

A REPORT OF THE CSIS
PROJECT ON NUCLEAR
ISSUES

Nuclear Notes

Volume 2, Issue 1

Editors

Stephanie Spies
Mark Jansson

Authors

Jonah Friedman
Eli Jacobs
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June 2012



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OUR FUTURE

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About *Nuclear Notes*

Nuclear Notes is a biannual publication of the CSIS Project on Nuclear Issues (PONI) featuring innovative thinking by rising experts. Its goal is to advance the public debate about nuclear weapons strategy and policy. We welcome submissions of 1,500–2,000 words on contemporary topics pertaining to nuclear weapons strategy or policy. Submissions can be sent to PONI coordinator Stephanie Spies (SSpies@csis.org) for review by PONI staff and senior members.

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Cover image: LGM-118A Peacekeeper missile test at the Kwajalein Atoll in the Marshall Islands. The bright lines show the flightpath of the multiple independent reentry vehicles, as captured by a long exposure. Image located at <http://en.wikipedia.org/wiki/File:Peacekeeper-missile-testing.jpg>.

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RUSSIA'S UNCERTAIN MILITARY MODERNIZATION

Jonah Friedman¹

Twenty years after the fall of the Soviet Union, Russia is experiencing the most significant level of public dissatisfaction with Vladimir Putin since he assumed power a decade ago. While the sizeable street protests in Russia may well signal a political and social watershed moment for the country, a more minor political event a few months ago provided a telling sign regarding one of the regime's most important projects—a massive program for military modernization.

September 2011 saw the resignation (amid an unusually public dispute with President Dmitry Medvedev) of the Russian finance minister, Alexey Kudrin. Although it did not make big news in the United States the way the recent street protests have done, the minister's resignation points to a development that may have equally significant implications for the United States—and not simply because Kudrin himself was seen as an especially competent member of the Russian government. According to news reports, one possible reason for the minister's resignation was his disagreement with President Medvedev over plans for an increase in defense spending.² Kudrin was highly critical of such plans, arguing that they created “additional risks for both the budget and the economy as a whole.”³ Indeed, the success of this modernization program is fraught with questions—not only in light of Russia's recent political unrest but also for financial and technical reasons.

The Drive for Military Modernization

Russia is in the midst of a massive (\$650 billion), decade-long military modernization program. Deputy Prime Minister Sergey Ivanov recently announced that spending on arms and equipment for Russia's military will amount to \$30 billion in 2012 alone.⁴ There are both practical and political reasons for the scale and objectives of this program. On a practical level, it is generally acknowledged that the Russian military's equipment is largely outdated. Available official statistics indicate that only 10 percent of Russia's conventional military equipment is “modern,” while the

1. Jonah Friedman is a media monitor at SOS International LLC and a former intern for the Project on Nuclear Issues at CSIS.

2. “Russian Finance Minister Alexei Kudrin Resigns,” BBC News, December 26, 2011, <http://www.bbc.co.uk/news/world-europe-15064866>.

3. Scott Rose, “Russia's Kudrin Won't Serve under Medvedev amid Military Spending Dispute,” Bloomberg, September 25, 2011, <http://www.bloomberg.com/news/2011-09-25/russia-s-kudrin-won-t-serve-under-medvedev-amid-military-spending-dispute.html>.

4. “Russian Military Spending to Top \$30 Bln in 2012,” *RIA Novosti*, November 24, 2011, <http://en.rian.ru/russia/20111124/169004619.html>.

proportion for the country's nuclear forces is 20 percent.⁵ The Russia–Georgia war of 2008 highlighted deficiencies in the country's military capability, as Russian operations during the conflict were hampered by old and less capable equipment.⁶ Indeed, some see the Georgia war as having provided the final impetus for the modernization program currently under way.⁷

However, political factors largely seem to be dictating which areas receive modernization priority. At the top of the list is Russia's nuclear arsenal.⁸ Approximately 10 percent of the funding for this process will go to revamping the country's nuclear triad.⁹ Plans include the development of a new liquid-fueled, multiple independently targetable reentry vehicled intercontinental ballistic missile, as well as new mobile missile launchers.¹⁰ Yet nuclear weapons would have been useless to Russia in Georgia, and indeed would be useless in almost any conceivable conflict in which it could be engaged in the foreseeable future. Even if this were not the case, the country still maintains an enormous strategic nuclear capability—recently estimated at approximately 11,000 total warheads.¹¹

