See Gaddis, Strategies of Containment. More recently, the U.S. moved to a more high-tech, qualitative solution in the 1980's that formed the basis of the current RMA.

One can discern three separate but inter-related aspects to this leg of the New Triad: (i) the current nuclear force and its planned reduction of force size for the near future; (ii) the conventional strike options as an alternate option to nuclear weapons use; and (iii) the potential development of new nuclear weapons. The rest of this section will examine each of these three aspects of the New Triad’s offensive strike systems.

One of the central themes of the NPR has been its focus on a capabilities-based approach rather than a threat-based approach. This concept was initially introduced in the 2001 Quadrennial Defense Review (QDR) Report, which acknowledged the difficulty of structuring U.S. defense forces against identified nations, combination of nations, and non-state actors. To better structure U.S. nuclear and non-nuclear forces, the QDR advocated a model based more on “how an adversary might fight than who the adversary might be and where a war might occur.” Following from this model, the U.S. will “no longer plan, size or sustain its forces as though Russia presented merely a smaller version of the threat posed by the former Soviet Union.” Therefore, the NPR calls for a planned force structure of 1700-2200 deployed strategic warheads by 2012, which will be based on 14 Trident ballistic missile submarines (SSBNs), 500 Minuteman III ICBMs, 76 B-52H bombers, and 21 B-2 bombers. This would deactivate the Reagan-era MX Peacekeeper ICBM, remove 4 Trident SSBNs from strategic service, and download weapons from other delivery platforms. Initial movement to implement this planned force structure began in October 2, 2002, with the removal of a W87 warhead from...
an MX missile in the S-07 Launch Facility at Wyoming's F. E. Warren Air Force Base: One
missile will be subsequently withdrawn every three weeks.\textsuperscript{248}

Among the most significant components of the current and planned U.S. nuclear force
posture has been the growing importance of the SLBM nuclear force. With the advent of the D-5
missile, of which 336 D5s will eventually arm the entire force of 12 SSBNs, the SLBM nuclear
forces will have gained a hard-target kill capability comparable to the MX missile.\textsuperscript{249} Not
surprisingly, the D5 take over many of the targets previously covered by the MX missile. Despite
the D5's current accuracy, future developments for the SLBM force include an upgrade of the
Mk-6 guidance system and a new or modified reentry vehicle. In November 2002, the
modernization program for the D5 was given a $90 million contract.\textsuperscript{250} While the SLBM nuclear
force has increasingly become the "backbone" of the U.S. nuclear strike force, this is not to say
that no developments are currently underway with regard to the other components of the nuclear
strike force. For example, the Minuteman III is currently undergoing a "$6 billion, six-part plan
to improve the weapon's accuracy and reliability and to extend its service life beyond 2020".\textsuperscript{251}

At first glance, this amount of warheads seems laudable enough. After all, the amount of
warheads is similar to the May 1997 Helsinki Framework Agreement between Russia and the

\textsuperscript{248} See Robert S. Norris, Hans M. Kristensen and William Arkin, "NRDC Nuclear Notebook: U.S. Nuclear Forces,
(SARV) program, approximately 200 of the Peacekeeper's W87 warheads will be used to arm the Minuteman III
missiles, with the balance being given to the reserve warhead stockpile.

\textsuperscript{249} For more on the hard-target kill capability of the D5 missile, see Blair, \textit{Global Zero Alert for Nuclear Forces}, 61-64.
According to Blair, the D5's pinpoint accuracy means that "practically any target in Russia except a handful of
underground command bunkers is vulnerable to destruction by U.S. SLBMs" (61).

\textsuperscript{250} See Norris and al., "NRDC Nuclear Notebook: U.S. Nuclear Forces, 2003," 73-76. In October 2003, the Navy
will begin deploying the SLBM Retargeting System (SRS), which will give Tridents a greater flexibility and
capability to target both fixed and mobile sites. Also in development is the Enhanced Effectiveness (E2) Reentry
Body, which will greatly increase the accuracy of the warhead, to a degree that even conventional warheads are
being considered for this role.

\textsuperscript{251} Ibid., 73. The $1.9 billion Guidance Replacement Program (GRP), which seeks to replace the Minuteman III's N-25
guidance system with the N-50 guidance system, is of particular interest. While it has yet to achieve its
objectives, it does increase the accuracy of the Minuteman III to nearly that of the MX Peacekeeper. The current
deliberation on a next generation Minuteman IV would likely have an equal focus on increased accuracy and hard-
target kill capability. For more on the Minuteman III modernization program, see Robert S. Norris, William Arkin,
Hans M. Kristensen, and Joshua Handler, "NRDC Nuclear Notebook: U.S. Nuclear Forces, 2002," \textit{Bulletin of the
Atomic Scientists} (May-June 2002), 70-75.
U.S., which planned a reduction of between 2,000-2,500 warheads by 2007. The Bush administration’s emphasis, or lack thereof, for nuclear reductions has been codified with the U.S.-Russia Strategic Offensive Reductions Treaty (SORT, commonly referred to as the Treaty of Moscow). Under Article 1 of SORT, the parties agree that by December 31, 2012, the “aggregate number of...[strategic nuclear warheads] does not exceed 1,700-2,200 for each party”. But the Clinton administration also began a policy of maintaining a “hedge” against the prospect of unexpected threats in the near future. Currently, the Bulletin of the Atomic Scientists estimates that there are 10,600 nuclear warheads in the U.S. stockpile, of which 2,700 are inactive.

The Bush administration’s NPR has simply refined the maintenance system of and the terminology for a large nuclear inventory. The Nuclear Posture Review divides the U.S. nuclear arsenal into three parts. First, there is the “operationally deployed nuclear forces”. This is the commonly cited force structure of 1700-2200 warheads, and would include warheads operationally deployed and warheads associated with weapon systems under overhaul. If one is to add the 800 non-strategic warheads and the additional 200 warheads from two Trident SSBNs expected to be in port for repairs, the total amount of deployed nuclear forces would be 3,200. Secondly, there is the “responsive nuclear forces”. This force, which is simply a renamed “hedge” force, would be intended to “provide a capability to augment the operationally deployed force to meet potential contingencies”.

256 The NPR does not specify how large the responsive force will be. According to one analyst, the amount of warheads in the responsive force should total 2,400 warheads. See Sokolsky, “Demystifying the US Nuclear Posture Review,” 141.
“active stockpile”. The third part would be the “inactive stockpile” of about 5,000 warheads, which do not have limited life components like tritium installed and “may not have the latest warhead modifications”\textsuperscript{257}.

By incorporating non-nuclear capabilities, the second component of the New Triad is a sharp departure from the old nuclear Triad and, in many ways, is based on the realization that modern conventional weapons can have a strategic impact.\textsuperscript{258} This is linked to the ongoing RMA, which has increasingly focused on long-range precision-guided weapons, a modernized C3I infrastructure, and informational offensive operations. As the QDR points out, a multifaceted approach to deterrence and coercion requires “enhancing the future capabilities of forward deployed and stationed forces, coupled with global intelligence, strike, and informational assets”.\textsuperscript{259} In addition, the U.S. military currently has plans to further reduce its dependence on forward bases by developing global strike systems that can deliver weapons through or from space. Such advanced weapon systems include: kinetic anti-satellite (ASAT) weapons; directed-energy weapons, such as the Space-based Laser\textsuperscript{260}; and weapons that travel through space such as the military space plane (MSP) and the conventional intercontinental

\textsuperscript{257} Nuclear Posture Review, 31-32. The figure of 5,000 warheads in the inactive stockpile comes from Civiak, “More Work for the Weapons Labs,” 15.

\textsuperscript{258} For an example of conventional strategic threats, see Richard Sokolsky “Non-apocalyptic Proliferation: A New Strategic Threat?” The Washington Quarterly, 17, 2 (Spring 1994) and Brad Robert “From Nonproliferation to Antiproliferation,” International Security, 18, 1 (Summer 1993), 139-173.

\textsuperscript{259} Department of Defense, Quadrennial Defense Review, 12. Strike refers to nature of the military objectives sought, rather than the type of weapons used. As such, it can include not only long-range precision-guided attacks delivered from aircraft or missiles, but also ground and naval attacks. By emphasizing the objectives rather than the weapons used, this approach is similar to the current U.S. approach to tactical and strategic use rather than weaponry (see footnote 44).

\textsuperscript{260} The project managers for the Army’s Kinetic Energy Antisatellite (KE-ASAT) program were expecting to receive an additional $60 million in funding for a flight test in 2004. While this request was cancelled, the FY2004 budget request does have $14.7 million for R&D on ‘space control’ and $82.6 million for ‘counterspace technologies’. Regarding directed-energy weapons, the FY2003 budget did appropriate $598 million for the Airborne Laser and $24.8 million for the Space-based Laser. See Michael Krepon with Christopher Clary, Space Assurance or Space Dominance? The Case Against Weaponizing Space (Washington D.C.: The Henry L. Stimson Center, 2003). While the directed-energy programs are part of the BMD deployment, such programs are also intimately linked to the movement towards ‘space dominance’. See David Wright and Laura Grego, “Anti-Satellite Capabilities of Planned US Missile Defence Systems,” Disarmament Diplomacy, 68 (December-January 2003), at http://www.acronym.org.uk/dd/dd68/68op02.htm.
ballistic missiles (CICBMs), both of which would carry a number of the Manoeuvrable Non-Nuclear Reentry Vehicles (MNNRVs) and/or the Common Aero Vehicles (CAVs).\textsuperscript{261}

The combat missions associated with conventional strike options of the New Triad, much like the missions associated with the development of new nuclear weapons, are based on two inter-related security developments. The first development is the growth of what has been termed HDBTs. According to the Report to Congress on the Defeat of Hard and Deeply Buried Targets, a HDBT refers to an adversary’s threatening and protected assets in “structures ranging from hardened surface bunker complexes to deep tunnels”\textsuperscript{262}. The intelligence community suspects that “there are over 10,000 potential HDBTs worldwide and their numbers will increase over the next 10 years”\textsuperscript{263}. To neutralize these targets, the Pentagon has been developing and deploying advanced conventional weapon systems. These include kinetic penetrators, small diameter bombs, active kinetic penetrators, hard target smart fuses, precision-guided munitions, and microwave weapons\textsuperscript{264}.

