

THE NEW TRIAD

DIFFUSION, ILLUSION, AND CONFUSION
IN THE NUCLEAR MISSION

National Security Perspective



Michael Frankel | James Scouras | George Ullrich

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Diffusion, Illusion, and Confusion in the Nuclear Mission

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Foreword

This paper was originally published in 2009 and is written from the perspective of that time. At the reissuance of this paper in the summer of 2016, it is worth contemplating how much has changed since it was originally written seven years ago, as well as how much has not. The major theme of the paper—that promotion of the “New Triad” as an organizing principle to rationalize the US strategic deterrent to Congress, the public, and even the military, was fraught with ambiguity and imprecision that made it an unsuitable vehicle for its purpose—has thankfully faded from the scene. Few current references to the New Triad in government or academic literature are to be found. On the other hand, we believe the issues of lack of intellectual coherence and resulting confusion regarding the role of nuclear weapons in US national security strategy highlighted in the paper retain their relevance today and for the next administration as it considers its own Nuclear Posture Review.

In addition, there are some meta-observations that, in retrospect, are also worth highlighting. The first of these is that language matters. The confusion that was sown by the creation of a new taxonomy—what was “in” and what was “out,” nuclear versus conventional roles, and even what was real and what was not—ultimately consumed significant intellectual resources and impeded planning for the better part of a decade. Another meta-observation is the importance of proper vetting. The development of the New Triad apparently sprang forth Athena-like from the heads of the relatively small cadre of OSD policy staff that created it. The confusion engendered suggests that it was not sufficiently vetted in the “user community” that would have to live with it, and that includes legislators who would have to fund it and a public who would have to support it.

Summary

In 2001, the United States conducted its second formal Nuclear Posture Review intended to develop top-level guidance regarding the role of nuclear weapons in national security strategy. While details remain classified, one publicly released innovation was the announcement of a “New Triad” as an organizing framework for US strategic capabilities. This New Triad, depicted in Figure S-1, was meant to replace the traditional Triad of intercontinental ballistic missiles, submarine-launched ballistic missiles, and heavy bombers, now relegated to a portion of one vertex. That same vertex mixes both nuclear and nonnuclear strike, including a still-to-be-invented long-range precision strike capability. The other vertices represent largely nonexistent air and missile defenses and an ill-defined hodgepodge termed “responsive infrastructure,” all bound together and supported by command and control (C2), intelligence, and planning.

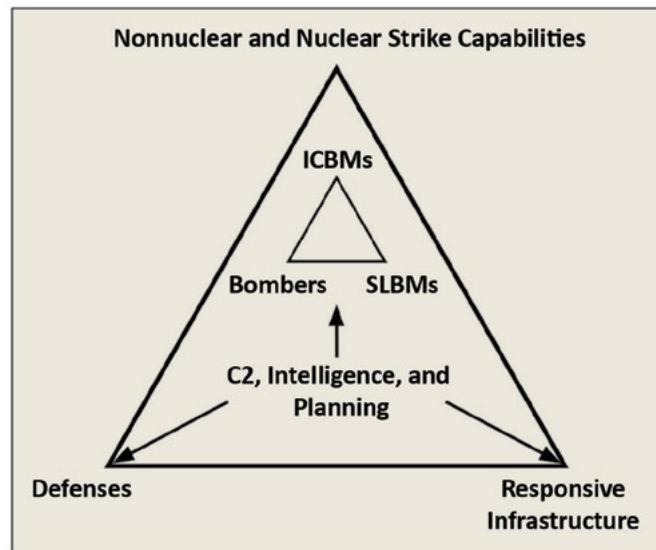


Figure S-1. The New Triad

We find the New Triad to be an impediment to clear thinking, communication, and consensus regarding nuclear issues. Its fatal flaw is the commingling of nuclear and conventional weapons, which lowers the nuclear threshold and undermines deterrence and stability. The vertices of the New Triad appear to represent little more than institutional interests intent on staking out equity, with the primary purpose of promoting the acquisition of controversial capabilities—missile defenses, conventional global strike, new nuclear warheads—rather than comprising the well-thought-out complementary components of an integrated system. Thus, it lacks the intellectual coherence necessary to communicate nuclear policy to the public and to Congress. We recommend the Obama administration scrap the New Triad, divorce nuclear and conventional deterrence, and reserve nuclear weapons for deterring extreme threats and responding to extreme attacks from nuclear states for which no lesser military capabilities suffice.

For most of the post-Cold War period, nuclear weapons have receded to the background of US national security concerns. In the last several years, however, a confluence of circumstances has motivated renewed thinking about nuclear weapons and nuclear strategy. Of primary importance, the nuclear threat, while still far below Cold War levels, is clearly a matter of increasing concern. Russia's increasingly assertive security perspectives and the priority it has placed on revitalizing its nuclear forces as a counter to US dominance in the international arena are warnings that Russia's nuclear policies, plans, and ambitions cannot be disregarded.¹ North Korea has recently tested another nuclear device and now poses a regional and potentially intercontinental nuclear threat. Iran's ambitions appear to include development of a nuclear weapon in the not-distant future. Finally, the grim possibility of terrorist acquisition of a nuclear weapon—perhaps acquired from the arsenal of an unstable Pakistan—fuels our worst nightmares.

To address nuclear and related issues, Congress has established several commissions, including the Commission on the Strategic Posture of the United States² and the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism.³ Contemporaneously, a number of distinguished scholars and practitioners of nuclear strategy have authored influential articles and op-ed pieces making recommendations on nuclear policy

and debating the merits and practicality of abolishing nuclear weapons.⁴ Most recently, President Obama has embraced the vision of a distant future where nuclear weapons have been abolished and, of more immediate relevance, has rekindled the prospect of a new bilateral nuclear arms reduction treaty with Russia.⁵

US nuclear use against nonnuclear threats in today's world is literally incredible.

