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Evolution of the Historical Nuclear Narrative

The past 27 years—which encompass the demise of the Soviet Union, the September 11 attacks, the Iraq and Afghanistan wars, the rise of competing nations, and a powerful surge in instances of nonstate terrorism—have had a profound effect on the way the United States reflects upon, views, and articulates its reasoning for its nuclear capabilities. U.S. nuclear policy today is not the U.S. nuclear policy of the Cold War; neither is it the nuclear policy of 15 or even 10 years ago. Without an understanding of the global security threats under which those policy decisions were made, and without the broader circumstances in which certain words were said, any analysis of the narrative surrounding U.S. nuclear weapons would be incomplete. The threats and the words are inextricably linked.

This report therefore analyzes the evolving historical nuclear narrative while simultaneously juxtaposing it against an overview of the international security environment that has provided the backdrop for, and directly influenced, the statements and decisions made about the arsenal between 1989 and the present. (See Appendix D for the full timelines.) Who said what, and when? What was happening in the world at the time, and did these statements represent a shift in nuclear policy at the time? Though far from a complete recounting of history, the timelines do seek to highlight and provide a better sense of the global threats facing the United States, the evolution of nuclear capabilities elsewhere in the world, and the notable incidents that affected the organization and efficacy of the nuclear enterprise.

A CHANGING SECURITY ENVIRONMENT

This study divides the years between 1989 and the present into three “eras,” the first spanning from 1989 to September 11, 2001; the second from September 11, 2001 to the end of 2010; and the third from 2011 through the present. These divisions were chosen along defining moments in the international security environment. The 1989 fall of the Berlin Wall, as the iconic image symbolizing the end of the Cold War, and the al-Qaeda-sponsored terror attacks of September 11 provided

natural bookends for marking the first and second eras. The beginning of the third era proved more difficult to pinpoint. It seems, however, that with the launch of the Prague Agenda (to move toward a world without nuclear weapons) and the Nuclear Security Summit process (to deter nuclear terrorism around the globe), as well as the signing and ratification of the New START (Strategic Arms Reduction Treaty), 2010 ended as a high-water mark for nuclear optimism. By 2011, the Arab Spring was taking hold in the Middle East, prompting North Atlantic Treaty Organization (NATO) intervention in Libya. Relations with Russia had begun to deteriorate significantly, ultimately leading to Moscow's decision to terminate cooperative nuclear projects with the United States and intervene militarily in Ukraine and Syria. In Asia, China's more aggressive posturing, North Korea's provocative behavior, and new revelations about Pakistan's nuclear capabilities suggested a nuclear security environment that appeared more complex, chaotic, and risky than it had been in the preceding years.

Era 1: Decline and Dissolution of the Soviet Union (1989–2001)

The first era saw an immense shift on the international stage when the Soviet Union's sudden collapse relieved the United States of its primary strategic threat. By 1991, the Cold War was over, and it had left the United States as the singular superpower, with tens of thousands of weapons in its nuclear stockpile. While the preceding decades had been defined by constant anxiety and present dangers, this period instead simmered with a buildup of emerging powers in pursuit of nuclear and other nonconventional capabilities that threatened to destabilize the new international system.

As the Soviet Union's central government failed, so too did its infrastructure for securing its expansive nuclear, biological, and chemical weapons stockpiles collapse—leading to increased risk that the chaos of the new political system would give opportunity to third parties seeking to acquire such arms. U.S. observers at the time feared that weakened control mechanisms over Soviet tactical nuclear weapons, deterioration of nuclear facilities, and unemployment of nuclear scientists might leave materials and knowledge vulnerable to exploitation, theft, or misuse. Of additional concern were the tens of thousands of nuclear warheads, as well as components of other weapons of mass destruction (WMD), left by the former Soviet regime in the newly independent republics. Though Belarus, Kazakhstan, and Ukraine signed the Lisbon Protocol in May 1992, actual implementation of the agreement proved thorny, with Ukraine in particular requiring compensation and extensive security assurances from Russia and the United States before it would relinquish what was then the third-largest nuclear arsenal in the world.¹ In response to both of these proliferation risks, the United States established the Nunn-Lugar Cooperative Threat Reduction (CTR) Program to assist Russia in safeguarding and eliminating these weapons of mass destruction.² Simultaneously, the United States also led in cooperative international initiatives to prevent the further proliferation of nuclear weapons: after signing START I and II treaties with Russia in 1991 and 1993 to initiate bilateral drawdowns of the two nations'

1. Arms Control Association, "The Lisbon Protocol at a Glance," last modified March 2014, <https://www.armscontrol.org/node/3289>.

2. Defense Threat Reduction Agency, "Nunn-Lugar Cooperative Threat Reduction Program," accessed September 27, 2016, <http://www.dtra.mil/Missions/Partnering/CooperativeThreatReductionProgram.aspx>.

respective nuclear forces, the United States also pushed for the renewal of the Nuclear Non-Proliferation Treaty (NPT) in 1995.³

As one threat to the U.S. interests fell into decline, others sought to fill its space. The Gulf War, the United States' first major post–Cold War military operation, shed light on Iraq's burgeoning chemical weapons program and illustrated the new, wider range of chemical, biological, radiological, and nuclear (CBRN) threats opposing the United States. Several nations—China, France, India, and Pakistan—conducted nuclear tests, and Pakistan publicly admitted that it had the ability to make a nuclear weapon. The unpredictable leadership of “rogue regimes” such as Iran and North Korea actively sought nuclear capability, while a series of breaches at U.S. nuclear laboratories sparked worries that the nation's nuclear secrets were vulnerable to theft, particularly by the Chinese. Additionally, nonstate actors came to the fore as instances of terrorism, most notably the World Trade Center bombing in 1993 and the Oklahoma City bombing in 1995, demonstrated the danger that individuals or groups could pose should they acquire weapons of mass destruction.