\textsuperscript{261} See Western States Legal Foundation (WSLF), “The Shape of Things to Come: The Nuclear Posture Review, Missile Defense, and the Dangers of a New Arms Race,” WSLF Report (April 2002) and WSLF, “The Military Space Plan, Conventional ICBMs, and the Common Aero Vehicle: Overlooked Threats of Weapons Delivered Through or From Space,” WSLF Information Bulletin (Fall 2002). According to the National Security Space Roadmap, the MNNRV would rely on manoeuvres and a high reentry rate to evade defenses. This would allow for precision attacks against hard surface and HDBTs. This RV seems to be based on the Reagan administration’s research on a nuclear MARV. That the development of the MNNRV can greatly increase the U.s. nuclear capability goes without saying. The CAV would provide high manoeuvrability and be able to deliver an assortment of advanced types of armaments that can currently only be delivered by aircraft.

\textsuperscript{262} Department of Energy and Department of Defense, Report to Congress on the Defeat of Hardened and Deeply Buried Targets (Washington D.C.: Department of Energy and Defense, July 2001), 8 (hereinafter entitled Report to Congress). The Report identifies two types of facilities. There is the shallow “cut and cover” design, which would have a concrete structural overburden of less than 10 feet of thickness to protect tactical facilities, and the much harder facilities with strategic functions, which could have a concrete overburden equivalent to 70 to 300 feet, redundant ventilation, power, and communications systems, and sophisticated camouflage, concealment, and deception (CCD) techniques. See Ibid., 8-9.

\textsuperscript{263} Ibid., 8. While the exact location of these HDBTs are still not known, there is evidence of such hard to destroy targets in both Iraq and North Korea. For examples of Iraq, see Haselkorn, The Continuing Storm, 64-65. For examples of North Korea, see Saunders, “Military Options for Dealing with North Korea’s Nuclear Program”.

The second development is closely related to HDBTs: the threat posed by chemical and biological weapons, and the need to destroy their facilities and neutralize the agents in order to reduce collateral damage. While these facilities are housed in HDBTs, especially those protecting important strategic functions, it should also be noted that the physical destruction of a HDBT is not enough if the CB weapons “remains viable or is released into the environment”\(^{265}\). For that reason, the U.S. Air Force has a Agent Defeat Weapon Program that focuses on the “capability to destroy, neutralize, immobilize, or deny an adversary’s access to” CB agents.\(^{266}\) This has led to the development of chemical neutralization, high-temperature incendiary weapons (i.e. fuel-air explosives and thermobaric weapons), and low-blast high-fragmentation weapons.\(^{267}\)

The incorporation of conventional weapons in the New Triad’s strategic framework will have a potential impact on the future development of the SIOP, a nuclear targeting document known for its resistance to change. While this could have important consequences on the development of an increasingly sophisticated and integrated Battle Management/C\(^3\)I system, it remains to be seen whether the SIOP can indeed incorporate non-nuclear capabilities. Additionally, the potential benefits of conventional strike options should be noted. As Donald Rumsfeld pointed out, “The addition of non-nuclear strike options...means that the U.S. will be less dependent than it has been in the past on nuclear forces to provide its offensive deterrent capability”\(^{268}\). This view is reiterated even among those critical of the NPR: “It is nevertheless notable that this is the first statement of nuclear policy that acknowledges that conventional weapons could take the place of nuclear missions”\(^{269}\).

\(^{265}\) Report to Congress, 9.
\(^{266}\) Ibid., 19.
\(^{268}\) Nuclear Posture Review, 1.
\(^{269}\) Janne Nolan, “Parsing the Nuclear Posture Review: An ACA Panel Discussion,” Arms Control Today (March 2002). Other analysts who agree with this aspect of the 2002 NPR include Richard Sokolsky and Kurt Guthe. See
While it can be argued that the increased role of conventional weapons in the New Triad promotes non-nuclear strategic strike options, the prominence of nuclear weapons in the NPR limits this argument. Problems exist in using conventional weapons for the defeat of both HDBTs and CB agents. According to the NPR, current conventional weapons can only “deny” or “disrupt” the functioning of HDBTs, and “are not effective for the long term physical destruction of deep, underground facilities”\(^{270}\). One can also note the utility of nuclear weapons: “Nuclear weapons have a unique ability to destroy both agent containers and CBW agents”\(^{271}\). However, it has been noted that the current U.S. arsenal “will still not be able to hold all known or suspected HDBTs at risk for destruction, especially the deep underground facilities”\(^{272}\). To be sure, the Clinton administration did develop and deploy the B61-modification 11, an EPW based on an already-existing weapon. However, the B61-11 is a non-precision weapon that “cannot survive penetration into many types of terrain in which hardened underground facilities are located”\(^{273}\). For that reason, the NPR advocates the development of a more effective EPW that could neutralize HDBTs. This could be either a lower yield warhead in order to produce less fallout or penetrating large yield warheads for the “defeat of very deep or larger underground facilities”\(^{274}\).

In contrast to the trend towards the destruction of useable tactical or battlefield nuclear weapons, as evident in the 1991 and 1992 presidential nuclear initiatives, the current Bush administration seems fixated on the possibility of developing useable tactical nuclear weapons.\(^{275}\)

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\(^{271}\) Nuclear Posture Review, 47.

\(^{272}\) Report to Congress, 19.

\(^{273}\) Ibid., 6. The report goes on to note that the current nuclear weapons stockpile was not developed for earth-penetration or agent-defeat missions in mind. See Ibid., 19.

\(^{274}\) Nuclear Posture Review, 47. For more on this weapon, see Los Alamos Study Group, “B61-11 Concerns and Background,” (February 10, 1997), at http://www.brook.edu/dybdocroot/FP/PROJECTS/NUWCOST/lasg.htm and Nelson, “Low-Yield Earth-Penetrating Nuclear Weapons”.

\(^{275}\) Ibid.
While the NPR has yet to become official policy, the development of nuclear EPWs has already begun with the establishment of advanced concept teams at the three U.S. nuclear weapons laboratories by the National Nuclear Security Administration (NNSA). The Robust Nuclear Earth Penetrator (RNEP), which is the Bush administration's EPW project, currently is receiving $15.5 million funding under the National Defense Authorization Act of FY 2003. An additional $15 million is being requested for the FY2004 budget.

It is noteworthy that the EPW concepts are not considered new nuclear weapons. While EPWs do certainly carry out new missions, they are based on the modification of an existing warhead or the design of a new warhead. This allows the administration to skirt around the 1993 Furse-Spratt amendment to the 1994 Defense Authorization Act, which made it U.S. policy “not to conduct research and development which could lead to the production by the United States of a new low-yield nuclear weapon, including a precision low-yield warhead.” A low-yield nuclear warhead was one with a yield of less than 5 kilotons. The same cannot be said for the potential development of a ‘mini-nuke,’ which would have a yield of five kilotons or less, have a completely new warhead design.

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278 “Prohibition on Research and Development of Low-Yield Nuclear Warheads,” Section 3136, FY1994 Defense Authorization Act (Public Law 103-160), quoted in Charles D. Ferguson and Peter D. Zimmerman, “New Nuclear Weapons?” Center for Nonproliferation Studies (May 28, 2003), at http://cns.miis.edu/pubs/week/030528.htm. It should also be noted that the Bush administration is currently, and it appears successfully, pushing for the House of Representatives and the Senate to repeal the decade long amendment prohibiting mini-nuke research and development. This is only the most successful and recent attempt to eliminate or mitigate this ban. For instance, in the spring of 2000, nuclear weapons advocates in the Senate attempted to add a provision to the Defense Authorization Bill aimed at loosening these restrictions. The provision that eventually passed called for a study on the defeat of HDBTs, with the Defense and Energy Departments authorized to conduct research and development necessary for the study. Western States Legal Foundation (WSLF), “Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and ‘Mini-Nuke’ Development,” WSLF Information Bulletin (Winter 2001), 6.
and would require the U.S. to conduct nuclear tests. It appears that the Bush administration is currently, and it appears successfully, pushing for the House of Representatives and the Senate to repeal the decade long amendment prohibiting mini-nuke research and development. According to the FY2004 Department of Defense budget request, repealing the ban on mini-nukes would permit “exploration of weapons concepts that could offer greater capabilities for precision, earth penetration...defeat of chemical and biological agents, and reduced collateral damage.” While the NPR does not explicitly mention the need for mini-nukes, current developments such as the FY2004 budget request of $6 million for the study of new nuclear weapons under the Advanced Concepts Initiative program and the movement towards modernizing the U.S. nuclear infrastructure under the third-leg of the New Triad points to the potential development of these smaller, more useable nuclear weapons.

Defenses (Passive and Active)

The New Triad differs sharply from the nuclear Triad by incorporating defenses as an integral component. According to Donald Rumsfeld, this signifies “a recognition that offensive capabilities alone may not deter aggression in the new security environment of the 21st century.” Defenses are divided into both passive and active defenses. Passive defenses “protect against missile and air attack by means of concealment, hardening, redundancy, warning, dispersal, mobility, and other measures.” Civil defense preparations could be instituted in order to protect civilians against NBC attacks. The wisdom of such passive measures is reiterated.

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281 Nuclear Posture Review, 2. In that regard, the Bush administration seems to have followed Keith Payne’s argument on the uncertainty of deterrence and dangers of undeterrable enemies. See Payne, The Fallacies of Cold War Deterrence.
282 This is according to a definition in the Joint Chiefs of Staff, Joint Doctrine for Countering Air and Missile Threats, Joint Publication 3-01 (Washington, DC: Joint Chiefs of Staff, October 19, 1999). Quoted in Guthe, “The Nuclear Posture Review,” 3.
by Richard K. Betts, who states that minor measures can increase protection or recovery from NBC attacks. Examples of such measures include:

stockpiling or distribution of protective masks; equipment and training for decontamination; standby programs for mass vaccinations and emergency treatment with antibiotics; wider and deeper planning of emergency response procedures; and public education about hasty sheltering and emergency actions to reduce individual vulnerability.  

The cost effectiveness of such measures stands in sharp contrast to the Cold War. This should come as no surprise. During the Cold War, civil defenses were impossible due to the massive amount of damage that could be caused by even a limited nuclear attack from the Soviet Union.  