The time is clearly appropriate for a major review of our nuclear policies. And, in fact, the Department of Defense (DoD), in consultation with the Departments of Energy and State, is undertaking another Nuclear Posture Review starting in 2009. The goal of this third Nuclear Posture Review is to “establish U.S. nuclear deterrence policy, strategy, and force posture for the next 5 to 10 years and provide a basis for the negotiation of a follow-on agreement to the Strategic Arms Reduction Treaty.”⁶ Although this review is not a bipartisan activity, it would be inconsistent with President Obama's emphasis on inclusiveness to chart a course for the future that does not command broad support. Unfortunately, in contrast with the much broader national consensus on nuclear policy during the Cold War, the national security community is

¹ For an unfiltered Russian perspective, see Vladimir Putin, “Speech and the following Discussion at the Munich Conference on Security Policy,” transcript, February 10, 2007, Munich, <http://en.kremlin.ru/events/president/transcripts/24034>.

² William J. Perry et al., *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States* (Washington, DC: United States Institute of Peace Press, 2009), http://www.usip.org/strategic_posture/final.html.

³ Bob Graham et al., *World at Risk: The Report of the Commission on the Prevention of WMD Proliferation and Terrorism* (New York: Vintage Books, 2008), <https://www.absa.org/leg/WorldAtRisk.pdf>.

⁴ On the debate on the wisdom of abolition, see in particular George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, “A World Free of Nuclear Weapons,” *Wall Street Journal*, January 4, 2007, <http://online.wsj.com/article/SB116787515251566636.html>; and Harold Brown and John Deutch, “The Nuclear Disarmament Fantasy,” *Wall Street Journal*, November 19, 2007, <http://online.wsj.com/article/SB119542524645797257.html>.

⁵ *Remarks by President Barack Obama*, The White House, Office of the Press Secretary, April 5, 2009, http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered.

⁶ US Department of Defense, *2009 NPR Terms of Reference Fact Sheet*, June 2, 2009, archive.defense.gov/news/d20090602NPR.pdf.

divided on nuclear matters. Alternative visions of the future span the spectrum from nuclear abolition to nuclear modernization. The role of nuclear weapons, the appropriate size and composition of our arsenal, and the nature of the infrastructure necessary to support these deployments are contentious issues. The relevance and the tactics for implementing deterrence against traditional, post-Cold War, and post-9/11 threats are confused. Even the terminology used to define deterrence has become muddled.

While there are certainly legitimate philosophical differences behind the divergence of opinion on nuclear issues, some impediments to consensus are of our own making and should be discarded as the Obama administration develops its nuclear policies. This paper addresses one of the more insidious impediments to clear thinking, communication, and consensus regarding nuclear issues—the New Triad, DoD’s ill-conceived conceptual structure for strategic capabilities.

The Cold War and the Traditional Triad

To understand the problems posed by the New Triad, a brief review of deterrence theory and practice is in order. As defined in the *DoD Dictionary of Military and Associated Terms*, deterrence is “the prevention from action by fear of the consequences . . . a state of mind brought about by the existence of a credible threat of unacceptable counteraction.”⁷ This definition accurately reflects the common understanding of deterrence by military strategists, civilian leaders, and the public during the Cold War. As implemented in practice, nuclear deterrence was the threat of a nuclear retaliatory strike that would impose unacceptable damage on the Soviet Union (and later China) in response to either a nuclear strike

on the United States or its allies or an overwhelming conventional attack against NATO.

Nuclear deterrence emerged as a policy construct in the aftermath of World War II to limit the likelihood of another global war of attrition among technological peers and to ensure that nuclear weapons would never again be used as warfighting instruments, except *in extremis*. Eventually, as both the United States and the Soviet Union acquired sizable nuclear arsenals, an essential equivalence in capabilities emerged between the superpowers, notwithstanding attempts by both sides to gain or maintain an advantage. In parallel, deterrence theory evolved through arms control agreements and other diplomatic efforts to enshrine this rough equality and preserve stability in times of crisis. Neither side was to ever find itself in a position where the other might consider an attack to be advantageous. And neither side should be motivated by inadequacies in the composition and posture of its strategic forces to preemptively attack the other when it thought (rightly or wrongly) that an attack was imminent or inevitable, a condition known as first-strike stability.

Both deterrence per se and first-strike stability depended, in the final analysis, on the ability to respond to an attack—even a “bolt from the blue” surprise attack—with a retaliatory strike of apocalyptic consequences. US retaliatory capability was underwritten by a triad of strategic forces composed of intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range bombers (Figure 1). Each element of this *traditional Triad* had a unique combination of advantages and liabilities, but all three elements could not simultaneously be compromised in a preemptive strike or by a single system failure, and any one element by itself could inflict unacceptable damage.

⁷ US Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms* (as amended through October 17, 2008), Joint Publication 1-02 (Washington, DC: US Department of Defense, April 12, 2001).

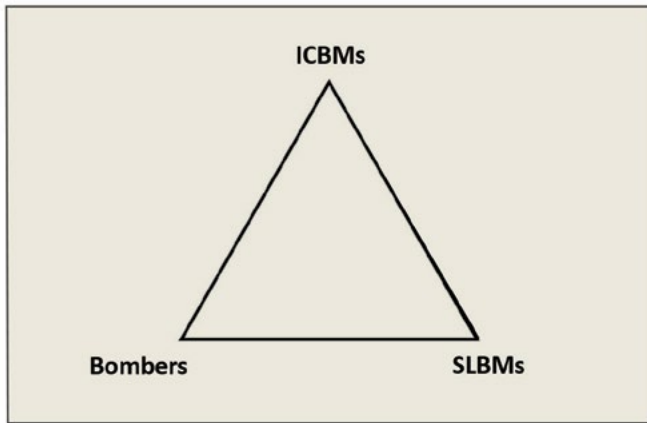


Figure 1. The Traditional Triad

In the early 1960s, the military doctrine embodying these principles became known as mutual assured destruction, popularized with the not-altogether-inappropriate acronym MAD.⁸ Whether viewed as fragile or robust, and notwithstanding the important contribution of providence, these Cold War nuclear-deterrence policies were instrumental in holding the superpowers in check and preventing a devastating World War III.