Yet, in spite of this rising tide of states and rogue actors, it was clear in the wake of the Cold War that the United States now possessed a nuclear arsenal, some 23,000 weapons at the start of George H. W. Bush's presidency in 1989,⁴ that was disproportionate to the existing threat. Absent the Soviet Union, the existential threat that animated the role of nuclear weapons in U.S. strategy, the U.S. arsenal's function—to deter a nuclear attack through the retaliatory threat of unacceptable damage—seemed misaligned with a security environment that was trending in the right direction for U.S. interests. As various government officials noted in the mid-to-late 1990s, nuclear weapons had not played so small a role in U.S. security strategy “at any time since their inception.”⁵ In 1995, then Senator Joe Biden sharply criticized those “nuclear theologians in the Pentagon and elsewhere,” with their “old-time religion,” who would instead prefer to see the status quo maintained. Even 7,000 warheads, he said, was “a level as seemingly obsolete as a statue of Lenin on a square in Saint Petersburg.”⁶

Like Senator Biden, other policymakers largely welcomed the change and advocated for the continued decline of the U.S. nuclear stockpile. They reimagined the function of nuclear weapons (see Table 1.1), circumscribing its place within U.S. national security strategy in favor of placing more of the burden of deterrence on conventional weapons, which they deemed capable of meeting a greater number of the threats to the United States. In this emerging post–Cold War security environment, many believed that, increasingly, the United States' conventional military capability could deter and counter most, if not all, credible threats. Retired U.S. Army Gen. Andrew J. Goodpaster and retired U.S. Air Force Gen. Lee Butler testified to this effect before the Senate Governmental Affairs Committee:

3. U.S. Department of State, “Treaties and Agreements,” accessed September 27, 2016, <http://www.state.gov/t/avc/trty/index.htm>.

4. U.S. Department of State, “Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile,” last modified April 29, 2014, <http://www.state.gov/documents/organization/225555.pdf>.

5. *Consideration of Ratification of the Treaty between the U.S. and the Russian Federation on Further Reduction and Limitations of Strategic Offensive Arms Treaty*, Hearing before the Senate Committee on Foreign Relations, 104th Cong. 28 (1995) (statement of John D. Holum, director, U.S. Arms Control and Disarmament Agency).

6. *Ibid.*, 14–15 (statement of Senator Joseph R. Biden, Jr.).

Table 1.1. Narrative Themes in Era 1

	Role	Priority	Function	Posture
Era 1 1989–2001: Decline and Dissolution of the Soviet Union	<p>Salience of nuclear weapons at lowest point since their inception</p> <p>A greater number of current threats can largely be met with conventional weapons</p> <p>Trend that more threats can be covered by conventional capabilities seems likely to continue</p>	<p>Reduced prominence of nuclear-relevant threats allows for cost-cutting and downsizing of nuclear enterprise</p> <p>Emphasis on reducing the stockpile of nuclear weapons, not defining the role of the remaining weapons</p>	<p>Deterrence still important, but arsenal mostly a hedge against future threats and reversal of positive trends</p> <p>Nuclear arsenal deters WMD acquisition and use by allies under nuclear umbrella as well as rogue states and dictators</p> <p>Assurance of allies emerging as a primary rather than secondary justification for U.S. nuclear forces</p>	<p>United States will have nuclear weapons as long as other states do</p> <p>Maintenance of nuclear triad required for “hedge” to manage uncertainty</p> <p>“Lead but hedge”: Reduce deployed forces, but retain stockpile and non-strategic weapons as a hedge</p>

Note: For full matrix, see Appendix C.

The roles of nuclear weapons for purposes of security have been sharply narrowed in terms of the security of the United States. Now and in the future they basically provide an option to respond in kind to a nuclear threat or nuclear attack by others. In the world environment now foreseen, they are not needed against nonnuclear opponents. Conventional capabilities can provide a sufficient deterrent and defense against conventional forces and in combination with defensive measures, against the threat of chemical or biological weapons. As symbols of prestige and international standing, nuclear weapons are of markedly reduced importance.⁷

The change would allow for a commensurate downscaling of the nuclear enterprise, which would adjust accordingly with the new requirements of the Stockpile Stewardship and Management Program. There would be, in other words, “fewer weapons, fewer types of weapons, no production of new types of weapons, an aging stockpile, a production capability in need of modernization, and no nuclear testing.”⁸ The nuclear mission post-1992, as one former senior military official interviewee described it, seemed to DoD to be “a ‘sunset mission’ that would eventually go away.”

7. *The Future of Nuclear Deterrence, Hearing before the Senate Subcommittee on International Security, Proliferation, and Federal Services, 105th Cong. 61 (1997)* (statement of Gen. Andrew J. Goodpaster, U.S. Army [Ret.], and Gen. Lee Butler, U.S. Air Force [Ret.]).

8. *Department of Energy Budget Request for Fiscal Year 1997, Hearing before the House Subcommittee on Military Procurement, 104th Cong. 72 (1996)* (statement of C. Bruce Tarter, director, Lawrence Livermore National Laboratory).

A range of policymakers, including Secretary of Defense Richard Cheney, nonetheless kept an eye on the “uncertain future,”⁹ cognizant that positive trends in the former Soviet Union could reverse and that unanticipated crises might arise elsewhere in the world. While they believed that the posture of the arsenal could and should be adjusted to fit the changed circumstances, they did not push for the complete elimination of U.S. nuclear weapons. The United States, they determined, must “lead but hedge.” That is, it must simultaneously lead the world toward “further reductions and increased weapons safety and improved relations” and “[hedge] against the possibility of reversal of reform in Russia.”¹⁰ William J. Perry, then deputy secretary of defense, noted the necessity of these precautions in 1993: “Not only do we need to maintain a deterrent in place, but we need to have some capability to reconstitute our nuclear forces above the levels which you are now driving them to in the START I and the START II, to hedge against the possibility that such an unfriendly regime might not only reassert the military power, but might begin a buildup of nuclear forces.”¹¹

Era 2: 9/11 and Terrorism, Afghanistan and Iraq Wars (2001–2010)