In contrast, the post-Cold War threat of rogue states and (as clearly demonstrated in 9/11) terrorist organizations, with their limited though growing offensive capabilities, makes damage limitation using passive defense measures both more cost-effective and less controversial.

The same cannot be said of active defenses, perhaps one of the most controversial ideas during the Cold War, and the defense system that is given the most weight in the NPR. According to the NPR, the mission of missile defense is to “protect all 50 states, our deployed forces, and our friends and allies against ballistic missile attacks.” It goes on to mention that, aside from the PAC-3 tactical system, no other BMD system is scheduled for immediate deployment. However, it does mention three options that are currently under consideration:

284 Despite the view of some nuclear hawks, it seems probable that damage limitation through passive defenses, a BMD system, and the capability of a “splendid first strike” against either its nuclear forces or the “decapitation” of its command and control of its forces was impossible. See Ross, Coping with Star Wars, Chp. 1-2 and Steinbruner, “Nuclear Decapitation,” 16-28.
285 The difference in emphasis between passive and active defenses is striking. Passive defenses are mentioned briefly, but in no detail. In contrast, the NPR does go into specific details as to its BMD plans. It also should be noted that, while the NPR only mentions BMD systems, other defenses currently contemplated by the U.S. include cruise missile defense, space defense, and cyber-defense. See Donald Rumsfeld, “Transforming the Military,” Foreign Affairs, 81, 3 (May-June 2002), 29.
A single Airborne Laser for boost-phase intercepts...against ballistic missile of all ranges;
A rudimentary ground based midcourse system, consisting of a small number of interceptors taken from the test program and an upgraded Cobra Dane radar in Alaska against longer-range threats;
A sea-based Aegis system...to provide rudimentary midcourse capability against short to medium-range threats.\textsuperscript{287}

The proposed system would be a multi-layered one designed to use a "hit-to-kill" interceptor vehicle to attack the missile in all stages of its trajectory. This trajectory can be divided into three parts\textsuperscript{288}. During a boost-phase interception, the kill vehicle (KV) would intercept the missile five minutes after launch and before the missile leaves the atmosphere. This is normally considered the easiest phase for an attack due to the heat of the engine and the lack of decoys and countermeasures.\textsuperscript{289} During the midcourse-phase interception, the KV would hit the missile in space during its "transit". This is considered the most difficult phase for interception due to the speed of the missile and the amount of possible countermeasures that can be released.\textsuperscript{290} Lastly, a terminal-phase system would hit the warhead as its reenters the atmosphere. While there would be little room for error, this interception does have advantages by lessening the amount of potential countermeasures and decoys by exploiting the filtering affect of the atmosphere.

The NPR's plans for BMD are also noteworthy by combining two separate but interrelated aspects of BMD: a theatre missile defense system and a national missile defense system. It should be noted that this division was used to justify the continued development of BMD despite the 1972 ABM Treaty. For instance, an NMD system would clearly violate Article 1(2)

\textsuperscript{287} Ibid., 26.
\textsuperscript{288} This three-part division is summarized from Helen Caldicott, The New Nuclear Danger: George W. Bush's Military-Industrial Complex (New York: The New Press, 2002), 82.
\textsuperscript{289} Some scholars have stated that this interception would be the least alarming to Chinese and Russian nuclear forces. See Glaser and Fetter, "National Missile Defense," 40-92.
\textsuperscript{290} For more on countermeasures, see Wilkening, Ballistic Missile Defence, Chp. 1.
of that Treaty, which states: “Each party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense”\textsuperscript{291}. Theater missile defense (and air defense) systems would be compatible with the ABM Treaty if it complies with Article 6, whereby each Party undertakes “not to give missiles, launchers, or radars...capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode”. Of course, it must be said that some TMD systems under development did have a potential ABM capability.\textsuperscript{292} An example of such dual systems is the Navy Theatre Wide system.\textsuperscript{293} While an attempt was made to apply constraints to TMD systems under a 1997 protocol, which ‘supposedly’ limited the targets to less than 5 km/sec and to ranges no longer than 3,500 km, this demarcation agreement sidestepped the ABM’s injunction “by applying the constraints to the target and not the interceptor”.\textsuperscript{294}

On June 13, 2002, the Bush administration effectively ended the ambiguity regarding NMD and its projected limits by withdrawing from the ABM Treaty under the “supreme interests” clause under Article 15(2). Other changes included merging the TMD and NMD systems into a single global program and, to prevent the perception of a strategic decoupling from Europe, increasing the role of allies in the creation of a global ballistic missile defense

\textsuperscript{291} The text of the ABM Treaty can be found at James Wirtz and Jeffrey Larsen, eds., Rockets' Red Glare: Missile Defenses and the Future of World Politics (Boulder, CO: Westview Press, 2001), 297-302. However, Article 3 of the Treaty does stipulate that the US is allowed to deploy an ABM system centered on the Party’s capital and an area containing ICBM silo launchers. This was later changed to one site with the 1974 Protocol to the ABM Treaty, which can be found at Ibid., 312-314.

\textsuperscript{292} This point is made crystal clear in the NSD-23, which states that “some of the systems we are pursuing, such as boost-phase defenses, are intended to be capable of intercepting missiles of all ranges, blurring the distinction between theater and national missile defenses”.


Rather than a final or fixed missile defense architecture against specific targets, the Bush administration advocated fielding various BMD capabilities as they become available, in effect, an evolutionary approach to missile defense. To contribute to this goal, Secretary of Defense Donald Rumsfeld reorganized the Clinton administration’s Ballistic Missile Defense Organization (BMDO) into the new Missile Defense Agency (MDA). As pointed out by Rumsfeld in early January 2002, the missile defense objectives were “First, to defend the U.S., deployed forces, allies, and friends. Second, to employ a Ballistic Missile Defense System (BMDS) that layers defenses to intercept missiles in all phases of their flight...against all ranges of threats. Third to enable the Services to field elements of the overall BMDS as soon as practicable”.

The objectives were later codified under NSPD-23.

The NPR envisions a BMD system in the 2006-2009 period to include 2-3 Airborne Laser aircraft, additional ground-based midcourse sites, 4 sea-based midcourse ships, and terminal systems like the PAC-3 (deployment in 2001) and the THAAD (deployment in 2008). The current Defense Support Program (DSP) space-based launch detection system will be changed to a Space-Based Infrared System (SBIRS), of which there are two types. The SBIRS-Low element will be deployed in low earth orbit in order to detect cold warheads and penetration aids through the midcourse-phase and rocket exhaust during the boost phase. This element has recently been renamed the Space Tracking and Surveillance System (STSS). The SBIRS-High...

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295 The strategic decoupling problem stems from the possibility that NMD and U.S. protection would become operational prior to a regional missile defense architecture for Europe. Given the threat posed by intermediate range ballistic missiles (IRBMs) to European nations, this could lead to a ‘window of vulnerability’ for European nations and the (albeit) temporary disengagement of the U.S. from European security. For more on this issue, see James Fergusson, “The Coupling Paradox: Nuclear Weapons, Ballistic Missile Defense, and the Future of the Transatlantic Relationship,” in NATO and European Security: Alliance Politics from the End of the Cold War to the Age of Terrorism, eds. Alexander Moens, Lenard J. Cohen, and Allen G. Sens (Westport, CT: Praegar Publishers, 2003), 153-172. It seems probable that the Bush administration’s emphasis on a global BMD system has mitigated this fear. While the exact relationship between the U.S. and Europe in a missile defense architecture cannot at this time be known, collective responses in terms of an extended integrated air defense (EIAD), with a missile defense component, and a U.S.-NATO Integrated Tactical Warning/Attack Assessment (ITWAA) are certainly possible.


element will consist of “launch detection satellites in geostationary and highly elliptical orbits.”

The initial set of capabilities planned for 2004-2005 would include: up to 20 ground-based interceptors at Ft. Greely, Alaska (16 interceptors) and Vandenberg Air Basee, California (4 interceptors) for midcourse interception under the Ground-based Midcourse Defense (GMD) system; up to 20 sea-based interceptors for midcourse interception under the Sea-based Midcourse Defense (SBM) system; the deployment of numerous PAC-3 tactical missile defense systems; and various land, sea, and space-based sensors.

Concepts such as numerous miniature kill vehicles on one interceptor or satellites armed with interceptors for boost-phase intercepts, with the objective of deployment of three to five satellites for testing purposes in 2008, are also being studied. Following the FY2003 budget request of $8.3 billion for missile defense, of which it received $7.8 billion, the FY2004 budget request includes $9.1 billion on missile defense. Most of this budget ($7.7 billion) would go to the MDA while $1.4 billion would help fund the Army’s PAC-3 program.

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299 Under the GMD program, the Pentagon is planning to deploy five test missile interceptors at Ft. Greely by September 2004. Under the SBM program, the Pentagon plans to deploy four ships outfitted with a midcourse defense between 2006 and 2009. Testing the SBM system against long-range missiles will begin in 2007 or 2008. The planned sensor systems include existing early-warning satellites, an upgraded radar at Shemya, Alaska, a new sea-based X-band radar, and upgrades to early-warning radar on British and Danish territory. While the British have agreed to allow the upgrade to the Fylingdales early-warning radar, the Danish government has yet to answer the request for upgrades at the Thule, Greenland radar. See Wade Boese, “Missile Defense Post-ABM Treaty: No System, No Arms Race,” Arms Control Today (June 2003); Arms Control Association, “U.S. Missile Defense Programs at a Glance,” Arms Control Association Fact Sheet (June 2002); and Department of Defense, “Missile Defense Operations Announcement,” Department of Defense News Release, No. 642-02 (December 17, 2002), at http://www.defenselink.mil/news/Dec2002/b121272002_6t42-02.html.


301 Interestingly, the Air Force’s SBIRS-high satellite system is not included in the $9.1 budget (it received an additional $617 million). The separation of SBIRS-high from the MDA is probably the reason why the NPR only mentions the SBIRS-low or, as it is now called, the SSLS. For more on the budget, see Wade Boese, “Pentagon Asks for $9.1 Billion in Missile Defense Funding,” Arms Control Today (March 2003).
In the end, while the Bush administration's plans for a BMD system has encountered problems, it seems likely that it will eventually consist of more interceptors and interceptor sites than either of Clinton's two deployment plans. However, one large caveat is in order. While the development of missile defense has certainly advanced quite dramatically since the Sentinel and Safeguard programs and Reagan's Strategic Defense Initiative, the technical hurdles facing this leg of the Triad are significant. This assessment is based on the exorbitant costs of the program, the lack of adequate testing, and the potential for far more cost-effective countermeasures. For that reason, Kurt Guthe labels it "the most uncertain part of the New Triad".