That nuclear weapons play a political role beyond their military utility goes without saying, but for Russia that political usefulness is especially acute. As now-former president Medvedev explained so tellingly in September 2011, “We cannot avoid [heavy] defense spending worthy of the Russian Federation, which is not some ‘banana republic’ but a very large country [and] a permanent member of the UN Security Council that possesses nuclear weapons.”¹² Clearly, for Putin, Medvedev, and other members of the regime, the geopolitical status supported by Russia's nuclear weapons is enormously important, and the health of the country's arsenal is therefore given a high priority. However, this can be to the detriment of other areas of investment. Russia's military doctrine stresses the threat posed by NATO, with a corresponding emphasis on the need for nuclear forces to counteract this threat. Other, more likely threats—such as those from local conflicts or terrorism—are not listed as priorities. The Russian nuclear expert Pavel Podvig argues that this is a “way of looking at the issues [that] effectively redefines national security problems to conform to the traditional view that relies on strategic nuclear deterrence as a central element of security strategy, regardless of whether nuclear deterrence has any actual role in addressing these problems.”¹³

5. “Russia to Prioritize Modern Weaponry in New Arms Acquisition Program,” *RIA Novosti*, March 11, 2011, http://en.rian.ru/military_news/20110311/162956743.html.

6. Ariel Cohen and Robert E. Hamilton, *The Russian Military and the Georgia War: Lessons and Implications* (Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, 2011), 33–34.

7. Gregory P. Lannon, “Russia's New Look Army Reforms and Russian Foreign Policy,” *Journal of Slavic Military Studies* 24, no. 1 (January–March 2011): 26–54.

8. “Russia to Prioritize.”

9. Yuri Gavrilov, “Bulava k kontzu goda” [Bulava by the end of the year], *Rossiyskaya Gazeta*, February 25, 2011, <http://www.rg.ru/2011/02/24/pole-site.html>.

10. “New ICBM Planned in Russia: Report,” *Global Security Newswire*, July 19, 2011, <http://www.nti.org/gsn/article/new-icbm-planned-in-russia-report/>; “Russia's Military to Wield 86 Yars, Topol-M Missile Firing Units within Month,” *Global Security Newswire*, December 21, 2011, <http://www.nti.org/gsn/article/russias-military-wield-86-yars-topol-m-missile-units-within-month/>.

11. Hans M. Kristensen, “Status of World Nuclear Forces,” Federation of American Scientists, <http://www.fas.org/programs/ssp/nukes/nuclearweapons/nukestatus.html>.

12. “Medvedev Defends High Military Spending,” *RIA Novosti*, September 27, 2011, http://en.rian.ru/military_news/20110927/167180695.html.

13. Pavel Podvig, “Russia's Nuclear Forces: Between Disarmament and Modernization,” *Proliferation Papers*, no. 37 (Spring 2011): 7, <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=http%2F%2Fwww.ifri.org>

For Russia, its possession of a modern (and massive) nuclear arsenal puts it on par with great powers such as the United States—a position that a simple accounting of the country’s political clout or economic strength would not provide.

However, this is not to say that Russia’s nuclear arsenal does not play any legitimate role in ensuring its security. In some ways, Russia is in a similar position to that of the United States during the Cold War, when the United States sought to compensate for its inferiority in manpower with a greater reliance on nuclear weapons. As Russia’s post-Soviet demographic crisis continues, and inevitably leads to a decrease in the number of its soldiers, we can expect to see this reliance increase.¹⁴

Areas of Uncertainty: Financial, Technical, and Political

That Russia appears committed to this modernization program is not in doubt, but the question remains how likely the country is to meet its objectives, and what impact this will have on the national security considerations of the United States and other states. Three factors will determine the program’s success: economics, technical/industrial capability, and politics.

Financial Vulnerability

The health and strength of Russia’s economy are closely tied to the price of energy, and oil in particular. Historically, high oil prices have translated into higher growth in gross domestic product, and this trend has been even more evident over the past decade. As prices have risen in recent years, this increase has boosted Russia’s economy and allowed the government to spend more on various social services and government programs.¹⁵ This undertaking of greater fiscal commitments could prove to be dangerous—especially as those commitments expand on election year promises to various parts of Russian society.¹⁶ As *The Economist* recently noted, several years ago the Russian government could maintain a balanced budget with oil prices as low as \$50 a barrel. But now it will require prices as high as \$120 a barrel in order to meet its growing financial commitments.¹⁷ Events such as the recent standoff in the Strait of Hormuz between the United States and Iran have the potential to raise prices.¹⁸ Conversely, another downward shift in the global economy could send prices falling as demand decreases. Thus, whether Russia will be able to

percent2Fdownloads percent2Fpp37podvig.pdf&ei=O9gAT4ujIard0QH3nbW2Ag&usq=AFQjCNFwp AF-IAFJokc-LciPCFs1GpltiQ.

14. “Russia Faces Shortage of Military Draftees,” *RIA Novosti*, January 18, 2012, http://en.rian.ru/military_news/20120118/170819500.html.