The extension of nuclear deterrence to regional conflicts (i.e., the deterrence of *conventional* conflicts by implicit or explicit threats of *nuclear* use) not involving a direct confrontation of two nuclear-armed states, however, was notably less successful. Nuclear deterrence has not prevented wars between nonnuclear states and nuclear powers (e.g., Argentina versus the United Kingdom, Egypt and Syria versus Israel, Iraq versus the United States), and nuclear weapons were not used even when the nuclear-weapon state faced stalemate or defeat (e.g., the United States versus North Korea, the United States versus North Vietnam, the Soviet Union versus Afghanistan). US nuclear use against nonnuclear threats in today's world is literally incredible,

⁸ Despite subsequent attempts to refine, or at least relabel, official US policy on nuclear deterrence, MAD achieved iconic status in the vernacular and remains today the common public perception of such policies.

notwithstanding official US declaratory policy that leaves open the possibility.

New Threats and the New Triad

The end of the Cold War quickly gave rise to policies that promoted a new relationship with Russia, which now occupied the space between friend and strategic partner and in no way was to be considered a hostile adversary. By the time of the 2001 Nuclear Posture Review, Russia's large nuclear arsenal was officially no longer a cause for immediate concern. These policies led to a tacit erosion of the relevance of nuclear deterrence as the primary threat shifted to regional powers. There was a growing concern that nuclear deterrence, with its inherent disproportionate level of violence, uncertain military utility, and over-four-decade tradition of nonuse, was insufficiently credible against nonnuclear regional adversaries, even those armed with chemical and biological weapons. This concern was compounded by the potential asymmetry in stakes in a regional conflict. Regional adversaries are more likely than the United States to have more compelling interests at stake and therefore may be more willing to endure the costs of conflict. More worrisome still, if these regional powers were to acquire nuclear weapons, the United States itself could be deterred from exercising the freedom of action it had enjoyed as both the sole nuclear power and the dominant conventional power in the relationship.

To ensure that the United States would be neither self-deterred by its own arsenal of large-yield nuclear weapons nor deterred by nuclear-capable regional adversaries, a number of controversial developments in US strategic capabilities were advocated. Long-range, highly accurate conventional weapons were thought able to fill roles formerly the exclusive province of nuclear weapons. Such a conventional, prompt, global strike capability, it was argued, would both reduce the number of nuclear weapons needed and create military options that did not require nuclear use and thus would be inherently

more credible. Missile defenses, previously banned under the Anti-Ballistic Missile (ABM) Treaty during the Cold War, were also thought by some to reduce the need for nuclear weapons and could immunize the United States from ballistic missile-based threats posed by regional adversaries. Finally, a modernized nuclear arsenal with smaller-yield options would make nuclear use more credible, further bolstering nuclear deterrence. It is important to understand that these initiatives were not universally supported at the time and remain contentious today.

It was in this context that a new framework for strategic capabilities was unveiled as a product of the 2001 Nuclear Posture Review⁹ with little opportunity for broader community input. The stated objective was to create a pathway for achieving the key policy objectives of (1) assuring our allies that the United States would extend a credible security umbrella; (2) dissuading potential adversaries from competing militarily with the United States; (3) deterring adversaries from taking hostile actions against the vital interests of the United States or its allies; and (4) defending against and defeating any adversary that had not been successfully deterred. While none of these objectives was new, this framework bundled them in a single conceptual structure for the first time.

A *New Triad* of strategic military capabilities was to serve as the underpinning of these objectives.¹⁰ Like the traditional Triad, the three elements of the New Triad were portrayed as vertices of an equilateral triangle (Figure 2) comprising:

- nonnuclear and nuclear strike capabilities, including long-range precision conventional

weapons, offensive information operations, and special operations forces;

- defenses, including active defenses against missiles and aircraft, passive defenses such as hardening, concealment, civil defense, and other tactics, and defenses against an adversary's hostile information operations; and
- a responsive infrastructure that includes revitalized research, development, testing, evaluation, and production capabilities encompassing the industrial and human capital that will enable the maintenance and modernization of the strategic enterprise.

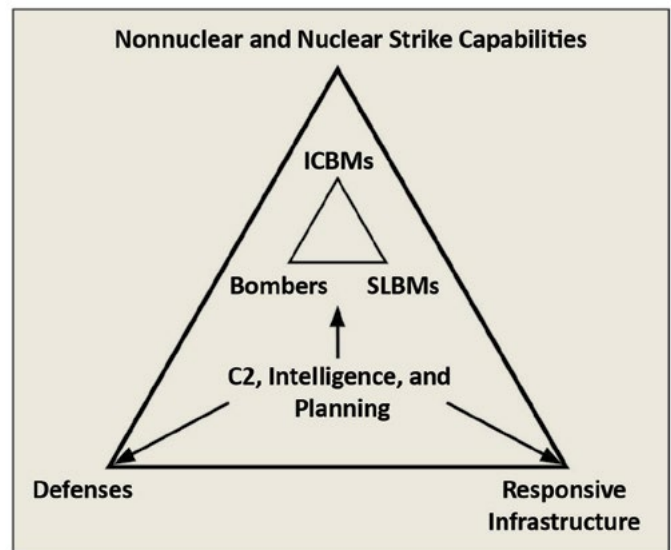


Figure 2. The New Triad

Command and control (C2), intelligence, and planning were depicted as cross-cutting capabilities binding together and supporting all these elements.