Revitalized Defense Infrastructure

The NPR makes clear that a revitalized defense infrastructure is a necessary component of the New Triad. And given the fact that the New Triad consists of both nuclear and non-nuclear elements, it seems likely that this leg should be viewed as consisting of the entire defense infrastructure (rather than simply the nuclear component). In effect, one of the purposes of the New Triad is to maintain the U.S. military's overwhelming advantage in the RMA. However, the NPR does pay particular attention to the infrastructure of its nuclear platforms. Numerous problems with the current infrastructure are identified:

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302 The Capability 1 (C1) plan calls for 100 interceptor, new X-band radars, and upgrades of various early-warning radars around the world (namely in the U.S., Greenland, South Korea, and the United Kingdom). The Capability 2 (C2) plan would add 3 more X-band radars, interceptor missile upgrades, an expanded communications infrastructure, and the SBIRS-Low satellite constellation. It seems likely that the Bush administration might have more than one interceptor site, which is commonly called the Capability 3 (C3) option.


305 This view can be found in Rumsfeld, "Transforming the Military," 20-32. For example, Rumsfeld states: "the United States must work to build up its own areas of advantage, such as our ability to project military power over a long distance, our precision-strike weapons, and our space, intelligence, and undersea warfare capabilities (25).
solid rocket motor design, development and testing; technology for current and future strategic systems; improved surveillance and assessment capabilities; command and control platforms and systems; and design, development, and production of radiation-hardened parts.\textsuperscript{306}

Perhaps most controversially, the NPR sees the need for the nuclear infrastructure to have a revitalized capability to manufacture and test new warheads. As the NPR states, there is the need for a nuclear weapons complex that will be able to “design, develop, manufacture and certify new warheads in response to new national requirements; and maintain readiness to resume underground nuclear testing if required”\textsuperscript{307}. This leg of the new Triad is therefore strongly connected to the first-leg, specifically the potential development of miniature nuclear weapons that are less than 5 kiloton in size. While the NPR does not explicitly condone the development of such “mini-nukes,” the revitalization of U.S. nuclear infrastructure under the NPR does seem indicative of a decision to develop such weapons or, at least, to have the potential to develop such weapons on short notice. As John Gordon, the Under Secretary for Nuclear Security and Administrator for the NNSA points out, “it may be appropriate to design, develop and produce a small build of prototype weapons both to exercise key capabilities and to serve as a ‘hedge,’ to be produce in quantity when deemed necessary.”\textsuperscript{308}

While it is difficult to assess the changes underway in the U.S. nuclear infrastructure, the Bush administration’s FY2003 budget request for the Stöckpile Stewardship Program calls for $5.9 billion, which is twice that of 1995 ($2.9 billion), and nearly one and one-half times the $4.1 billion (in 2003 dollars) spent on average during the Cold War.\textsuperscript{309} The FY2004 budget request calls for $6.38 billion for the Department of Energy’s nuclear weapons related

\textsuperscript{306} Nuclear Posture Review, 30.
\textsuperscript{307} Ibid.
\textsuperscript{308} John A. Gordon, Statement to the Senate Committee on Armed Services (February 14, 2002), in “Documentation” Comparative Strategy, 21 (2002), 149-160.
activities. The NNSA seems to have plans to refurbish all 8 types of nuclear warheads, and to make "substantial modifications to every nuclear weapon in the enduring stockpile." Work on advanced nuclear weapons research and production facilities has already begun. On April 22, 2003, the Los Alamos National Laboratory announced the creation of the first plutonium pit since 1989; this signifies the re-establishment of U.S. capability to remake or produce new plutonium cores for nuclear weapons, a capability that was lost with the closure of the plutonium pit facility at Rocky Flats, Colorado in 1989. This is only one component of a larger, more ambitious Bush administration plan to obtain a significant pit production capability. For example, the Bush administration plans to build the Modern Pit Facility, which will allow the U.S. to produce 125 pits per year.  

While the NPR states that it supports the continued nuclear testing moratorium, and only seeks to move the readiness time down to a year or less, the Report's emphasis on new nuclear capabilities indicates a strong potential for renewed nuclear testing. This view has been supported by comments by Dr. Dale Klein, the assistant to Donald Rumsfeld for nuclear, chemical, and biological defense programs: "As time goes on there will likely have to be some tests performed beyond the small scale". This emphasis on nuclear testing is reiterated in a two-page memorandum circulated to members of the Nuclear Weapons Council (NWC) by E. C. Aldridge Jr., undersecretary of defense for acquisition, technology, and logistics. This memo "urges the U.S. nuclear weapons laboratories to assess the technical risks associated with

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311 Ibid., 13.
312 Christine Kucia, “U.S. Produces First Plutonium Pit Since 1989,” Arms Control Today (May 2003). Other facilities under development include the National Ignition Facility (NIF), the Dual Axis Radiographic Hydrotest Facility, and pulsed power technology facilities. This data, alongside data from subcritical tests, are planned to be integrated through the Accelerated Strategic Computing Initiative (ASCI), a multi-billion dollar supercomputing program incorporating the U.S.'s leading universities. See WSLF, “The Shape of Things to Come,” 6.
313 Quoted in Jace Radke, “Defense Official: Nuke Tests at NTS Are Likely,” Las Vegas Times (August 14, 2002), at http://www.nukewatch.org/media/more_media/08-00-02/08-12-02/nukeTests.html The article refers specifically to possible underground nuclear tests at the Nevada Test Site (NTS) in the next decade.
maintaining the U.S. nuclear arsenal without nuclear testing.” The memo was followed by a January 10 meeting of significant nuclear weapons managers to plan for a NWC “Stockpile Stewardship Conference”. The notes of the meeting, which were obtained by the Los Alamos Study Group, indicates a desire to study the need to make testing modifications in order to build the new kinds of nuclear weapons advocated in the NPR. Following from that perspective, the FY2003 budget request contained two specific requests: the Nevada Test Site Readiness request for $36.592 million and the Enhanced Test Readiness request for $15 million.

The New Triad strategic concept has been criticized for departing from the Cold War consensus on deterrence and the role of nuclear weapons. It has even been criticized for being a sharp departure from the Clinton administration’s nuclear strategy and concept of deterrence. While the strategy is certainly novel in many of its characteristics, many of its changes are based on past developments in U.S. nuclear doctrine and nuclear weapons policy. On the one hand, the Bush administration’s fixation on the threat posed by NBC-armed rogue states has its origins in the post-Cold War period. On the other hand, many of the nuclear policy developments in the post-Cold War period originated in the periodic U.S. attempts to escape from the implications of MAD and nuclear parity during the Cold War. This has led to a disjunction between nuclear doctrine and nuclear weapons policy. While the nuclear doctrine of the 1990’s was not directed explicitly at rogue states, with the exception of a few controversial doctrinal statements and directives under the Clinton administration, operational nuclear weapons policy had indeed incorporated such threat possibilities early in the post-Cold War period.

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315 The minutes of the meeting can be found at http://www.lasg.org/StockpileStewardshipReview%5b1%5d.htm.
316 Analysis of this request can be found at Crandall, “The Bush Nuclear Posture Review’s First Budget”.
Chapter Four: Implications of an Asymmetrical Deterrence Strategy

If one accepts the premises underlying the strategy, specifically the need to address the strategic nature of the rogue state threat, the U.S. post-Cold War approach to deterrence does indeed seem both attractive and logical. However, while one should not simply dismiss this strategy as an outlandish and dangerous idea from a hawkish administration, this does not imply that an asymmetrical deterrence strategy should be uncritically accepted. Like most policy prescriptions, there are problems and implications to an asymmetrical strategy that must be taken into consideration.

Two problems in particular can be discerned. On one hand, while an asymmetrical strategy might seem to be a logical prescription for what the U.S. perceives as an asymmetrical rogue state threat, the adoption of such a strategy may have consequences that are contrary to the very goals of the strategy. In other words, the strategy may be self-defeating. On the other hand, while this strategy is purposely directed at the threat posed by NBC-armed rogue states, the potential impact of asymmetrical deterrence on states like Russia and China should not be discounted. While both states maintain significantly more robust conventional and non-conventional forces than rogue states, and are clearly not treated in the same category, it is likely that the changes in U.S. nuclear strategy will have a significant impact on the military posture of these states and their relations to the United States. Unfortunately, this impact will most likely be detrimental. In the end, prior to accepting the necessity for such a strategy, the potentially negative trade-offs should also be addressed and taken into consideration. As Scott Sagan states, an analysis of such trade-offs is rarely done due to the "bifurcated nature of the current debate".\(^{318}\)

This chapter will undertake a preliminary examination of the feasibility and wider implications of the adoption of an asymmetrical deterrence strategy. The chapter will be divided

\(^{318}\) Sagan, "The Commitment Trap," 90.
into two sections. First, while the premise of a ‘strategic’ rogue state threat forms the basis of
the U.S. asymmetrical deterrence strategy, the fixation on this threat limits the policy options
available to the United States, and could lead to unintended and detrimental outcomes. A good
example is the impact of asymmetrical deterrence on the non-proliferation regime. While the
Bush administration in particular seems disinclined towards accepting non-proliferation
measures as a means to mitigate the threat posed by rogue states, this perspective should not be
accepted without some more fundamental analysis of the regime. Second, the myopic fixation on
the security threat posed by rogue states, and the attendant unilateral impulse to deal with these
threats, makes it likely that the implications of this grand strategy on U.S. relations with
established nuclear states have not been fully appreciated, and might indeed be detrimental to
U.S. interests. In the end, while these implications do not necessarily negate the wisdom of
adopting an asymmetrical strategy vis-à-vis NBC-armed rogue states, it does necessitate some
greater reflection and consideration of potentially negative trade-offs.

NBC-Armed Rogue States and the Distortion of U.S. Interests

Perhaps the key premise underlying the post-Cold War asymmetrical deterrence strategy
is the role of NBC-armed rogue states as strategic threats, the post-Cold War equivalent to the
strategic threat posed by the Soviet Union. By considering rogue states as significant threats,
such a perspective justifies and necessitates the use of extreme and, at least to some,
controversial measures for ameliorating the threat environment. In addition, alternative measures
such as non-proliferation and conventional deterrence become relegated to secondary options for
dealing with the threat in question.