The second era begins with the September 11, 2001 attacks on the World Trade Center in New York, the Pentagon in Washington, and a commercial airplane in Pennsylvania, and ends with the United States’ ratification of New START in 2010. In the wake of 9/11, the United States embarked on a “Global War on Terror” and plunged into the wars in Afghanistan and Iraq in 2001 and 2003 as it fought to subdue a new generation of extremists and state sponsors of terrorism. The two wars’ subsequently dismaying results embroiled the United States in the turmoil of the Middle East for much of the decade, though President Barack Obama’s reassessment of U.S. foreign policy sought to shift the nation’s attentions and to usher in both a rebalance to East Asia and a reset with Russia. Shortly after the 9/11 attacks, the United States launched Operation Enduring Freedom in Afghanistan against the Taliban and al Qaeda. Within two months, coalition forces recaptured Kandahar—a victory that appeared to have marked the fall of the Taliban’s rule and the start of reconstruction. But a resurgence of the Taliban over the next several years frustrated efforts to establish a stable system of governance and scale back the American presence in Afghanistan.¹² In March 2003, the United States turned toward Iraq, which preoccupied national attention for the next decade. Despite the capture of Saddam Hussein in December 2003, the Iraq War continued, with a “surge” of troops committed in 2007, until President Obama formally ended the combat mission in 2010.¹³ The demands of global terrorism and two grueling wars naturally diverted attention and resources

9. *Military Implications of START I and START II, Hearing before the Senate Committee on Armed Services*, 102nd Cong. 9 (1992) (statement of Richard B. Cheney, secretary of defense, U.S. Department of Defense).

10. *The Future of Nuclear Deterrence, Hearing before the Senate Subcommittee on International Security, Proliferation, and Federal Services*, 105th Cong. 6 (1997) (statement of Walter B. Slocumbe, undersecretary of defense for policy, U.S. Department of Defense).

11. *Evaluation of the U.S. Strategic Nuclear Triad, Hearing before the Senate Committee on Governmental Affairs*, 103rd Cong. 14–15 (1993) (statement of William J. Perry, deputy secretary of defense, U.S. Department of Defense).

12. Greg Bruno, “Timeline: U.S. War in Afghanistan,” Council on Foreign Relations, June 2013, <http://www.cfr.org/afghanistan/us-war-afghanistan/p20018>.

13. Greg Bruno, “Timeline: The Iraq War,” Council on Foreign Relations, October 2011, <http://www.cfr.org/iraq/timeline-iraq-war/p18876>.

away from a nuclear mission that focused on less urgent and less likely threats, even though the latter had more existential implications.

In the meantime, the nuclear ambitions of other parties challenged nonproliferation efforts. Unlike Libya, which voluntarily disclosed and began dismantlement of its WMD programs in 2003 after pressure from the United States,¹⁴ Iran maintained its illicit programs in the face of crippling sanctions. North Korea withdrew from the Non-Proliferation Treaty in 2003 and conducted nuclear tests in 2006 and 2009.¹⁵ Further, intelligence sources found that al Qaeda and other extremists actively plotted CBRN attacks and learned crude procedures for making chemical agents.¹⁶

States elsewhere in the world also rose to the status of economic and strategic powerhouses. China, in particular, had become the world's second-largest economy by the end of 2010¹⁷ and had adopted an aggressive stance on territorial disputes that resulted in tension with several neighbors. The Obama administration's rebalance to Asia recognized the growing importance of this region and the need to work closely with allies to maintain security.

Most U.S. thought leaders maintained in this era that the United States could proceed in reducing its nuclear stockpile. Conventional capabilities had improved by leaps and bounds—while the still-vast U.S. nuclear arsenal “[continued] to reflect its Cold War origin.”¹⁸ The September 11 attacks, for some, highlighted the question of whether the United States should rely on nuclear weapons to meet the evolving needs of the twenty-first century. Nuclear terrorism loomed large. It seemed unclear at the time, however, whether nuclear weapons would deter terrorists. Secretary of Defense Donald Rumsfeld expressed this very doubt in 2002, saying:

Today our adversaries have changed. The terrorists who struck us on September 11 were clearly not deterred by doing so from the massive U.S. nuclear arsenal. In the twenty-first century, we need to find new ways to deter new adversaries that will most assuredly arise. That's why President [George W.] Bush is taking a new approach to strategic deterrence, one that will combine deep reductions in offensive nuclear forces with improved conventional capabilities and the development and deployment of missile defenses capable of protecting the U.S. and our friends and forces deployed from limited missile attacks.¹⁹

14. Arms Control Association, “Chronology of Libya’s Disarmament and Relations with the United States,” last updated September 2016, <https://www.armscontrol.org/factsheets/LibyaChronology>.

15. “North Korea Nuclear Timeline Fast Facts,” CNN, February 27, 2014, <http://www.cnn.com/2013/10/29/world/asia/north-korea-nuclear-timeline—fast-facts/>.

16. Rolf Mowatt-Larssen, “Al Qaeda’s Pursuit of Weapons of Mass Destruction,” *Foreign Policy*, January 25, 2010, <http://foreignpolicy.com/2010/01/25/al-qaedas-pursuit-of-weapons-of-mass-destruction/>.

17. Andrew Monahan, “China Overtakes Japan as World’s No. 2 Economy,” *Wall Street Journal*, February 14, 2011, <http://www.wsj.com/articles/SB10001424052748703361904576142832741439402>.

18. U.S. Department of Defense, “2002 Nuclear Posture Review [Excerpts],” January 8, 2002, available at <http://web.stanford.edu/class/polisci211z/2.6/NPR2001leaked.pdf>.

19. Donald Rumsfeld, “Secretary Rumsfeld Speaks on ‘Twenty-first Century Transformation’ of U.S. Armed Forces” (speech, National Defense University, Fort McNair, Washington, DC, January 31, 2002), <http://www.au.af.mil/au/awc/awcgate/dod/transformation-secdef-31jan02.htm>.

Table 1.2. Narrative Themes in Era 2

	Role	Priority	Function	Posture
Era 2 2001–2010: 9/11 and Terrorism, Afghanistan and Iraq Wars	Proactive shifting of deterrence from nuclear to conventional capabilities	Nuclear arsenal in need of revitalization, but “War on Terror” took precedence Increasing alarm, particularly about the National Nuclear Security Administration (NNSA) and the labs, about the pernicious effects of lack of attention and investment	Nuclear weapons do not deter twenty-first-century terrorist organizations and rogue states, which make illogical cost calculations Hedge even more appropriate given an increasingly complex security environment Need to reassure allies that might otherwise consider nuclear option a policy priority	United States will have nuclear weapons as long as other states do Overhaul of nuclear capabilities for flexibility in addressing new threats New Triad will encompass more than offensive nuclear forces Though arsenal will shrink, it must remain safe, secure, and reliable

Note: For full matrix, see Appendix C.