Implicit in the promulgation of the New Triad was a combination of hope and expectation that initiatives to address concerns about the credibility of nuclear deterrence would result in funded programs that developed real capabilities. The Cold War nuclear arsenal would be complemented by a modern class of nuclear weapons characterized by lower yields,

⁹ J. D. Crouch, *Findings of the Nuclear Posture Review*, Department of Defense Press Briefing, January 9, 2002, <http://www.fas.org/sgp/news/2002/01/npr-briefing.html>.

¹⁰ *Nuclear Posture Review (Excerpts)*, <http://web.stanford.edu/class/polisci211z/2.6/NPR2001leaked.pdf>. For an excellent overview of the New Triad, see also Kurt Guthe, *The Nuclear Posture Review: How Is the "New Triad" New?* (Washington, DC: Center for Strategic and Budgetary Assessments, 2002).

greater accuracy, and discriminative lethality.¹¹ Conventional global strike systems would be developed and deployed. The DoD would invest in the development of missile defenses sufficiently capable to merit inclusion as a coequal vertex of the New Triad. The Department of Energy would replace the dated infrastructure supporting our strategic arsenal with a vibrant infrastructure tuned to the needs of the remaining strategic forces and able to respond in a timely manner to the buildup of strategic arms by others. In our view, the New Triad provided little more than an expedient framework allowing disparate institutional interests to stake out equity, with the primary purpose of promoting the acquisition of controversial capabilities—missile defenses, conventional global strike, new nuclear warheads—rather than comprising the well-thought-out complementary components of an integrated system.

Yet, the New Triad was accepted with little substantive debate as *the* new framework for the nation's strategic forces. Indeed, at the time, it seemed prudent to adopt a more holistic approach toward ensuring US global security interests in the twenty-first century. A nuclear response would no longer be the only option for responding to a strategic attack against

the United States or its allies. Instead, the New Triad promised courses of action that were measured, proportionate, and tunable to meet the military and political objectives of a counterstrike against a broad spectrum of adversaries. The term *strategic* was now infused with a richness that transcended its Cold War equivalence with *nuclear*. Unfortunately, the promises of the New Triad were never realized, and the primary results have been diffusion, illusion, and confusion in the nuclear mission.

Diffusion

The most serious conceptual flaw—indeed, the *fatal flaw*—of the New Triad is the hallmark of the offensive strike capabilities vertex: the commingling of nuclear weapons and conventional military capabilities. The implication of this commingling is that nuclear weapons are simply conventional weapons with bigger bangs and that conventional weapons are just nuclear weapons with smaller yields. This perspective not only undermines nuclear deterrence and stability but also lowers the threshold for nuclear use.

The diffusion of conventional weapons into the mission space previously occupied solely by nuclear weapons represents a devaluation of the unique role of nuclear weapons—deterring strategic threats with the specter of devastation—and a step toward increased reliance on conventional deterrence, despite compelling historical evidence that conventional deterrence has not been successful in preventing ruinous wars of attrition among technological peers. While conventional weapons with precision accuracies can destroy certain targets of limited size, it is the prospect of re-creating the horrors of Hiroshima and Nagasaki—not the calculus of target attrition—that deters.

Casting conventional weapons in strategic roles can also undermine stability. In particular, there is substantial evidence that China and Russia would consider conventional attacks on their nuclear forces

¹¹ The architects of the New Triad recognized that not all targets could be held at risk with the newly envisioned accurate, low-yield nuclear weapons or, for that matter, with the existing stockpile weapons. In particular, it was known that deeply buried tunnel facilities could be defeated only with multi-megaton weapons detonated at the surface or with lower-yield penetrating weapons detonated slightly below the surface. While the yield advantage of penetrating weapons can be as much as a factor of 15 to 25 (see, for example, the National Research Council Report, *Effects of Nuclear Earth-Penetrator and Other Weapons* [Washington, DC: The National Academies Press, 2005]), holding the deepest and hardest underground facilities at risk may still require yields up to 500 kilotons, or more. So as part of the New Triad implementation, the Nuclear Weapons Council commissioned a study in fiscal year (FY) 2003 to look at the feasibility of modifying a stockpile weapon to achieve shallow penetration in hard rock. However, this program, known as the Robust Nuclear Earth-Penetrator (RNEP), was terminated in FY 2006 when Congress withdrew funding.

to be strategic attacks that justify a nuclear response. While this may primarily be posturing to make the United States hesitant to conduct such attacks, there is an undeniable risk that they are prepared to take such actions because there may be no better alternative. Even under the more benign interpretation, Russian and Chinese leaders could well perceive pressure to act in accordance with such posturing. Additional instabilities attend the commingling of conventional and nuclear warheads on the same delivery system in a manner that makes it impossible for others to determine unambiguously which type of warhead is being used. Conventional warheads on Minuteman or Trident missiles could create confusion on the part of our adversaries and potentially provoke an escalatory response during a crisis. To the extent that we consider and structure our forces in disregard of these perspectives, we risk unintended escalation from conventional to nuclear war.

Any future operational implementation of the New Triad will inevitably include consideration of nuclear arms in a range of scenarios never previously contemplated and may facilitate eased recourse to such weapons under the rationale of increasing command options.

The other side of the coin is the diffusion of nuclear weapons into the realm of conventional warfare. Motivated in part by the 2001 Nuclear Posture Review and consistent with the commingling of nuclear and conventional forces in the New Triad, the US Strategic Command (USSTRATCOM) in 2003 initiated the development of a concept plan (CONPLAN)¹² that entailed application of both

¹² A CONPLAN is an operation plan (OPLAN) in an abbreviated format that would require considerable expansion or alteration to convert it into an OPLAN. Generally, detailed support requirements are not included. An operation plan is any plan for

conventional and nuclear forces to strike high-value, time-urgent weapons-of-mass-destruction targets. In December 2005, USSTRATCOM issued a press release stating CONPLAN 8022 to be “operational.”¹³ Also released in 2005, a coordination draft *Doctrine for Joint Nuclear Operations* spelled out a series of scenarios that admitted *preemptive* nuclear use without distinguishing nuclear and nonnuclear adversaries.¹⁴ CONPLAN 8022 was canceled in 2008, apparently out of confusion over the global strike mission,¹⁵ and the *Doctrine for Joint Nuclear Operations* was withdrawn due to congressional and other criticism.¹⁶ Nevertheless, any future operational implementation of the New Triad will inevitably

the conduct of military operations. See US Joint Chiefs of Staff, *Department of Defense Dictionary*.