While the threat posed by NBC-armed rogue states to the U.S. is certainly overestimated
by some advocates of the new strategy, and has therefore often been justifiably criticized, one
should not simply dismiss or underestimate this threat perception. By being the world’s
remaining superpower, responsible to a large extent for the continued maintenance of international peace and stability, the United States certainly has a strong interest in the stability of certain regions. During the Cold War, this interest was justified and motivated by the perceived need to contain the Soviet threat. Through its strategy of containment, the U.S. developed an interest in the stability of certain regions in order to provide a bulwark against communist expansion. As President Carter made clear during the Soviet invasion of Afghanistan in what has become known as the Carter Doctrine:

Any attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America and such an assault will be repelled by any means necessary including military force.  

While the U.S. did have underlying interest in certain regions independent of the Soviet threat, the Latin American region being the foremost example, the perceived threat of the Soviet Union defined and dominated American regional interests during the Cold War. The only question was the extent of this interest: should it be based on a few key countries and regions or should it be constituted of all states adjacent to the communist bloc in a more ambitious perimeter defense.

If the existence of the communist threat was the primary motivation for the U.S. interest in other regions during the Cold War, the collapse of the Soviet Union has revealed an independent and abiding U.S. interest in the stability of key regions. Two regions in particular stand out. First, the 1995 decision to maintain 100,000 military personnel in the East Asian region, alongside the more recent trend towards strengthening the forward deployment of U.S. forces, indicates a continued post-Cold War interest in the stability of this region. According to

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320 See Gaddis, Strategies of Containment. It seems that the domino theory and the Indochina war indicate that the U.S. gradually moved towards a perimeter defense definition of containment.

321 With the elimination of the overarching Soviet casus belli for this interest, the post-Cold War interest is likely to be more limited and more intrinsic to what the U.S. perceives to be its national interest. Interestingly, this makes it closer to a strong-point defense rather than the Cold War’s more ambitious perimeter defense.
The United States Security Strategy for the East-Asia and Pacific Region 1998, this engagement provides “an opportunity to help shape the region’s future, prevent conflict and provide the stability and access that allows us to conduct approximately $500 billion a year in trans-Pacific trade”. While this interest is particularly acute in Northeast Asia, as evident in the U.S. forward deployed bases in Japan and the Republic of Korea, the U.S. also maintains a keen interest in the affairs of Southeast Asia. This is due primarily from the region’s strategic location. As the Council on Foreign Relations’ Independent Task Force points out, Southeast Asia is home to almost 525 million people, has a GNP of more than $700 billion, is the largest U.S. trading partner, and has a growing number of democratically-elected governments. Furthermore,

Southeast Asia continues to retain its geopolitical importance to U.S. national interests and global strategy. The sea-lanes that pass through its territory remain vitally important to the economics of Japan and the Republic of Korea... as well as to the United States and to China. The enduring American interest in seeking to prevent any hegemonic power or coalition from emerging within or outside the region still prevails.

A good example of a highly important sea line of communication (SLOC) in the Southeast Asian region is the Straits of Malacca, which is estimated to have 600 ships in both directions and twenty percent of the world’s oil passing through every day. From a military perspective, such

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324 See Sudha Ramachandran, “India signs on as Southeast Asia watchdog,” Asia Times (April 5, 2002), at http://www.atimes.com/ind-pak/DD05Df01.html. It should be noted that there are two heavily trafficked sea lanes that intersect in Southeast Asia. The first connects the Indian and Pacific Ocean and the second connects Australia and New Zealand to Northeast Asia. The three straits or chokepoints for these SLOCs are the Strait of Malacca, the Sunda Strait, and the Straits of Lombok and Makassar. Furthermore, the three Southeast Asian states are adjacent to these chokepoints, namely Malaysia, Singapore, and Indonesia. See Richard Sokolsky, Angel Rabasa, and C.R. Neu, The Role of Southeast Asia in U.S. Strategy Toward China (Santa Monica, CA: RAND, 2000), Chp. 2.
"sea-lanes are critical to the movement of U.S. forces from the Western Pacific to the Indian Ocean and the Persian Gulf".  

Second, the U.S. interest in the stability of the Middle East and Persian Gulf has continued to grow in the post-Cold War period. This interest is based primarily on the role of the Persian Gulf as a crucial oil producing region. For example, the Persian Gulf region contains more than 60% of world oil deposits, with Saudi Arabia accounting for 25% of global oil reserves, followed by Iraq with 11% and Kuwait, the United Arab Emirate and Iran with 9% each. The continued supply of this oil remains a key necessary condition for the continued maintenance of the global economy. As pointed out by Kenneth Pollack, the loss of this oil and spare production capacity would “drive oil prices to astronomical levels in the short term, causing massive recessions in every nation’s economy because oil is so critical both directly as an input into their transportation, heating, and manufacturing sectors, and also indirectly because of its importance to the advanced Western powers that dominate the world’s trade”. According to Robert Johnson, the need to maintain continuous access to this commodity was first exposed in the Cold War. Three events in particular stand out. First, the 1973 oil embargo by Arab oil producing states first stimulated fears of a prolonged disruption in oil supplies. Second, the 1979 Iranian Revolution not only destroyed the U.S. two-pillar strategy for the Middle East but also triggered another rise in oil prices. Third, as mentioned earlier, the Soviet invasion of Afghanistan stimulated fears of an external threat to the Gulf oil supplies. This last event led the United States to create a Rapid Deployment Joint Task Force (RDJTF), which was subsequently transformed into a permanent U.S. Central Command (CENTCOM) in 1983 under the Reagan administration. While CENTCOM does not have any permanent personnel under its

325 Sokolsky and al., The Role of Southeast Asia, 11.
327 Pollack, The Threatening Storm, 273.
command, it has maintained at least 25,000 troops in the Gulf region since the Persian Gulf War and its budget has increased to over $50 billion since 1990.\footnote{For more on CENTCOM, see Dana Priest, The Mission: Waging War and Keeping the Peace with America's Military (New York: WW Norton & Co., 2003), Chp. 4.}

While fear of an external threat dissipated with the collapse of the Soviet Union, the 1990 Iraqi invasion of Kuwait demonstrated that NBC-armed rogue states, while undoubtedly a diverse group of actors, could conceivably have either the capability or interest to threaten this stability and, therefore, the vital interests of the United States. For example, as noted in a hypothetical scenario by Kenneth Pollack, the destruction of the Saudi oil fields (by the use of an Iraqi nuclear weapon) would in all likelihood cause a global depression.\footnote{For more on this scenario, see Pollack, The Threatening Storm, Chp. 8. Another scenario would be the threat of using NBC weapons against Israel, which would leave Israel the option of either pre-empting or retaliating against Saddam, possibly with nuclear weapons. Such a regional disaster could lead to the U.S. being deterred from acting. For more on this possibility, see Haselkorn, The Continuing Storm.} Such a threat could deter the United States from intervening in the region or, even more dangerously, force the United States to intervene in order to prevent nuclear blackmail by other rogue states.\footnote{The necessity for intervening despite nuclear blackmail is argued in Barry R. Posen, “U.S. Security Policy in a Nuclear-armed World (Or, What if Iraq Had Nuclear Weapons),” Security Studies, 9, 3 (1997), 1-31.} In the case of East Asia, the threat posed by rogue states like North Korea stems from their growing capability to threaten the U.S. forces deployed in the region. As the 1998 Security Strategy document makes clear, “the global proliferation of WMD, the perception that they have both military and political utility and the increasing likelihood of their use -- whether in war, as a tool for political blackmail, or by terrorists -- all serve to increase the threat to U.S. and allied forces in the Asia-Pacific region”.\footnote{Department of Defense, The United States Security Strategy, 47.} In contrast to the Cold War, where U.S. interest was largely defined by the Soviet threat, the post-Cold War U.S. interest in regional stability can be seen as independent of but connected to the rogue state threats to that interest.

That being said, the post-Cold War period has also shown a growing fixation on the threat posed by NBC-armed rogue states. As discussed earlier, the collapse of the Soviet Union
led the U.S. military to begin emphasizing the threat posed by Third World regional powers, particularly states governed by a hostile regime and armed with NBC weapons. In a manner remarkably similar to the Cold War period, the perceived threat of rogue states has begun to overwhelm and distort post-Cold War U.S. interests. In other words, U.S. interests in key regions is becoming increasingly defined by the rogue state threat. The trend towards a myopic fixation on rogue states can lead to policy prescriptions and outcomes that are detrimental to U.S. interests.

For example, while rogue states do seem to pose a threatening challenge to U.S. interests, the threat posed directly to the United States homeland appears to have been overestimated. Despite the conviction of the Rumsfeld Commission, its assessment of the threat posed by rogue states to U.S. territory in the form of NBC weapons mated to long-range ballistic missiles was largely overblown. This tendency for worst-case assessments can also be seen with the faulty intelligence of the extent of Iraq's NBC and ballistic missile programs, which clearly in retrospect was far from an imminent threat.\(^{333}\) While it is certainly difficult to gauge the degree of damage such threat analysis has caused, it is troubling that more substantive threat assessment did not underlie either the counterproliferation war in Iraq or, based on the need to deploy a significant BMD system, the abrogation of the ABM Treaty.\(^{334}\)

Relatedly, the overestimation of the rogue state threat can lead to policy prescriptions that are both infeasible and potentially dangerous. For instance, while the difficulty of successfully deterring a rogue state with nuclear weapons makes pre-emption and prevention an attractive option, the actual feasibility of this doctrine is uncertain. Despite the massive preponderance of


\(^{334}\) However, while the imminent threat justification for deploying a NMD system can certainly be questioned, there is certainly a logic behind this justification. For example, while the threat posed by rogue states to the U.S. remains long-term, any effective NMD would also be a long-term venture. For this assessment, see Fergusson, "The Coupling Paradox," 153-172.
U.S. military power, a pre-emptive strike or preventive strike could easily lead to a general war that is not in the interest of the United States. This can be seen with North Korea, where even the possibility of sanctions in 1994 due to its nuclear weapons program was tinged with the possibility of a major conflict on the peninsula.