Some policymakers believed that the United States could actively shift away from dependence on nuclear weapons for deterrence (see Table 1.2). Rather than argue for such a reduced dependence, however, the Bush administration emphasized the need to adapt the U.S. deterrence posture to new threats. Yet the initiatives laid out in the congressionally mandated²⁰ 2002 Nuclear Posture Review (NPR)—which included a design of a reliable replacement warhead (RRW), as well as a New Triad that encompassed the ability “to defeat emerging threats such as hard and deeply buried targets (HDBT), to find and attack mobile and relocatable targets, to defeat chemical or biological agents, and to improve accuracy and limit collateral damage”²¹—eventually petered out. The 2002 NPR was a classified review with no unclassified companion document, which sharply limited coherent public discourse on the emerging policy and yet fueled opposition among an already-skeptical audience of stakeholders. Many of the review’s key proposals, which quickly leaked to Bush administration opponents, were met with skepticism and criticism from some corners. The country as a whole was preoccupied with the wars in the Middle East. The appetite for investing in nuclear weapons, especially in the middle of this era, was at an all-time low. One former senior civilian official interviewed for this report reflected on the absence of attention to and consensus on nuclear weapons during this era, saying, “In 2004/5 to 2008, I was in the depth[s] of despair.”

A number of public Air Force incidents, most notably the 2007 accidental transportation of nuclear-tipped cruise missiles from Minot Air Force Base (AFB) in Minot, North Dakota to

20. Charles D. Ferguson, “Nuclear Posture Review,” Nuclear Threat Initiative, August 1, 2002, <http://www.nti.org/analysis/articles/nuclear-posture-review/>.

21. U.S. Department of Defense, “2002 Nuclear Posture Review [Excerpts].”

Barksdale AFB in Bossier Parish, Louisiana,²² illustrated the growing management and organizational challenges gripping the nuclear enterprise, even as the United States would continue to reduce the role of nuclear weapons in U.S. national security. The concern that the enterprise was then, as one former senior civilian official interviewee put it, “on the ragged edge of being unable to provide a ‘safe, secure, and effective’ nuclear force” led to a public review of the DoD’s role in nuclear weapons management. The 2008 Schlesinger Report observed a “loss of attention and focus, downgrading, dilution, and dispersal of officers and personnel” in DoD’s approach to the nuclear mission, and attributed this to a “failure to appreciate the larger role of deterrence—as opposed to warfighting capability.”²³ At the same time, the deterrence function received less emphasis while the assurance of allies, now a policy priority, was described as “[playing] an irreplaceable role in reducing proliferation.”²⁴ As long as other states had nuclear weapons, so too would the United States.

Toward the end of this era, discussions on the role of U.S. nuclear weapons increasingly focused on reducing the dangers of nuclear terrorism and proliferation, both of which were seen to pose a higher risk to U.S. national security than a direct nuclear attack. President Obama’s focus on nuclear security and four successive nuclear summits greatly raised awareness of nuclear security and terrorism challenges and increased the available capabilities to deal with these issues. In 2010, the continued perceived decline in strategic nuclear threats, even amid the rising concerns about nuclear terrorism by nonstate and rogue actors, made further reductions possible. President Obama’s vision of a world without nuclear weapons captured the world’s attention and raised expectations in much of the international community that such a day could be near at hand. In hindsight, ratifying New START with Russia in 2010 represented the high-water mark for nuclear optimism. When George W. Bush began his presidency in 2001, the United States possessed over 10,500 weapons in its nuclear stockpile; at the end of 2010, 5,066 remained.²⁵

Era 3: Growing Great-Power Competition in an Era of Rising Disorder (2011–Present)

This third and final era starts with the United States’ ratification of New START at the end of 2010 and continues through the present. It has been an era of unpredictable threats. As offensive military operations in Iraq wound down, nonstate enemies such as the Islamic State of Iraq and the Levant (ISIL) confounded expectations by rapidly ascending to power through astonishing acts of violence, and old adversaries—namely Russia, China, and North Korea—employed novel,

22. Joby Warrick and Walter Pincus, “Missteps in the Bunker,” *Washington Post*, September 23, 2007, <http://www.washingtonpost.com/wp-dyn/content/article/2007/09/22/AR2007092201447.html>.

23. James R. Schlesinger, “Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management, Phase II: Review of the DoD Nuclear Mission,” Secretary of Defense Task Force on DoD Nuclear Weapons Management, December 18, 2008, <http://www.defense.gov/Portals/1/Documents/pubs/PhaseIIReportFinal.pdf>.

24. Robert Gates, “Nuclear Weapons and Deterrence in the Twenty-first Century” (address, Carnegie Endowment for International Peace, Washington, DC, October 28, 2008), http://carnegieendowment.org/files/1028_transcrip_gates_checked.pdf.

25. U.S. Department of State, “Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile.”

effective methods to challenge the United States and regional partners through both military and nonmilitary means.

The upheaval and unrest foreshadowed by the December 2010 protests in Tunisia erupted as a wave of revolutions swept through the Middle East in 2011, toppling several rulers in the region²⁶ and inciting the ongoing Syrian Civil War. The fighting within Syria has divided the country into warring factions, with parts of the territory held by the Syrian government, the Islamic State, the al-Qaeda-affiliated al-Nusra Front, the Kurdish People's Protection Units (YPG), Hezbollah, and other insurgencies.²⁷ Despite a U.S. warning in 2012 that use of chemical weapons by the regime of Bashar al-Assad would cross a "red line," the United States declined to respond with military force after 1,400 civilians were killed in a chemical weapons attack by the Syrian government in August 2013—opting instead for a U.S.-Russian framework for eliminating Syria's chemical weapons arsenal. Since 2014, the United States has led coalition forces in airstrikes against ISIL in Syria and Iraq, while also calling for President Assad's resignation.