¹³ US Strategic Command, *JFCC for Space and Global Strike Achieves Initial Operational Capability 12/1/2005*, http://www.stratcom.mil/news/article/7/JFCC_for_Space_and_Global_Strike_achieves_Initial_Operational_Capability. See also David Ruppe, “U.S. Command Declares Global Strike Capability,” *Global Security Newswire*, December 2, 2005, <http://www.nti.org/gsn/article/us-command-declares-global-strike-capability/>.

¹⁴ *Doctrine for Joint Nuclear Operations*, March 15, 2005, Joint Publication 3-12, Final Coordination (2), http://www.globalsecurity.org/wmd/library/policy/dod/jp3_12fc2.pdf. This document identifies the following circumstances when release of nuclear weapons may be sought: (a) to counter an adversary intending to use weapons of mass destruction (WMDs) against US, multinational, or allied forces or civilian populations; (b) to counter an imminent attack from an adversary’s biological weapons that only effects from nuclear weapons can safely destroy; (c) to attack adversary installations, including WMDs; deep, hardened bunkers containing chemical or biological weapons; or the command and control infrastructure required for the adversary to execute a WMD attack against the United States or its friends and allies; (d) to counter potentially overwhelming adversary conventional forces; and (e) to demonstrate US intent and capability to use nuclear weapons to deter adversary WMD use.

¹⁵ Hans M. Kristenson, “STRATCOM Cancels Controversial Preemption Strike Plan,” *FAS Strategic Security Blog*, July 25, 2008, <http://fas.org/blogs/security/2008/07/globalstrike/>.

¹⁶ Office of Congresswoman Ellen O. Tauscher, *Rep. Tauscher Cautions against Aggressive Nuclear Policy*, December 2, 2005, http://www.80bola.com.nukestrat.com/us/jcs/JP_Congress120205.pdf.

include consideration of nuclear arms in a range of scenarios never previously contemplated and may facilitate eased recourse to such weapons under the rationale of increasing command options.

Moreover, should we ever acquire nuclear weapons with very low yields and effects tailored to minimize fallout and collateral damage, undoubtedly there will be even more pressure from military and civilian leaders to use them in conventional conflicts against targets for which conventional weapons are only marginally effective. Nuclear use has been considered in a number of conflicts and crises since the advent of nuclear weapons and, in some cases, nuclear threats were issued and/or forces alerted.¹⁷ It is not clear that we would have enjoyed a six-decade tradition of nonuse had so-called “boutique” nuclear weapons been available at the times of these conflicts.

The New Triad has also adversely affected nuclear arms control policy. In particular, the diffusion of nuclear weapons into new scenarios directly undermines the nuclear Non-Proliferation Treaty (NPT), the cornerstone of international efforts to forestall the emergence of new nuclear states and embraced by every administration since its entry into force in 1970. To strengthen the NPT by addressing concerns of nonnuclear state parties, they are renouncing a potentially vital military capability, so-called “negative assurances,” that were issued by the United States and other nuclear-weapon states. The Carter administration, in a 1978 negative assurance, provided a commitment that it would not utilize nuclear weapons against a nonnuclear NPT signatory unless first attacked by a non-nuclear-weapon state allied with a nuclear-weapon state. In bipartisan agreement, this assurance subsequently was reiterated by the Clinton administration in 1995 and by the administration of President George W. Bush

in 2002.¹⁸ Nuclear threats against nonnuclear states, even those in possession of chemical and biological weapons, directly contravene these assurances.

Illusion

A virtue of the traditional Triad beyond its conceptual clarity is its unambiguous reality. Each of its three metaphorical legs is realized in deployed nuclear systems of unquestioned destructiveness. During the Cold War, the horrific images of Hiroshima and Nagasaki had been seared in the public consciousness. Such powerful imagery, which no doubt contributed to the success of nuclear deterrence in preventing World War III, remains a potent element of the New Triad.

By contrast, other component systems of the New Triad have not yet achieved a comparable maturity. The offensive vertex envisions strategic strike missions executed by both nuclear and nonnuclear forces. The application of conventional munitions delivered with pinpoint accuracy anywhere on the globe would assume much of the strategic mission space previously assigned to nuclear weapons. Such a rapidly responsive global strike capability was projected as a key element of the new architecture, but reality lags far behind the planning. The systems proposed to implement such a capability are burdened by either technological or budgetary risk. Examples of the former include any system anticipating the availability of hypersonic technologies such as hypersonic cruise missiles or the Air Force’s proposed Common Aero Vehicle glider. The Conventional Trident II Modification proposal to convert two Trident ballistic missiles on each US nuclear-armed ballistic missile submarine to carry conventional warheads would seem to entail relatively low developmental risk. Yet this proposal has attracted little financial or programmatic support outside the US Navy and remains, at best, an aspiration. Thus, a

¹⁷ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (New York: Cambridge University Press, 2007); and T. V. Paul, *The Tradition of Non-Use of Nuclear Weapons* (Stanford, CA: Stanford University Press, 2009).

¹⁸ Office of Congresswoman Ellen O. Tauscher, *Rep. Tauscher Cautions against Aggressive Nuclear Policy*.

key component of the New Triad's offensive vertex is, at present, almost completely illusory.