Additionally, while the U.S. might actually prefer a general war in certain instances, as the recent case of Iraq seems to indicate, it is more probable that the Iraq case should be seen as *sui generis*. After all, the Gulf War and a decade of sanctions had crippled its capabilities in comparison to other rogue states (with the possible exception of states like Syria and Libya). In other words, the possibility of an overt preventive attack on Iran or North Korea is minimal, which likely explains the growing U.S. interest in regime change through covert means.\(^{335}\) While missile defenses could replace the pre-emptive or preventive war options, in order to support the conventional *retaliation* against NBC-armed rogue states, there is the possibility that the U.S. would overestimate or underestimate the reliability of missile defense. An overestimation on the reliability of missile defense could lead to conventional counterproliferation wars with very negative outcomes. An underestimation of missile defenses could lead the U.S. not to intervene in certain regions, even if its interests necessitate such an intervention.

Lastly, the fixation on the rogue state threat can lead not only to potentially infeasible solutions, but could also limit the policy options available to the United States. This can be clearly seen in the detrimental impact of asymmetrical deterrence on U.S. non-proliferation policy, and the non-proliferation regime as a whole. By explicitly targeting NBC-armed rogue states, which with the probable exception of North Korea constitute non-nuclear weapon states, the U.S. has effectively ended the negative security assurances that were first given out by President Carter in 1978. Rather than the collective, uniform, and binding obligations sought by the NNWSs during the creation of the Non-Proliferation Treaty, these assurances were unilateral.

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security assurances given out by the five official NWS on the non-use of nuclear weapons against a NNWS. With the exception of an attack by a non-nuclear weapon state that is either allied to or aided by a nuclear weapon states, the United States declared that it "will not use nuclear weapons against any non-nuclear-weapon state party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices". These assurances are commonly considered an integral if not codified NWS obligation arising out of the NPT. As George Bunn and Roland Timberbaev point out, "They have been viewed by NNWSs as one of their major requirements for achieving an adequate balance between their obligations and those of the nuclear weapons states". In order to persuade Belarus, Kazakhstan and Ukraine to relinquish nuclear weapons in 1994, and to secure the support of NNWSs for 1995 NPT Review Conference, the U.S. alongside the five declared NWSs forcefully reiterated their negative security assurances in Security Council Resolution 984.

As can be seen by the above discussion, the U.S. emphasis on the nuclear targeting of rogue states, while not necessarily contrary to the international law underlying the negative security assurances, will at least have some political ramifications on the NNWSs acceptance of what has been termed nuclear apartheid. Two related problems can also be discerned. The threat of nuclear weapons against NBC-armed rogue states, rather than dissuading the states from acquiring these weapons, might actually reinforce the security imperative to acquire these weapons. As Scott Sagan makes clear, a strong reason (and the dominant explanation) for the

336 George Bunn and Roland M. Timerbaev, "Security Assurances to Non-Nuclear-Weapon States," Nonproliferation Review (Fall 1993), 13. The NNWS preferred a binding treaty obligation that lacked the exceptions offered not only in the U.S. declaration, but also in other NWS declarations. To that end, it proposed a draft treaty that lacked these exceptions, and was supported by the Soviet Union. As a compromise position, the U.S. proposed all give NWS to place their declerations in a single General Assembly resolution. While this position was not accepted in 1979, a similar outcome took place in 1995 with Security Council Resolution 984. For more on the history of negative security assurances, see George Bunn, "The Legal Status of U.S. Negative Security Assurances to Non-Nuclear Weapon States," Nonproliferation Review (Spring-Summer 1997), 1-17.


338 The rule of 'belligerent reprisal' can legally "justify retaliation by a victim of an attack that violates one treaty even though the victim will violate another treaty in order to carry out the retaliation". Bunn, "The Legal Status of U.S. Negative Security Assurances," 12.
acquisition of nuclear weapons is the need to increase national security against foreign threats. One can equally apply this rationale for the acquisition of chemical or biological weapons.\textsuperscript{339}

Relationally, by explicitly maintaining the nuclear deterrent for the foreseeable future, the Bush administration nuclear strategy seems to be contrary to the goals enshrined in Article 6 of the NPT, which states that

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.\textsuperscript{340}

The dismissal of Article 6 is further evident in the apparent need to begin nuclear testing, which would not only effectively destroy any chance of resurrecting the Comprehensive Test Ban Treaty and give China, India, and Pakistan a possible excuse to resume testing themselves, but would also reinforce the impression that the U.S. has no intention for pursuing "effective measures relating to cessation of the nuclear arms race...and to nuclear disarmament".

Furthermore, it seems likely that the growing and seemingly perpetual reliance of nuclear weapons by the U.S. would negatively impact the inter-related normative prohibition on nuclear acquisition and nuclear use.\textsuperscript{341} While incorporating numerous conventional and proactive measures as adjuncts to nuclear deterrence, there is the possibility that the moves to make nuclear weapons more useable and credible would increase the possibility of their use in conventional counterproliferation campaigns (both reactive and preventive).


\textsuperscript{341} For this argument, see Sagan, "Why Do States Build Nuclear Weapons, 54-86.
Two developments in particular contribute to this possibility. On one hand, there is the growing conventionalisation of nuclear weapons. In order to minimize the impact of CB acquisition by rogue states and to increase the credibility of the U.S. nuclear deterrent, asymmetrical deterrence advocates a more credible and useable nuclear arsenal. Agent defeat weapons for the destruction of NBC facilities and earth-penetrating weapons for the destruction of HDBTs would allow the U.S. to “hold at risk... target sets of value to the leadership of the nation the United States seeks to deter”. But these developments could have an unforeseen and destabilizing impact on the foundations for the nuclear taboo or the norms underlying the non-use of nuclear weapons. By reducing the collateral damage caused by nuclear weapons, or at least having the perception of such a reduction, the use of nuclear weapons for counterproliferation military operations would become more feasible from a rational-material perspective. In other words, given the close interplay between material and normative conditions for the nuclear taboo, a change in the material condition could also have an impact on the nuclear taboo itself. This point is reiterated by Elizabeth Kier and Jonathan Mercer: “the technological push to make...low-yield tactical nuclear weapons puts at risk the status of nuclear weapons as fundamentally different from conventional weapons”.

On the other hand, while nuclear deterrence is seemingly separated from its non-nuclear components (counterproliferation, preventive war, and missile defense), there is the possibility of a conflation between the components. This possibility has apparently become more likely with the significant expansion of STRATCOM’s responsibilities. According to William Arkin, the Bush administration has assigned to STRATCOM

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342 Flourney and Murdock, Revitalizing the U.S. Nuclear Deterrent, 9.
all responsibilities for dealing with foreign weapons of mass destruction, including "global strike; integrated missile defense; [and] information operations" to STRATCOM. That innocuous-seeming description of responsibilities covers enormous ground, bringing everything from the use of nuclear weapons to nonnuclear strikes to covert and special operations to cyber warfare and "strategic deception" under the purview of nuclear warriors.\footnote{William Arkin, "The Nuclear Option in Iraq," \textit{Los Angeles Times} (January 26, 2003).}

By incorporating a counterproliferation mission for both nuclear and conventional weapons, a natural corollary to asymmetrical deterrence would be the gradual centralization of authority in a single body. The recent incorporation of SPACECOM into STRATCOM is indicative of this trend. An outcome of this development has been the increasing linkage between nuclear planning and conventional military planning. This outcome was eventually codified under NSPD-17, which was quite explicit on the need to maintain nuclear options to deter CB attacks. According to one senior administration official, the explicit language was meant to give military and other officials "a little more of an instruction to prepare all sorts of options for the president".\footnote{Kralev, "Bush Approves Nuclear Response".} A recent example of this can be seen in the "Theater Nuclear Planning Document" for Iraq, which was a nuclear plan prepared by the administration and Central Command for the 2003 Iraq War. These two developments make it all the more likely that a strategy of asymmetrical deterrence has contributed to a commitment trap, which is a situation whereby "a president's deterrent threat does not just reflect a commitment to retaliate; it creates a commitment".\footnote{Sagan, "The Commitment Trap," 98.}

While the U.S. still maintains a doctrine of calculated ambiguity, the growing counterproliferation rationale for nuclear weapons and the increased planning for nuclear weapons use alongside conventional operations has certainly created the preconditions for such a trap.
Impact of Asymmetrical Deterrence on Symmetrical Nuclear Relations

As the above discussion makes clear, the fixation on the perceived threat of rogue states increases the likelihood that U.S. policy will have unintended and detrimental outcomes. While this is certainly true with regard to rogue states, perhaps a more significant and under appreciated trade-off will take place with regard to wider U.S. strategic interests with states like Russia and China. While an asymmetrical strategy is directed at rogue states, it is likely that the policy outcomes of this strategy will have a negative impact on the threat perception of both Russia and China. To conclude this analysis on the implications of asymmetrical deterrence, a brief and sequential examination of each country will be offered.

Strategic Relations with Russia

At first glance, it appears that the Bush administration has sought to establish a more cooperative relationship with Russia. In terms of their nuclear relationship, the NPR states:

Russia maintains the most formidable nuclear forces, aside from the United States, and substantial, if less impressive, conventional capabilities. There now are, however, no ideological sources of conflict with Moscow... The United States seeks a more cooperative relationship with Russia and a move away from the balance-of-terror policy framework, which by definition is an expression of mutual distrust and hostility. As a result, a [nuclear strike] contingency involving Russia, while plausible, is not expected.348

While this statement offers an optimistic view of U.S.-Russian relations, one must still question the Treaty of Moscow’s continued acceptance of large nuclear arsenals in both parties. Of course, the NPR states that this is for the targeting of both NBC-armed rogue states and unexpected threats in the future. However, as Joseph Cirincione points out, “There is no strategic

348 Nuclear Posture Review, 17.
justification for maintaining thousands of weapons on high alert and a reserve force of thousands more weapons ready for re-deployment other than to target Russia".  