As Syria crumbled into civil war, other world events were likewise shifting the nuclear landscape. The power vacuum created by the ouster of Ukrainian president Viktor Yanukovich in 2014, precipitated by his rejection of a political and economic treaty with the European Union in exchange for closer ties with Russia, allowed Russia to annex Ukraine's Crimean Peninsula. Russian president Vladimir Putin followed the invasion with "nuclear saber rattling," plainly "reminding" the West that "it's best not to mess with [Russia]" given its status as "one of the leading nuclear powers";²⁸ declaring the addition of 40 new intercontinental ballistic missiles (ICBMs) to Russia's nuclear arsenal; and beginning a multibillion-dollar nuclear modernization program.²⁹ A year later, over U.S. objections, Russia also injected itself into the Syrian conflict, conducting airstrikes and directing cruise missiles against the rebel groups challenging Assad. Russian aggression and its demonstrated willingness to abrogate state sovereignty have prompted NATO to announce that it would be reevaluating its nuclear weapons posture.³⁰ North Korea also made troubling progress in developing its nuclear weapons program and declared in January 2016 that it had tested a hydrogen bomb (despite evidence to the contrary).³¹ Further, Pakistan adopted a new doctrine, called "Full

26. "The Arab Spring: A Year of Revolution," NPR, December 17, 2011, <http://www.npr.org/2011/12/17/143897126/the-arab-spring-a-year-of-revolution>.

27. Katie Zavadski, "A Guide to the Many Groups Fighting in Iraq and Syria," *New York Magazine*, October 17, 2014, <http://nymag.com/daily/intelligencer/2014/10/guide-groups-fighting-iraq-and-syria.html#>.

28. Colin Freeman, "Vladimir Putin: Don't Mess with Nuclear-Armed Russia," *Telegraph*, August 29, 2014, <http://www.telegraph.co.uk/news/worldnews/vladimir-putin/11064209/Vladimir-Putin-Dont-mess-with-nuclear-armed-Russia.html>.

29. Karoun Demirjian, "Russia to Increase Nuclear Arsenal as U.S. Plans More Firepower in Europe," *Washington Post*, June 16, 2015, https://www.washingtonpost.com/world/russia-to-increase-nuclear-arsenal-as-us-plans-more-firepower-in-europe/2015/06/16/2e81d4f4-1445-11e5-8457-4b431bf7ed4c_story.html.

30. Geoff Dyer and Alex Barker, "Nuclear Deterrent on NATO Agenda amid Rise in Russian Rhetoric," *Financial Times*, June 25, 2015, <http://www.ft.com/intl/cms/s/0/aa11ac16-1a8f-11e5-a130-2e7db721f996.html#axzz3z2JsQCq7>.

31. Josh Keller, Ford Fessenden, and Tim Wallace, "Why Experts Doubt That North Korea Tested a Hydrogen Bomb," *New York Times*, January 6, 2016, <http://www.nytimes.com/interactive/2016/01/06/world/asia/north-korea-nuclear-bomb-test.html>.

Table 1.3. Narrative Themes in Era 3

	Role	Priority	Function	Posture
Era 3 2011–Present: Growing Great-Power Competition in an Era of Rising Disorder	United States will keep nuclear weapons as a deterrent against nuclear attack, but long-term policy is to work toward eliminating nuclear weapons	As long as U.S. nuclear weapons exist, they must be safe, secure, and effective United States will fund modernization despite budget cutbacks Severe lapses in nuclear enterprise demonstrate consequences of previous low prioritization	United States must lead in reduction efforts if it wants nonproliferation to succeed Communicates that enemies cannot escalate their way out of failed conventional aggression U.S. nuclear arsenal primarily exists to prevent war and reassure allies The function of nuclear weapons within deterrence still shrinking as the definition of deterrence strategy expands	As long as any other state has nuclear weapons, it will be necessary for the United States to retain nuclear weapons Triad deters future foreign leadership from seeking nuclear advantage Reductions and modernization each independently important

Note: For full matrix, see Appendix C.

Spectrum Deterrence,” for its nuclear posture, which envisions a range of nuclear responses to conventional attacks by India.³²

These increased nuclear and other unconventional threats in the international security environment, combined with the recognition that the nuclear enterprise had suffered the consequences of past low prioritization, have instigated a slow but steady change in the conversation surrounding U.S. nuclear weapons. The exigencies of the present era, particularly the recent downturn in U.S.-Russia relations, have led to greater acknowledgment of the role of nuclear weapons in U.S. national security. Many of the most familiar narrative themes from the preceding eras have carried through to this period. Per President Obama’s direction, the long-term policy of the United States is to work toward a world without nuclear weapons, though the United States will retain a nuclear deterrent against nuclear attack and keep its weapons safe, secure, and effective as long as any other nation has an arsenal as well (see Table 1.3).

At the same time, another round of scandals across the nuclear enterprise in 2013 drove the morale and image of the operational nuclear force into yet another trough, suggesting that lessons observed in the prior era had not translated into lessons learned, and prompting extensive review and rethinking among those responsible for the nuclear weapons complex.

In 2015, the Obama administration has remained committed to leading in nuclear reduction efforts to promote nonproliferation around the world, while seeking to temper disarmament

32. Toby Dalton and Michael Krepon, “A Normal Nuclear Pakistan,” Carnegie Endowment for International Peace and Stimson Center, August 27, 2015, <http://carnegieendowment.org/files/NormalNuclearPakistan.pdf>.

expectations absent Russian cooperation, and has pledged strong support for modernizing an aging nuclear arsenal. Nevertheless, with a modernization bow wave fast approaching even as the government seeks to reduce the overall cost of defense under the pressures of the budget caps,³³ there is increased scrutiny on the future of the arsenal. Plans remain for the United States to modernize its weapons, which, at the end of 2013, numbered some 4,804.³⁴ In 2014, Chuck Hagel, then secretary of defense, firmly stated the Department's commitment to the nuclear enterprise: "Our nuclear deterrent plays a critical role in ensuring U.S. national security, and it's DoD's highest priority mission. No other capability we have is more important. . . . Consistent with President Obama's guidance, our policy is to reduce the role of nuclear weapons in our nation's security strategy and to seek the peace and security of a world without nuclear weapons."³⁵ Numerous officials have, over the years, further restated the assertion that the arsenal not only reassures the United States' allies but communicates "to potential nuclear-armed adversaries that they cannot escalate their way out of failed conventional aggression."³⁶