The defensive vertex encompasses active defenses, passive defenses, and defensive information operations. National missile defense as a hedge against a limited nuclear strike by a regional adversary is arguably a prudent investment, and there is no question that missile defense technology is improving, as evidenced by the highly publicized intercepts of high-speed reentry targets.¹⁹ However, the scripted nature of these tests and the still-unresolved concerns over the system's ability to deal with decoys and other countermeasures, a development predicted by the 1999 National Intelligence Estimate (NIE),²⁰ call into question the system's reliability. Thus, national missile defense still falls far short of the robust capability, even against a limited strike, that was implicit in its inclusion in the New Triad, and the possibility that it may be overwhelmed by a multiplicity of launches, even in the absence of the predicted deployment of penetration aids, cannot be discounted. And, of course, by design, it cannot provide any defense against a massive launch by a nuclear peer. The Pentagon is also invested in securing our national security systems against cyber attack. But revelations of frequent foreign cyber attacks,²¹ as well as the rapidly adaptive nature of the cyber threat, suggest we are also a long way from achieving robust information operations security.

The third vertex, responsive infrastructure, is presently more of a proposal in progress with

an uncertain funding future than a well-defined collection of capabilities. Conceptually, the responsive infrastructure is one that, *inter alia*, supports an acquisition process that considerably shortens the decades-long lag before an operational system is fielded; can ramp up production to meet changing strategic requirements and thus satisfy dissuasion and assurance needs with a smaller ready stockpile; and that is supported by a technical base of people and R&D facilities that can respond rapidly to mitigate the risks of technological surprise. Details of how this infrastructure may be realized are notably sparse. Some suggestions seem more focused on preserving organizational equities than explaining the seamless integration of these capabilities into the new paradigm. In any event, what should be quite clear is that this vertex of the New Triad does not actually exist at present.

Nevertheless, the degree of immaturity of all its vertices raises legitimate doubt that the New Triad's promise of a functioning integrated system of strategic capabilities will be realized in the foreseeable future, if ever.

The New Triad cannot be blamed for lack of technical and programmatic maturity of its constituents. It was always understood that its components were works in progress and their accelerated development would be catalyzed by the new strategic vision. Nevertheless, the degree of immaturity of all its vertices raises legitimate doubt that the New Triad's promise of a functioning integrated system of strategic capabilities will be realized in the foreseeable future, if ever.

Meanwhile, illusions can be perilous when confused with reality. In 2003, the Undersecretary of Defense for Acquisitions, Technology, and Logistics asserted in testimony before Congress—incredibly, given the limited and mixed test record at the time and the uncertainties associated with the threat—that the

¹⁹ Missile Defense Agency, *TESTING: Building Confidence*, 2009 BMDS Booklet.

²⁰ Robert D. Walpole, *Foreign Missile Developments and the Ballistic Missile Threat: Statement for the Record to the Senate Foreign Relations Committee on Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015*, September 16, 1999, <https://www.cia.gov/news-information/speeches-testimony/1999/walpole.htm>.

²¹ Jim Garamone, "Cyber Defense Cost Pentagon \$100 Million in Six Months, Officials Say," *American Forces Press Service*, April 8, 2009, <http://archive.defense.gov/news/newsarticle.aspx?id=53852>.

national missile defense system would likely perform “in the 90 percent range” against a North Korean attack.²² Following the launch of a North Korean Taepo Dong-2 missile in 2006, President Bush remarked, “Yes, I think we had a reasonable chance to shoot it down. At least that’s what the military commanders told me.”²³ More recently, confidence in the ability of this system to shoot down a North Korean launch was reiterated by the Director of the Missile Defense Agency²⁴ and by the Secretary of Defense.²⁵ At the same time, distinguished scientists evaluating the same test data estimate a testing success rate of less than 50 percent while also pointing to the lack of data on system effectiveness against countermeasures predicted by the 1999 NIE.²⁶ If these scientists are correct, it is unsettling to contemplate critical decisions being made based on an illusory assessment of the national missile defense system’s effectiveness.

²² Edward “Pete” Aldridge Jr., *Testimony Before the Committee on Armed Services Committee, House of Representatives*, March 20, 2003, http://commdocs.house.gov/committees/security/has079000.000/has079000_of.htm.

²³ George W. Bush, *The President’s News Conference in Chicago*, July 7, 2006, The American Presidency Project, <http://www.presidency.ucsb.edu/ws/index.php?pid=277>.

²⁴ Henry A. Obering III, *Unclassified Statement of Lieutenant General Henry A. Obering III, USAF, Director, Missile Defense Agency, Before the Senate Armed Services Committee Strategic Forces Subcommittee Regarding the Fiscal Year 2008 Defense Authorization Ballistic Missile Defense*, April 11, 2007, http://www.globalsecurity.org/space/library/congress/2007_h/070411-obering.pdf.

²⁵ Viola Gienger, “Gates Says U.S. Could Repel North Korean Missile (Update1),” *Bloomberg.com*, June 12, 2009.

²⁶ Philip E. Coyle III, “What Are the Prospects, What Are the Costs?: Oversight of Ballistic Missile Defense (Part 2),” *Prepared Remarks Before the House Committee on Oversight and Government Reform, Subcommittee on National Security and Foreign Affairs*, April 16, 2008, <https://www.gpo.gov/fdsys/pkg/CHRG-110hhrg48660/pdf/CHRG-110hhrg48660.pdf>; and Andrew M. Sessler et al., *Countermeasures: A Technical Evaluation of the Operational Effectiveness of the Planned US National Missile Defense System* (Cambridge, MA: Union of Concerned Scientists, April 2000), http://www.ucsusa.org/assets/documents/nwgs/cm_all.pdf.

Another danger of a chimerical New Triad is that it may lead to a diminution of the real capabilities deployed by the traditional Triad under the illusion they are being replaced by new systems. With the withering of the “old” in the face of competition for scarce financial resources and arms control policy considerations, and its replacement by a fully operational “new” to be accomplished at a date uncertain, if ever, there is a real potential for a gap in our strategic capabilities to develop, to our peril. Of direct and immediate relevance, as we consider deeper reductions in nuclear forces in the context of a bilateral arms treaty with Russia, we could be misled by the illusions of the New Triad to agree to limits lower than prudent.