While this indicates that very little has indeed changed between U.S. and Russian nuclear policy, this danger is compounded by two inter-related developments codified in the NPR. First, as part of its growing counterproliferation mission, current U.S. nuclear strategy focuses on smaller, more accurate nuclear weapons in order to defeat HDBTs or mobile targets in rogue states. This would give U.S. nuclear forces an increased capability for the counterforce targeting or the decapitation of Russian nuclear forces. As pointed out by Bruce Blair, advanced earth-penetrating nuclear weapons would be necessary for the destruction of important facilities located in the Yamantau and Kosvinsky mountains in Central and Southern Russia. The Yamantau facility is a leadership relocation facility that is expected to be operating soon. The Kosvinsky facility houses the Russian nuclear command system, and is "the critical link to Russia's 'dead hand' communications network, designed to ensure semi-automatic retaliation to a decapitating strike". The U.S. emphasis on new nuclear capabilities would therefore be ideal for the targeting of Russian missile silos and C³ facilities.

Second, the development of a multi-tiered BMD system, while initially not having the capability to provide the U.S. with a first-strike advantage vis-à-vis Russia, would provide the preconditions necessary for developing a more sophisticated and threatening BMD system. Charles Glaser and Steve Fetter reiterate this point: "a U.S. decision to deploy any type of NMD would generate momentum for deployment of other types of NMD". According to John Newhouse, Russia has two large concerns regarding a significant U.S. BMD capability. On one


hand, Russia does not want to expend significant resources for an expansion of its nuclear capability or countermeasures, both of which might be necessary to offset a significant BMD capability. On the other hand, an BMD system creates the possibility of space-based deployments and the attendant risk of space militarization: “missile defense turning space into an arena of competition”. The fact that research is ongoing on the development of a Space-Based Laser indicates the possibility of expanding any BMD system with space-based interceptors or space-based lasers. This would provide “critical defence against anti-satellite warfare or other attempts by adversaries to disrupt or disable NMD’s intricate architecture”. In the end, the NPR’s focus on small, accurate nuclear weapons and a multi-tiered BMD system is part of a U.S. attempt at obtaining escalation dominance of its adversaries. While explicitly directed against rogue states, the current dilapidated state of Russia’s nuclear arsenal also points to the possibility of superiority over Russia’s nuclear deterrent.

Irrespective of the technical feasibility of these developments, the potential for U.S. escalation dominance over Russian nuclear forces would have a profound impact on Russian threat perceptions. The current amicable relationship between the two countries aside, one should not discount or underestimate potential Russian responses to these developments. Two developments are particularly likely. First, there is an increased possibility that Russia will continue to modernize and even to expand its nuclear forces. The first step in this direction came with the Russian decision to withdrawal from the START II Treaty. Following this withdrawal, Russia stopped dismantling its MIRVed forces of SS-18 and SS-20 ICBMs, which will continue to be the core of the Russian strategic forces. In addition, Russia has continued the deployment of a new ICBM (the SS-27), and is currently in the midst of developing a fifth-generation submarine, new SLBMs, and a nuclear variant of a new cruise missile, similar to the U.S.

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353 Wilson, Addressing the Ballistic Missile Threat, 67-68.
advanced cruise missile. There have even been reports that President Putin wanted work to begin on the abandoned Soviet missile defense systems. These developments are part of the asymmetrical measures that “Russia had decided to take in response to the U.S. development of missile defenses and new nuclear weapons.” 354 Despite Russia’s limited resources, President Putin has recently promised to strengthen and modernize Russia’s nuclear deterrent by “creating new types of weapons, including those for strategic forces, that will ‘ensure the defense capability of Russia and its allies in the long term’.” 355 To back up this pledge, the Russian military budget has steadily increased. For example, the defense budget rose 33 percent from 2002 to 2003 for a total of $10.9 billion. Out of this budget, weapons development and purchases totaled $3.45 billion or 35 percent of the defense budget, with plans for possibly reaching 60 percent in the future. 356

Second, while Russia has increasingly relied on nuclear weapons as an asymmetrical means to compensate for its conventional weakness in the post-Cold War period, this trend will likely increase and accelerate. This growing reliance was codified in Russia’s ‘New Concept for National Security,’ which was released on January 14, 2000. This strategy called for a policy of “expanded nuclear containment,” which calls for the use of nuclear weapons not only in response to a nuclear attack but also in response to a conventional attack. 357 Due largely to the uncertain outcome of modernizing and expanding Russia’s nuclear arsenal, another likely response would be to increase the current Russian policy of launch on warning, which has “long been the primary retaliation plan for the land based strategic rocket forces and ballistic missile

356 Webster, “Just Like Old Times,” 30-35.
submarines”. While this policy has the advantage of protecting the Russian nuclear arsenal from a hypothetical U.S. first strike, the dangers of such a posture are also significant: “the decision time is so short that it leaves little time in which to rule out a mistaken warning.” Unfortunately, this danger is only briefly mentioned in the NPR, and the solutions to that danger speak nothing of prevention.

Strategic Relations with China

The U.S. relationship with China remains one of the most important foreign policy challenges currently facing the Bush administration. And the NPR does take into account China as a key actor in nuclear policy. As the document states, “Due to the combination of China’s still developing strategic objectives and its ongoing modernization of its nuclear forces and non nuclear forces, China is a country that could be involved in an immediate or potential contingency.” Unfortunately, while the diplomatic relationship between the two countries will probably be amicable on the surface, an American asymmetrical deterrence strategy will most likely have a negative impact on Sino-U.S. relations. China has consistently voiced fears about U.S. BMD programs throughout the 1990’s, and its nuclear capabilities continues to be far less extensive than its Russian or American counterparts.

Initially, the fear of a BMD system was confined to the development of TMD, which was seen by China as a possible shield behind which U.S. and Japanese forces could interfere in vital

358 Blair, Global Zero Alert for Nuclear Forces, 43. The Russian emphasis on LOW and launch under attack (more specifically the latter) can be seen with the development of the automated dead-hand launch system.
360 As the NPR states, “The New Triad addresses concerns about the accidental or unauthorized launch of certain foreign forces. For example, it provides missiles defenses to protect the United States, its allies, and friends against limited or unauthorized launches. It also will provide a spectrum of defensive and non-nuclear response options to an accidental or unauthorized launch”. Nuclear Posture Review, 54.
361 Ibid., 16-17. The immediate contingency is regarding a military confrontation over the status of Taiwan. The potential contingency are plausible but not immediate dangers, which can include “the emergence of a new, hostile military coalition against the United States or its allies” (16).
Chinese interests.\textsuperscript{362} This threat perception was first reinforced with the 1996 ‘Joint Declaration on the Alliance for the 21st century’ and the 1997 new Guidelines for U.S.-Japan Defense Cooperation, and later by the U.S. consensus to develop an NMD system.\textsuperscript{363} As pointed out by Charles Glaser and Steve Fetter, there is the possibility that “China would fear that 100 to 250 NMD interceptors would nullify its modest nuclear capability”.\textsuperscript{364} While the Chinese reaction to the U.S. withdrawal from the ABM Treaty and continued development of BMD systems has been muted, there can be little doubt that Chinese leaders find this trend disconcerting.\textsuperscript{365} By focusing on a multi-tiered BMD system and counterforce weapons, the New Triad potentially gives the U.S. a first-strike capability against China’s vulnerable nuclear forces. Therefore, in any potential military contingency along the Taiwan Straits, the U.S. would have both conventional and nuclear capability for escalation dominance. That the NPR posits contingencies involving China and Taiwan make this development all the more worrisome for China’s communist leaders. While the asymmetrical deterrence strategy is apparently directed at rogue states, there is an underlying fear that the U.S. is implicitly seeking to prevent the emergence of a Chinese peer competitor. After all, as the Quadrennial Defense Review states, the “possibility exists that a military competitor with a significant resources base will emerge in the [Asian] region”.\textsuperscript{366}

\textsuperscript{362} See Christensen, “China, the U.S.-Japan Alliance,” 49-80.

\textsuperscript{363} See Tsuneo Akaha, “Beyond self-defense: Japan’s elusive security role under the new Guidelines for US-Japan Defense Cooperation,” The Pacific Review, 11, 4 (1998), 461-483. One can also add the cooperation between the two countries on TMD technology in the post-1998 period as well as the renewed logistical support Tokyo has given Washington under the temporary 2001 Anti-terrorism Special Measures Law.


\textsuperscript{365} The reasons for China’s muted reaction remains a subject of much debate. According to a recent Stimson Center report, Moscow’s restraint and the Bush administration’s offer to hold “high level strategic dialogue” with China tempered the response from Beijing. Alan D. Romberg and Michael McDevitt, eds., China and Missile Defense: Managing U.S.-PRC Strategic Relations (Washington D.C.: The Stimson Center, 2003), 20.

\textsuperscript{366} Quadrennial Defense Review, 4.
To combat the perceived dangers inherent in the NPR, it is likely that China will continue and even accelerate the modernization of its nuclear forces.\textsuperscript{367} Currently, it is developing the DF-31, which is a three-stage, land-mobile, solid-fueled missile ICBM with a range of 8,000 km. In addition, reports have suggested that China has developed or is developing MIRV technology for its DF-31.\textsuperscript{368} Other missiles in development include the JL-2 (a submarine-launched version of the DF-31), and the still tentative DF-41. There seems to be movement in China’s nuclear doctrine from its “previous minimum deterrence strategic posture to a more versatile limited deterrence doctrine”\textsuperscript{369} While these developments are not necessarily caused by the current U.S. nuclear strategy, being an integral component of China’s current policy of military modernization, it is likely that the current U.S. nuclear strategy will contribute to the modernization of China’s nuclear weapons, delivery systems, and doctrine. That China has consistently voiced opposition to any proposed U.S. BMD system is indicative of this influence. Given that the NPR incorporates advanced offensive strike systems, it is likely that China will view the New Triad as an example of the U.S. desire for first-strike capability and escalation dominance.

The likely consequence of this interaction could be a destabilizing chain reaction. It is likely that China’s emphasis on nuclear weapons and ballistic missiles, due in part to fears caused by the New Triad, would increase the incentive for states like Japan to cooperate and develop a BMD system. In addition, China’s continued nuclear modernization could directly impact India’s already growing concern of Chinese power. This has strong implication for India’s nuclear forces, which after the 1998 Pokran II tests has increasingly been justified on the

\textsuperscript{367} For an analysis using interviews with Chinese officials, see Joanne Tompkins, “How U.S. Strategic Policy is Changing China’s Nuclear Plans,” \textit{Arms Control Today} (January-February 2003).

\textsuperscript{368} Swaine with Runyon, \textit{Ballistic Missiles and Missile Defense in Asia}, 17.