15. “Russian Federation: Social Expenditure and Fiscal Federalism in Russia,” report by Human Development Sector Unit, Europe and Central Asia Region, World Bank, January 25, 2011, http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/02/10/000356161_20110210235341/Rendered/PDF/543920ESW0Gray1C0Disclosed021911110.pdf.

16. Charles Clover, “Putin Sweetens Electorate with Pension Pledge,” *Financial Times*, April 20, 2011, <http://www.ft.com/cms/s/0/5391232c-6b83-11e0-a53e-00144feab49a.html#axzz1iKNba7Gt>.

17. “Vladimir II: Russia’s Familiar Next Ruler,” *The World in 2012*, November 17, 2011, <http://www.economist.com/node/21537032>.

18. “IMF Warns over Risk of Iran Oil Price Shock,” BBC, January 25, 2012, <http://www.bbc.co.uk/news/business-16728942>.

meet its various commitments while continuing its ambitious modernization program remains to be seen.

Technical Difficulties

Even if energy prices remain high enough for Russia to embark on its modernization effort, a number of high-profile failures in the areas of rocket and missile technology raise questions as to the country's technical capacity. The troubled test history of the Bulava submarine-launched ballistic missile has been well documented.¹⁹ Russia also had some difficulty last year in completing the deployment of its Glonass global satellite navigation system, with the loss of three of the satellites in December 2010 due to errors in calculation.²⁰ Most recently, the failure of a Soyuz space rocket during a resupply mission to the International Space Station in August 2011 led to a six-week suspension of flights, while a second Soyuz rocket failed in December.²¹

General criticisms of Russia's technical and scientific capabilities run deeper than even these high-profile failures suggest. Whereas the Soviet Union was recognized as having a first-class educational system, the current system in Russia now "lags behind the rest of the world," according to Masha Lipman of the Carnegie Moscow Center.²²

A deterioration in science education is particularly important for the health and future of Russia's military-industrial base. The problems with Russia's education system extend to more than just the quality of the educations that it provides. In the summer of 2010, it was reported that dozens of workers at a Sukhoi aircraft plant in Russia's Far East were found to have false engineering diplomas. The factory in question produces advanced aircraft such as the Su-35 fighter and the Superjet 100 commercial airliner.²³ The falsification of credentials, the hiring of unqualified engineers and other experts, and a general decline in Russian education may seriously undermine Russia's ability to produce and deploy highly complex defense and aerospace systems in the years to come.

Political Problems

However, this is more than just a technical issue. It is a reflection of the endemic and pervasive corruption in Russia. Transparency International ranked Russia 154 out of 178 countries in its 2010 Corruption Perceptions Index.²⁴ No sphere of Russian life is immune from corruption's effects, and its impact on the country's defense establishment is particularly significant. Russia's chief military prosecutor declared that as much as one-fifth of the defense budget is stolen annually by

19. "Timeline of Bulava Missile Launches," *RIA Novosti*, <http://en.rian.ru/infographics/20111228/170536782.html>.

20. "Russian Investigators Probe Roscosmos Workers for Glonass Loss," *RIA Novosti*, March 22, 2011, <http://en.rian.ru/science/20110322/163142167.html>

21. Jonathan Amos, "Another Soyuz Rocket Launch Fails," BBC, December 23, 2011, <http://www.bbc.co.uk/news/science-environment-16317099>

22. Galina Masterova, "Can Education in Russia Be Reformed?" *The Telegraph* (London), September 2, 2010, <http://www.telegraph.co.uk/sponsored/russianow/society/7977339/Can-education-in-Russia-be-reformed.html>

23. Michael Bohm, "Fake Diplomas = Fake Modernization," *St. Petersburg Times*, September 7, 2010, <http://www.sptimes.ru/story/32403>.

24. "Corruption Perceptions Index 2010," Transparency International, http://www.transparency.org/policy_research/surveys_indices/cpi/2010/results.

corrupt officers and officials.²⁵ The situation is further exacerbated by delays and spiraling cost overruns. Disputes between industry and the military over this past year caused additional delays in the signing of some defense contracts, eventually prompting intervention by the likes of Defense Minister Anatoly Serdyukov and then–prime minister Putin.²⁶

In addition to corruption, Russia suffers from political structures that do not lend themselves to transparency or efficiency. The Russian state bureaucracy is both vast and largely unaccountable.²⁷ In 2010, there were some 1.67 million state officials—an expansion of about 50 percent from 10 years earlier.²⁸ Such a bloated and opaque structure not only has the potential to delay and raise the costs of modernization, but also exacerbates losses due to corruption, since it increases the number of hurdles to the success of any project, and provides a major incentive to avoid such hurdles by paying off the right people.