Confusion

The expansion of the New Triad to admit a far broader spectrum of potential courses of action that contribute to assure, dissuade, deter, and defeat than nuclear weapons alone could provide has served more to confuse than to inspire a new rationale for the role of nuclear weapons in the twenty-first century. For both proponents and critics, the New Triad has fallen short of expectations, in no small part because of the confusion it has engendered. Its implementation within DoD has been spotty, its reception by Congress has ranged from tepid to hostile, and it has created concern among our allies regarding the US commitment to extended nuclear deterrence.

One of the most confusing aspects of the New Triad is the question of what is “in” and what is “out.” For example, the offensive vertex includes nonkinetic strike capabilities. Does this mean that cyber warfare in its entirety should be part of the New Triad? Should all space platforms that underpin the crosscutting command, control, intelligence, and planning capability be included? Just which conventional strike capabilities are to be designated as components of the new strategic order? Why not also include elements of “soft power” to influence the global security environment using diplomatic, informational,

military, and economic (DIME) means? These and myriad similar questions cannot be answered without a logic for including components in the New Triad and, just as important, a logic for stopping. Absent such a coherent and consistent logic for choosing the essential constituents of the New Triad, the specific role played by nuclear weapons within the broad spectrum of possible strategic options will remain ill-defined and confused.

One need only look at the brief but tortured history of the global strike mission to get a sense of the practical impact of the confusion engendered by the New Triad. Global strike was one of four new missions assigned to USSTRATCOM in January 2003.²⁷ It represented an early operational implementation of the New Triad intended to deliver rapid, limited-duration, extended-range precision kinetic and nonkinetic effects. The initial focus of global strike was on establishing a conventional kinetic strike capability. However, in short order, nuclear-strike options were included, and soon it would encompass the entire New Triad offensive vertex. As it became obvious that only the nuclear global strike options were presently executable, USSTRATCOM relegated global strike to a planning function supporting the geographic combatant commands. Yet, a recent Government Accountability Office (GAO) report noted that confusion reigns over the elements of global strike among key stakeholders, particularly the geographic combatant commanders.²⁸

²⁷ George W. Casey Jr., *Promulgation of Unified Command Plan 2002 (with Change-1 and Change-2 Incorporated)*, MCM-0016-03, February 4, 2003, http://www.dod.mil/pubs/foi/reading_room/1010.pdf. See also Mark Hubbs, "U.S. Army Space Command Activated," *The Eagle*, April 2007, 10, <http://www.smcd.army.mil/2008/Historical/Eagle/ARSPACE.pdf>.

²⁸ Government Accountability Office, *Military Transformation: DOD Needs to Strengthen Implementation of Its Global Strike Concept and Provide a Comprehensive Investment Approach for Acquiring Needed Capabilities*, GAO-08-325 (Washington, DC: Government Accountability Office, April 2008), <http://www.fas.org/programs/ssp/nukes/doctrine/GAOPApril2008.pdf>.

The GAO further determined that there is no uniform interpretation of the "concept, scope, range, and potential use of the capabilities needed to implement global strike," and the combatant commanders are having trouble distinguishing global strike from strike operations already included as part of their long-standing mission responsibilities within their theaters of operation. Differing official descriptions of the global strike mission have been offered up,²⁹ and, in the resulting confusion, representatives from both Pacific Fleet and the US Army informed the GAO that global strike was not incorporated in any of their planning activities or training documents. In the GAO's understated summary: "Without a complete and clearly articulated concept that is well communicated and practiced with key stakeholders, DoD could encounter difficulties in fully implementing its concept and building the necessary relationships for carrying out global strike operations."³⁰

It would be the ultimate irony if the New Triad, which was intended to assure our allies, actually contributes to undermining extended deterrence.

The conceptual and definitional ambiguities of the New Triad coupled with the stagnation and potential atrophy of traditional Triad components pose a dilemma for our allies, who in the past have depended on the extended deterrence afforded by the US nuclear umbrella. Will they patiently stand by

²⁹ *Report to Congress: Global Strike Plan*, The Office of the Secretary of Defense, June 2004; *Global Strike Joint Integrating Concept*, Department of Defense, January 2005; *Deterrence Operations Joint Operating Concept*, Department of Defense, July 2006; *Air Force Concepts of Operations*, Department of the Air Force, December 27, 2006; and *Homeland Defense*, Joint Chiefs of Staff, Joint Publication 3-27, July 12, 2007. The alternative definitions used by the DoD to describe global strike in these documents are presented in Government Accountability Office, *Military Transformation*.

³⁰ Government Accountability Office, *Military Transformation*.

and wait for clarity to emerge, or will they develop independent approaches to their national security interests? It is not inconceivable that some of our allies with the means to develop a nuclear arsenal will do so. While such an outcome cannot, of course, be blamed entirely on the New Triad, it would be the ultimate irony if the New Triad, which was intended to assure our allies, actually contributes to undermining extended deterrence.

The promise of nuclear deterrence—the sure and calamitous retribution for a nuclear or other extreme attack from a nuclear state—must be both transparent and intelligible to its intended audience. The New Triad is neither.