\textsuperscript{369} Ibid., 47.
basis of China’s nuclear capability. In the end, this could lead to India’s further emphasis on nuclear weapons as a deterrent against China, which would impact Pakistan and potentially Iran’s own interest in nuclear weapons. The New Triad could simply contribute to a tense and accident-prone nuclear environment in a region that has always been a concern due to the horizontal proliferation of NBC weapons.

The United States has adopted an asymmetrical deterrence strategy in the post-Cold War period in response to the perceived threat of NBC-armed rogue states. While this strategy is consistent with changing U.S. threat perception, there is the possibility that the growing fixation on the rogue state threat will lead to policy outcomes that are detrimental to U.S. interest. On one hand, rather than dissuading rogue states from acquiring NBC weapons, the threat posed by an asymmetrical strategy could actually increase the security incentive for acquiring these dangerous weapons. In addition, such a fixation could lead to infeasible or unintentional policy options, and could have a negative impact on alternative options (such as non-proliferation). On the other hand, an asymmetrical deterrence strategy will likely have a negative on U.S. strategic relations with Russia and China. Unfortunately, the myopic fixation on rogue states increases the likelihood that such an impact will either be ignored or dismissed.


371 To be sure, the impact this development will have on India will be heavily dependent on the type of BMD system the U.S. is focused on. For instance, the NMD system could contribute to an expansion of China’s force of ICBMs. Aside for prestige purposes, this would have little impact on Indian national security. However, a TMD system could contribute to an expansion of China’s smaller range missiles. This could directly impact India’s perception of its nuclear deterrent. For more on the impact that a BMD system could have in South Asia, see Michael Krepon and Chris Gagne, eds. The Impact of US Ballistic Missile Defenses on Southern Asia, Stimson Center Report 46 (Washington, D.C.: The Henry L. Stimson Center, July 2002).
Conclusion

This thesis has provided an analysis of American nuclear strategy in the post-Cold War period. During the Cold War, U.S. nuclear strategy has initially directed at the strategic threat posed by the Soviet Union; despite some deliberation on the potential for a preventive war against the Soviet Union, the U.S. eventually chose a strategy of deterrence against the Soviet adversary. However, unlike the popular conception of Cold War deterrence, this strategy was, at least in the 1940’s and 1950’s, predicated on the nuclear superiority of the United States. With the advent of the Kennedy administration, the concept of mutually assured destruction became included in the popular conception of deterrence in the Cold War. In a manner remarkably similar to the current criticisms of the Bush administration’s nuclear strategy, the “layman’s myth about MAD was most commonly found in the statements of both dovish and hawkish critics of U.S. defense policy in the late 1970’s.” In fact, the U.S. nuclear policy continued its focus on attaining some level of superiority with the Soviet Union; while the declaratory doctrine continued its acknowledgement of MAD, the 1970’s and 1980’s saw concepts such as countervailing strategy and escalation dominance becoming part of U.S. nuclear doctrine.

This discontinuity between doctrine and policy has continued in the post-Cold War period. Although U.S. doctrine has consistently maintained an emphasis on calculated ambiguity, the growing counterproliferation role for nuclear weapons can be seen in the emphasis on the nuclear targeting of NBC-armed rogue states. In effect, the U.S. has gradually begun to perceive rogue states as constituting strategic threats to the United States and its vital interests, therefore replacing the Soviet threat as the main justification for U.S. nuclear strategy in the post-Cold War period.

Following from certain policy developments begun in the later years of the Cold War, the U.S. has gradually implemented a strategy of asymmetrical deterrence against rogue states. This

372 Sagan, Moving Targets, 188, ft. 1.
strategy changes the calculus of deterrence by expanding U.S. nuclear strategy to incorporate conventional counterproliferation elements such as conventional strike options, preventive war and missile defense. The Bush administration’s proposal for New Triad, based on offensive strike systems (nuclear and non-nuclear), defenses (passive and active), and revitalized defense infrastructure, is the most recent and explicit manifestation of an asymmetrical strategy of deterrence. In that regard, the Bush administration’s strategy does bear some similarity to the Cold War’s emphasis on securing or maintaining U.S. nuclear superiority as the foundation for deterrence. As Bruce Blair states, “The 1950’s mindset has been resurrected as the U.S. security establishment revs up its programs of offensive special operations, covert action, conventional and nuclear first-strike, national missile defense, and everything else conceivable under the sun”.

The impact that an asymmetrical deterrence strategy will have on international security remains uncertain. Two scenarios in particular stand out as likely indicators of the long-term impact of asymmetrical deterrence. First, while the United States has successfully implemented a regime change military campaign to deal with the perceived Iraqi proliferation problem, the proliferation dangers inherent in the nuclear weapons programs of North Korea and Iran has continued unabated. The Iranian case is perhaps the less worrisome of the two. Unlike its North Korean counterpart, Iran remains a party to the NPT, continues to host IAEA inspectors, and has yet to declare an intention to develop a nuclear weapons arsenal. That being said, the recent revelations of facilities at Natanz (uranium-enrichment) and Arak (heavy water production), alongside the possibility of other undetected facilities, points to an unexpectedly robust Iranian nuclear weapons program. This has made the United States begin questioning its traditional reliance on non-proliferation measures as a sufficient means of dealing with the Iranian nuclear

While the IAEA has yet to declare Iran in breach of its NPT obligations, a recent report by the agency does note that the "the number of failures by Iran to report the material, facilities and activities in question in a timely manner...is a matter of concern".\(^{375}\)

The North Korean case is particularly worrisome. With the end of IAEA inspections and the North Korean withdrawal from the NPT, much of the international constraints on the North Korean nuclear weapons program has ended. Without further action to freeze and rollback the program, North Korea would be able to begin reprocessing of existing nuclear fuel, make new plutonium from its existing reactors, and to eventually bring new reactors online. While the new reactors at Yongbyon (50-MWe) and Taechon (200-MWe) are still years away from completion, the CIA estimates that they would be able to provide 275 kilograms of plutonium per year operating at full capacity. While less in known about North Korea's uranium enrichment program, some estimate that future production rates could be from 40-100 kilograms per year.\(^{376}\) North Korea therefore promises to be an immediate and, if not halted, increasing proliferation problem to the United States.

Two important issues stand out with regard to these two countries. On one hand, it remains to be seen what impact a U.S. asymmetrical deterrence strategy has had and will likely have on the policies of these two states. While the movement towards acquiring nuclear weapons has accelerated, the reasons for and intention behind their nuclear weapons programs remain in question. On the other hand, what policy the U.S. implements in order to deal with these significant proliferation problems is still uncertain. For example, in the aftermath of the Iraq War, does the U.S. find itself trapped by its present strategy of asymmetrical deterrence? In other

\(^{374}\) Leonard S. Spector, "Iran's Secret Quest for the Bomb," YaleGlobal (May 16, 2003), at http://yaleglobal.yale.edu/display.article?id=1624.

\(^{375}\) IAEA Board of Governors, "Implementation of the NPT safeguards agreement in the Islamic Republic of Iran," Gov/2003/40 (June 6, 2003), 7.

words, does the U.S. rely on unilateral means of dealing with these dangers, as asymmetrical deterrence implies, or does the U.S. accept the need for multilateral solutions, specifically the strengthening of non-proliferation regimes? Further investigation on these two issues would provide evidence on what impact an asymmetrical deterrence impact will have on the problem of horizontal proliferation.

Second, while an asymmetrical deterrence strategy is likely to have negative consequences on Russia and China, the long-term impact of this strategy remains uncertain. While both Russia and China do seem to have responded to the U.S. strategy with changes and modifications on their own military doctrine and policy, it remains to be seen whether these changes are temporary responses or are indicative of a long-term and unstable trend. One crucial factor is how U.S. policy towards Iran and North Korea develops. Both Russia and China maintain an active interest in these states, and the manner in which the U.S. deals with them will have important repercussions on the threat perception of Moscow and Beijing. Two other factors are also crucial. While the U.S. does seek escalation dominance over rogue states, it is much more circumspect on whether such dominance should explicitly be directed towards potential long-term peer competitors like Russia and China. Of course, as this thesis has shown, an asymmetrical deterrence strategy directed at rogue states will implicitly represent de facto escalation dominance over all other states, including Russia and China. However, a more explicit focus on peer competitors, especially with respect to China, will likely accelerate the current trend towards military balancing by these states.

Relatedly, the manner in which Russia and China react to the U.S. strategy will have an important impact on both the threat perception of and their long-term relationship with the United States. With Russia, perhaps the most worrisome trend has been the increasing emphasis on asymmetrical measures for dealing with the United States. If continued, there is the possibility of further damaging the Russian economy (through this diversion of resources for the military)
and creating an arms race with the United States. A cascade effect could also take place as China begins to realize the implications to its own national security. With China, the key scenarios would concern North Korea and Taiwan. For example, with the growing North Korean nuclear problem, a change in U.S. policy towards dealing with that states does seem likely in the near future. The role that China plays in that policy change would be a crucial indicator of China's response to asymmetrical deterrence. The Taiwan case is perhaps the most crucial indicator of China’s response to asymmetrical deterrence. The growing U.S. capability for escalation dominance might increase the attraction for a Chinese pre-emptive attack on Taiwan. The growing concern in Beijing that the status quo will leave Taiwan perpetually in a state of de facto independence only reinforces this view. Since China still lacks the crucial capabilities for an invasion or even successful blockade of Taiwan, especially if U.S. forces become involved, one would expect the attraction for pre-emption to occur in the near future. While much attention has focused on China’s naval modernization program as a necessary condition for an invasion, attention should also be paid to the successful completion of the Chinese plans for nuclear weapons modernization. After all, American conventional escalation dominance vis-à-vis China makes nuclear weapons an attractive means of deterring U.S. involvement in any Taiwan Straits crisis.

While asymmetrical deterrence does have an attractive logic to those who perceive NBC-armed rogue states as strategic threats, it is clear that such a strategy does carry some potentially negative implications. While this does not mean that one should reject the strategy, it does imply that consideration be taken on the possible trade-offs that the adoption of such a strategy entails. Further research on such trade-offs is certainly necessary. In the end, asymmetrical deterrence should be viewed as a logical if controversial strategy that goes beyond nuclear weapons, the counterproliferation of rogue states, or regime change in Iraq.
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