The narrative of this present era continues to take shape as the U.S. Air Force, Navy, and the broader defense establishment reflect, with greater interest than has been evident in quite some time, upon why U.S. nuclear weapons matter. The same former senior civilian official who commented that he was previously in the "depth of despair" agreed that there has been tangible change: "The consensus today on the role and value of nuclear weapons is as good as it has been in years. . . . In 2009, I never thought we would be where we are in 2015. . . . The state of the enterprise is the best I've seen in 15 years." Junior and mid-level officers interviewed in the study also tend to speak positively about the uptick in attention and express hope that the progress continues. Whether the narrative proves to be more effective than the forms that preceded it has yet to be seen, but analysis of the historical narrative across time shows that even these early developments—especially when placed within the context of the past quarter century—are greatly encouraging.

33. "Sequestration," Congressional Budget Office, August 12, 2016, <https://www.cbo.gov/topics/budget/sequestration>.

34. U.S. Department of State, "Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile."

35. Chuck Hagel, "Statement on the Nuclear Enterprise Review and Reforms" (speech, Pentagon Press Briefing Room, Arlington, VA, November 14, 2014), <http://www.defense.gov/News/Speeches/Speech-View/Article/606634>.

36. *2014 Department of Defense Authorization for Appropriations for Fiscal Year 2015 and the Future Years Defense Program, Hearing before the Senate Committee on Armed Services, 113th Cong. 6 (2014)* (statement of Elaine Bunn, deputy assistant secretary of defense, nuclear and missile defense policy, U.S. Department of Defense).

Trends in the Nuclear Narrative: 1989 to Present

Analysis of the trends within each of the individual focus areas across the entire expanse of the post–Cold War era shows that, though the years since the fall of the Berlin Wall and collapse of the Soviet Union reflect a range of shifting threats and turbulent international events, the overall narrative surrounding U.S. nuclear weapons reflects more consistency than change. Certain narrative threads weave through, in astonishingly similar articulation, the full quarter century: the role and salience of nuclear weapons is declining, even as they remain critical to deterring the most dangerous current and imagined nuclear threats. As long as these weapons exist in the world, the United States must retain its arsenal safely, securely, and effectively.

Moreover, despite the highly polarized political climate of recent decades, the shifts and differences in the arc of the nation’s nuclear narrative are relatively apolitical and do not correspond to predictable partisan patterns. That said, other prominent themes, countervailing narratives, shifting threat environments, and the degree of consensus across the nuclear and national security communities do vary significantly across the time periods. These trends and transitions within the focus areas provide important insights, not only into the most enduring and durable aspects of the historical narrative, but also into those missing themes that, even in their absence, have had a tangible impact on the health of the nuclear enterprise.

ROLE

How has the fundamental purpose of U.S. nuclear weapons and their place in U.S. national security strategy adapted to shifts in the international security context?

The collapse of the Soviet Union produced an immediate and unassailable change in the national conversation about nuclear weapons. In stark contrast to the Cold War narrative, which emphasized the irreplaceable centrality of nuclear weapons, this new conversation reflected the consequences of the near-overnight disappearance of the primary existential nuclear threat to the

United States: nuclear weapons could now and would now play “a smaller role in U.S. security than at any other time in the nuclear age.”¹ This top-level theme, which emerged in 1992, has not only persisted, but has also changed surprisingly little in the last 25 years—in spite of the international security environment having been fundamentally reshaped during that time. While the exact wording of the nuclear narrative has changed, the basic message has not: the place of nuclear weapons within U.S. national security strategy has been substantially reduced and continues to diminish.

In fact, if reduction existed as more of a reactive concept in this first post–Cold War era as a direct response to a changed environment, then it transitioned into a proactive concept in the second era. Both the Bush and Obama administrations sought to take concrete steps to reduce the role of the U.S. arsenal further still. The de-scoping of nuclear weapons, as outlined in the 2002 NPR, focused on the role of nuclear weapons with regard to deterring adversaries and on the repeated assertions that conventional offensive and defensive capabilities could and should carry more of the deterrence burden. Senator Richard Lugar’s statement in May 2002—that “the Cold War nuclear strategy [was] not appropriate for the current threat environment” and that “[nuclear weapons would] not be our primary form of deterrence”²—was echoed seven years later in 2009 by James Schlesinger, who said:

The end of the Cold War and, particularly, the collapse of the Soviet Union/ Warsaw Pact, along with the substantial edge that the United States has now developed in conventional military capabilities, have permitted this country sharply to reduce our reliance on nuclear weapons, radically to reduce our nuclear forces, and to move away from a doctrine of nuclear initiation to a new stance of nuclear response only under extreme circumstances of major attack on the United States or its allies.³

The Obama administration’s narrative has since gone a step further, proactively seeking both to reduce the role and salience of nuclear weapons and to prioritize nonproliferation and nuclear security as the primary means for addressing the most likely nuclear threats. The president offered the most defining articulation of his policy yet in his 2009 Prague speech:

The United States will take concrete steps towards a world without nuclear weapons. To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same. Make no mistake: As long as these weapons exist, the United States will maintain a safe, secure, and effective arsenal to deter any adversary, and

1. *National Security Implications of U.S. Ratification of the Strategic Arms Reduction Treaty—START II*, Hearing before the Senate Committee on Armed Services, 104th Cong. 16 (1995) (statement of Walter B. Slocombe, Under Secretary of Defense for Policy).

2. *Examining the Nuclear Posture Review*, Hearing before the Senate Committee on Foreign Relations, 107th Cong. 4 (2002) (statement of Senator Richard Lugar).