The New Triad construct has also been ineffective as a means for communicating the justification for new strategic programs to Congress and the public. Advocates of nuclear modernization view it largely as a ploy to subvert the prominence of nuclear weapons; opponents of nuclear modernization see it as a ploy to develop new advanced nuclear warheads and missile defenses. In any event, the architects and proponents of the New Triad have failed to properly delineate the relative roles of nuclear versus conventional and offense versus defense, as well as the respective force structure and associated infrastructure needs. The resulting confusion has contributed to legislative paralysis on matters vital to national security. Thus, for example, the Reliable Replacement Warhead (RRW) program touted by the George W. Bush administration as a key element of its strategic vision—indeed as an essential “enabler” of the whole responsive infrastructure vertex of the New Triad—was deferred by Congress until a clear strategic vision could be articulated.³¹

³¹ In deleting funding for the Reliable Replacement Warhead (RRW) program, the House Committee on Appropriations

A Perspective on the Way Ahead

Rather than the realization of a new strategic consensus, the New Triad is a reflection of a deterrence policy that has lost both focus and effectiveness and now stands as an impediment to both. While we do not offer a comprehensive alternative prescription, we believe the Obama administration should pursue the following steps to help chart the path toward a sound, self-consistent framework that will help to focus and stabilize our national nuclear weapons enterprise.

- (1) **Scrap the New Triad, but critically evaluate the traditional Triad.** Our arguments for scrapping the New Triad are summarized by the subtitle of this paper. We add here only that we can find no downside to abandoning that construct. We also note, however, that there is a certain mysticism associated with the number three. Such is the power of the traditional Triad that it was probably impossible to dismiss it without replacing it by a new triad. And it still lives on—a triad within a triad. But as we consider deeper reductions in our strategic forces, it’s time to put mysticism aside and consider rationally whether we need to retain all three legs of the traditional Triad.

noted, “The Committee also finds no validity in arguments that we should (1) first build a new nuclear weapons complex and later decide what to do with it, (2) produce a new nuclear warhead and later contemplate how to arrive at a contemporary, coherent, and durable strategy for it, or (3) design a new high-margin warhead first and consider the question of nuclear testing afterward. Before the Committee will consider funding for most new programs, substantial changes to the existing nuclear weapons complex, or funding for the RRW, the Committee insists that the following sequence be completed: (1) replacement of Cold War strategies with a 21st century nuclear deterrent strategy sharply focused on today’s and tomorrow’s threats, and capable of serving the national security needs of future Administrations and future Congresses without need for nuclear testing; (2) determination of the size and nature of the nuclear stockpile sufficient to serve that strategy; (3) determination of the size and nature of the nuclear weapons complex needed to support that future stockpile.” (*House Report 110-921—Energy and Water Development Appropriations Bill, 2009*, <https://www.congress.gov/congressional-report/110th-congress/house-report/921/1>).

We recommend that DoD perform a risk-based assessment to determine the relative contribution of each leg of the traditional Triad to nuclear deterrence. This assessment should be comprehensive and include such factors such as the robustness of each leg to disruptive technologies, life-cycle costs, and scaling the nuclear infrastructure to the requirements of a revamped strategic force structure. While it is apparent that a triad of forces will be maintained at force levels as low as one thousand weapons, primarily due to political, bureaucratic, and inertial forces, such an assessment will be critical to supporting nuclear arms reductions below that level and should be undertaken now to inform force structure decisions at higher levels that could constrain future options.

- (2) **Divorce “nuclear” and “conventional” deterrence.** We have argued that the most serious flaw of the New Triad is the entanglement of nuclear and conventional forces. While concerns with the inadequacy of nuclear deterrence against rogue states armed with chemical, biological, and especially nuclear weapons are not to be taken lightly, the remedy reflected in the New Triad of supplementing nuclear weapons with conventional weapons creates its own set of unintended consequences, notably undermining deterrence and stability. Conventional weapons are the essential means for deterrence of chemical and biological attacks, but they only undermine deterrence of nuclear attacks.

A better approach, the basis for which is discussed in our final recommendation, is to not attempt to apply nuclear deterrence to nonnuclear adversaries for any purpose; to recognize that US nuclear deterrence of nuclear threats by rogue states does not have a credibility issue; and to appreciate that the possibility of nuclear-armed rogue states constraining US freedom of action is a problem more in the mind of US defense planners than a prospect that

rogue leaders can confidently exploit. Whatever approach is adopted, nuclear weapons must be put in a category all their own rather than at one end of the spectrum of conventional and nuclear capabilities.

- (3) **Reserve nuclear weapons for deterring extreme threats and responding to extreme attacks from nuclear states for which no lesser military capabilities suffice.** The primary purpose of nuclear deterrence should be to prevent nuclear attacks and wars of attrition between peer or near-peer adversaries. We should not delude ourselves into thinking that nuclear deterrence can be applied to all threats. The lower the level of violence and the lower the US stakes in the crisis or conflict, the less credible is the threat—and more counterproductive the act—of nuclear retribution. In particular, we should resist the temptation to *categorically* apply nuclear deterrence to threats of chemical and biological attacks.

Most conceivable biological attacks and essentially all realistic chemical attacks do not rise to the level implicit in the label “weapons of mass destruction.” Thus, a nuclear response would be disproportionate and would set a precedent with almost certainly undesirable, perhaps grievous, consequences. Even the current ambiguity in US declaratory policy regarding the possibility of nuclear responses to chemical and biological attacks is troublesome. This threat almost certainly never will be carried out against nonnuclear states for which lesser responses are sufficient and serves mainly to encourage these states to acquire nuclear weapons. However, for deterring or responding to the more extreme variants of biological attacks from nuclear states, nuclear threats may be warranted and nuclear response justified if additional attacks can be thereby—and only thereby—prevented.

The way forward may require some looking backward—recapturing the clarity of a national

security strategy in which the role of nuclear weapons was distinguished from that of conventional forces. Yet, looking backward does not mean forever preserving the traditional Triad. The entire nuclear weapons enterprise, from warheads and delivery vehicles to stockpiles and production, must be scaled to a new reality. Eventual nuclear abolition is an Obama administration aspiration, and bilateral reduction of current arsenals is a step in that direction, but letting our nuclear deterrent wither from failure to achieve consensus on the way ahead represents a dangerous foray into uncharted waters. The promise of nuclear deterrence—the sure and calamitous retribution for a nuclear or other extreme attack from a nuclear state—must be both transparent and intelligible to its intended audience. The New Triad is neither.

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