3. *Report of the Congressional Commission on the Strategic Posture of the United States*, Hearing before the House Committee on Armed Services, 111th Cong. 9 (2009) (statement of James R. Schlesinger, vice chairman, Congressional Commission on the Strategic Posture of the United States).

guarantee that defense to our allies. . . . But we will begin the work of reducing our arsenal.⁴

Over the years, this fundamental topline message about the diminishing role of nuclear weapons has also been accompanied by several recurring narrative themes, repeated, in their various formulations, in the period between 1990 and the end of 2010 with remarkable consistency:

- Nuclear terrorism is the greatest nuclear threat to the United States but against which nuclear deterrence has little value.
- Conventional weapons can meet an increasing portion of the United States' deterrence needs more reliably and at less risk.
- Russia, a principal driver of U.S. nuclear deterrence requirements, can be more partner than adversary on nuclear matters.

In the current post-2011 time frame, these other narrative themes have come under substantial pressure as the United States has increasingly come to regard Russia and China as strategic competitors and North Korea, Pakistan, and Russia as nations that are increasing their reliance on nuclear weapons and posturing them more aggressively. Nonetheless, the topline narrative on the role of nuclear weapons has yet to shift fundamentally.

Most striking of all the observations to be made about the evolving role of U.S. nuclear weapons, however, might be the near-absence—through all three historical periods—of a clear, affirmative description of why the United States continues to need a nuclear arsenal. What has existed instead is essentially a negatively framed narrative that explains and justifies decline and reduction, but that does not seek to simultaneously offer a positively framed explanation of the role that this smaller arsenal still plays in the nation's security strategy. Whereas this tendency to emphasize one and not the other in the immediate post-Cold War years reflected the good-news story about the dramatic reduction in threat to the United States, the same asymmetry in the second and third eras seems to have been more of a conscious choice to follow changes in policy and ideological views about the utility of nuclear weapons and nuclear-based deterrence in U.S. national security, as well as a desire to elevate other means of securing those objectives. Looking ahead, any credible narrative will need to do more than justify and hedge: it will need to account for a shifting and increasingly complex threat environment, frame the role of nuclear weapons as limited but essential, and message U.S. resolve in preserving stability while flatly rejecting any impression of a renewed arms race or return to the Cold War.

FUNCTION

How does the U.S. nuclear arsenal, along with its associated infrastructure and delivery systems, fulfill its role—be it large or small—in U.S. national security?

4. Barack Obama, "Remarks by President Barack Obama," White House, Office of the Press Secretary (speech, Prague, Czech Republic, April, 2009), <https://www.whitehouse.gov/the-press-office/remarks-president-barack-obama-prague-delivered>.

The idea of deterrence, primarily of the Soviet Union, as the principal and relatively understood rationale for the function of U.S. nuclear weapons immediately came under fire following the end of the Cold War. Deterrence remained important, policymakers and defense officials repeated, but deterrence was now to serve more as a “hedge” against a future and unknown threat than as a means to counter and manage a known adversary. This revised posture reflected the perceptions of a security environment that appeared relatively devoid of immediate threats to the United States. Russia was not seen as a plausible substitute for the Soviet threat, even on a vastly smaller scale, and China was only minimally on the strategic radar in the early post–Cold War years. Toward the end of the 1990s, however, the narrative—prompted by instances of terrorism such as the World Trade Center bombing in 1993 and the Oklahoma City bombing in 1995—began to reflect growing concern about nuclear terrorism as the primary nuclear threat. Simultaneously, it also reflected deep skepticism about the role of nuclear deterrence in reducing, managing, or responding to these threats.

This skepticism at least partially contributed to a narrowing over time of the conceptual scope of “nuclear” deterrence. Nuclear deterrence of conventional attack was rejected as implausible. Nuclear deterrence of nuclear terrorism was described as ineffective. Nuclear deterrence of chemical or biological attacks, while considered in the second era, was largely dismissed by the third. In 2010, the nation’s nuclear narrative stopped only slightly short of saying that the sole purpose of nuclear weapons was to deter nuclear attack. It maintained instead, in the 2010 NPR, that the United States would not respond with nuclear weapons, even to the use of chemical or biological weapons, against any nonnuclear weapons states party to the NPT and in compliance with their nuclear nonproliferation obligations.⁵ In sum, it is possible to trace a steady decline in the scope of U.S. nuclear forces’ deterrence function across all three eras.

Yet, as the scope of nuclear deterrence has narrowed, deterrence as a loosely defined concept has steadily broadened—to include, for example, conventional and “gray area” deterrence, cross-domain deterrence, and cyber and space deterrence—leading to confusion and disagreement about what deterrence is and how it works.

Even as the deterrence function for U.S. nuclear weapons narrowed and became subsumed in broader, more loosely conceptualized notions of deterrence, their assurance functions showed steady broadening in both definition and attention through the three eras. Since 2010, the assurance of partners and allies that the United States will come to their defense, and that they need not pursue independent nuclear capabilities, has become the most prominent theme ascribed to the U.S. nuclear arsenal. According to this growing narrative theme, the U.S. “nuclear umbrella” not only provides extended deterrence for the United States’ treaty allies against nuclear threats to their nations, but it also serves a nonproliferation function by dissuading allies from pursuing nuclear arsenals of their own and bolsters alliance credibility and cohesion in the conventional and political realms.

Clearly, the assurance function of nuclear weapons will remain important to any future narrative. A rationale for U.S. nuclear weapons that continues to point to a narrowing of their deterrence

5. U.S. Department of Defense, “Nuclear Posture Review Report,” April 2010, viii, http://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

function and a simultaneous broadening of the assurance function, however, is simply not sustainable. The effectiveness of nuclear weapons in assuring allies cannot be decoupled from or disproportionate to their fundamental deterrence function. These functions are inextricably linked and mutually dependent. Moreover, the muddling and misuse of the terms has sharply diminished their utility in clearly explaining how nuclear weapons fulfill their role in U.S. national security. A compelling future rationale will need to rearticulate the fundamental concepts that underlie long-standing notions of deterrence and assurance, redefining them for the current security environment and audience and speaking plainly as to why nuclear weapons remain relevant and necessary today.

POSTURE

What size, shape, distribution, and readiness of nuclear forces are necessary for them to fulfill their role and perform their functions? One simple, unwavering narrative dominates across the three eras: as long as any other state possesses nuclear weapons, the United States will as well. That said, the other narrative themes within this focus area, particularly with regard to the triad of delivery systems, have proved far more varied and contested through the years.

During the first era, officials focused primarily on reducing the stockpile, then deemed well in excess of foreseeable requirements. In the face of so much overcapacity, the narrative of the 1990s reflected support for a litany of reductions, with less concern for modernization and capability sustainment. Though senior leaders called for sustainment of the triad in the mid-1990s, they did so somewhat hesitantly and on the basis of strategic hedge, rather than defined requirements.

The beginning of the second era, however, marked an overt shift from “the threat-based approach of the Cold War to a capabilities-based approach.”⁶ The narrative that emerged in 2002 with the NPR attempted to reformulate the nuclear triad into a much wider concept, placing U.S. nuclear posture within a broader capability construct that included a range of conventional capabilities both offensive and defensive. The traditional triad—bombers, ballistic missiles, and submarines—received little public discussion during this period. Rather, by 2006 and continuing through 2011, the posture narrative returned to the matter of stockpile stewardship and warhead modernization. From 2010 to 2012, the negotiation and ratification of the New START Treaty dominated the national discussion on U.S. nuclear force structure. New START drove and codified strategic warhead numbers and delivery systems—essentially preserving the strategic triad, but with little public discussion of its sustainability and modernization. This appears to have been the quiet before the storm.

In the 2014–2015 time frame, the nuclear enterprise reviews exposed more problems within the operational nuclear force, and critical modernization decisions across all three legs of the triad received more public attention with the 2016 budget. The case for modernization and recapitalization was defended on the basis that “all three triad legs [would] best maintain strategic stability at reasonable cost, while hedging against potential technical problems or vulnerabilities or changes to

6. U.S. Department of Defense, “2002 Nuclear Posture Review [Excerpts],” accessed September 27, 2016, <http://web.stanford.edu/class/polisci211z/2.6/NPR2001leaked.pdf>.

the geopolitical environment.”⁷ But even as the modernization and sustainment requirements of the triad have risen in the public discourse, a fairly loud counternarrative—that the triad and some associated capabilities are unnecessary in the current environment and that modernization is unaffordable in the current fiscal climate—has emerged. It has also found influential proponents. Among them is William J. Perry, the former secretary of defense, who in 2015 said that ICBMs “aren’t necessary. . . . They’re not needed. Any reasonable definition of deterrence will not require that third leg.”⁸ In other words, as a positive narrative on the needs and importance of the triad of delivery systems has surfaced and taken shape, so too has a potent counternarrative appeared.

PRIORITY

When faced with trade-offs, how willing are policymakers to make difficult choices necessary to demonstrate commitment to the nuclear mission through the allocation of time, attention, and resources? Narrative themes regarding the strategic and budgetary priority of nuclear weapons in U.S. national security have fluctuated significantly across the three time frames. In the early 1990s, one message dominated in the immediate aftermath of the Cold War: the U.S. nuclear arsenal was so far in excess of the suddenly reduced threat that the United States could afford to reduce the nuclear arsenal unilaterally and focus priority and attention elsewhere.

However, a drumbeat of countervailing narrative themes, which raised concerns that the rush to reduce nuclear weapons was also placing the medium- to longer-term health of the nuclear enterprise at risk, began to emerge in the late 1990s. Most of the initial concerns with human capital recruitment, infrastructure neglect, and inattentive management came from the national laboratories and their congressional overseers and, as such, were focused on the weapons side of the complex. Some early trepidation about the nuclear complex reflected skepticism about the then-nascent stockpile stewardship program and concerns about the U.S. commitment to forgo nuclear testing. Encouraged and reinforced by the 2002 NPR, the tide slowly turned back, through the 2000s, with a steady return to expressions of confidence in stockpile stewardship, even as budgetary support for critical infrastructure continued to lag. This positive trend, however, proved relatively brief and remained confined to the stockpile stewardship aspects of the overall nuclear enterprise.

While early concerns about the health and reliability of the overall nuclear enterprise began on the Department of Energy (DoE) side of the ledger, it spread to DoD by the early 2000s and reached a boiling point toward the end of the decade. Affirmative statements of priority for the nuclear mission and its required capabilities and force structure were conspicuously lacking in this period. By 2008 and 2009, crises and scandals, and their associated panels and reviews, highlighted a lack of senior leader attention, while focus on the enterprise furthered policymakers’ concerns about

7. *Fiscal Year 2015 Budget Request for Atomic Energy Defense Activities and Nuclear Forces Programs, Hearing before the House Subcommittee on Strategic Forces, 113th Cong. 165 (2014)* (statement of Elaine Bunn, deputy assistant secretary of defense, nuclear and missile defense policy, U.S. Department of Defense).

8. Aaron Mehta, “Former SecDef Perry: U.S. on ‘Brink’ of New Nuclear Arms Race,” *Defense News*, December 3, 2015, <http://www.defensenews.com/story/defense/policy-budget/2015/12/03/former-secdef-perry-us-brink-new-nuclear-arms-race/76721640/>.

the health and professionalism of the nuclear force. Between 2009 and 2011, the dominant, topline narrative theme evolved into a now-familiar phase: “While nuclear weapons exist, the United States will sustain a safe, secure, and effective nuclear arsenal.”⁹ In retrospect, this was more a message of requirement than of support—only worsened still by a harsh budgetary climate that continued to take its toll, personnel practices that became increasingly risk-averse, and an already-low morale that proceeded to decline. Perceptions of a “say-do” gap took hold at the tactical, operational, and strategic levels, culminating in another round of scandal in 2013.

The resulting 2014 internal and external reviews, which pointed to a serious crisis in the health, management, and sustainability of the nuclear forces, marked a turning point in the nuclear narrative. Senior national security leaders have publicly recognized that past low prioritization led to severe lapses, and they have made positive and accountable statements promising better future management. Secretary Chuck Hagel’s 2014 statement that “our nuclear deterrent . . . [is] DoD’s highest priority mission,” taken together with vocal expressions of priority (including budget priority) from the now secretary of defense Ash Carter, the secretary of the Air Force, and other leaders, point to an encouraging shift in attention. Nonetheless, it is simply too early to fully understand how these new messages are being heard and implemented.

9. Obama, “Remarks by President Barack Obama.”