Prospects for Success

In light of these formidable obstacles, it seems questionable whether Russia's plans to modernize its nuclear arsenal will be fully realized—at least within the schedule called for by the Kremlin. Indeed, while there is no way to tell yet if the recent protests in Moscow and other cities truly herald a shift in the political landscape, at the very least they ought to cause the Russian government to reevaluate its budgetary priorities. As the administration feels increased pressure to appease the Russian public with promises of higher pensions and the like, the margin for new weapons will be squeezed in turn. While a spike in oil prices could alleviate this pressure, it is also true that any significant downturn in the price of oil could further delay the modernization plan, or jeopardize it altogether.

These pressures will likely be met with the opposing force of domestic politics in an election year. Putin will probably strive to be seen by the Russian public as the guarantor not only of stability at home but also of a robust and muscular foreign policy. Russia's nuclear arsenal has a key role to play in this regard, and the state can be expected to make a correspondingly sizable effort to modernize it.

This is a goal that depends on more than rubles, of course. Russia's recent difficulty in developing and operating a number of rocket and space technologies leaves some doubt as to how successful the current modernization campaign will be. Likewise, the deeply rooted corruption evident in Russia generally, and the defense sector in particular, is likely to lead to delays and products of questionable efficacy and reliability.

These difficulties may have an impact not just on Russia's ability to modernize its arsenal but also on Moscow's ability to maintain it at its current size. On one hand, an increasingly small

25. Guy Faulconbridge, "Russia Says a Fifth of Defense Budget Stolen," Reuters, May 24, 2011, <http://www.reuters.com/article/2011/05/24/us-russia-defence-idUSTRE74N1YX20110524>.

26. "All Contracts on Russia's 2012 Defense Order to Be Signed by Year End," *RIA Novosti*, July 7, 2011, http://en.rian.ru/military_news/20110707/165076664.html; "Putin Presses for Russian Defense Contracts," *RIA Novosti*, August 26, 2011, http://en.rian.ru/military_news/20110826/166203367.html.

27. Robert Ortung, "Causes and Consequences of Corruption in Putin's Russia," *PONARS [Program on New Approaches to Research and Security in Eurasia] Policy Memo No. 430* (December 2006), http://www.gwu.edu/~ieresgwu/assets/docs/ponars/pm_0430.pdf.

28. Alexei Anishchuk, "Medvedev Calls for Cuts in Russia's Bureaucracy," Reuters, June 8, 2010, <http://www.reuters.com/article/2010/06/08/us-russia-bureaucracy-medvedev-idUSTRE65746J20100608>.

Russian arsenal might give added impetus to arms control efforts, if only to ensure rough parity with the United States. On the other hand, Russia's concerns about U.S. missile defense plans may be exacerbated by concerns over the threat they pose to its ever-shrinking stockpile, making the Kremlin all the more determined to thwart such plans.

Despite Russia's strong ambition to modernize and improve upon its currently nuclear arsenal, the various problems outlined above have the potential to seriously derail this effort. Unless the country can find a way to tackle these issues, they are likely to continue to dog any campaign for military modernization, and are also likely to have their effects compounded as time goes on. Now that the Russian state has returned to Putin's full leadership, along with an anticipated increase in the country's muscle-flexing, the United States and its allies would do well to consider some of these underlying weaknesses. Russia's nuclear arsenal is, and will remain, a potential threat, but its future size and capability are in doubt. Greater reliance on strategic forces may be more a reflection of the country's weakness than its strength.



THE PARADOX OF DE-ESCALATION

Eli Jacobs¹

Can the threat of nuclear use play a role in deterring low-level military actions or nuclear weapons development? Several defense analysts seem to believe that the answer is yes; they justify developing or maintaining particular nuclear weapons capabilities based on the threats posed by, for example, North Korean provocations or Iranian acquisition of a nuclear weapon.

Although attractive theoretically, these arguments have proven a failure in practice. Why? A tempting answer is that nuclear weapons, having been designed to deter large-scale attacks that could jeopardize national survival, are strategically unrelated to such small-scale developments. Fundamentally, these events jeopardize the United States' national *interests* but not its national *security* and, thus, lie outside the nuclear strategist's domain.

This argument is mistaken. Clearly, the threat of direct nuclear retaliation in response to limited military developments is disproportionate and not credible. However, adversaries must consider the possibility that their limited actions will spark a broader conflagration resulting in U.S. nuclear use—a fear that may make them hesitate before casting the first stone.

Thus, the difficulty does not emerge from the characteristics of nuclear weapons themselves but from U.S. strategic culture. More specifically, the United States' desire to avoid a major war gives its adversaries a relatively freer hand in pursuing strategically or politically beneficial weapons development or low-level violence. This restricting intersection between strategic culture and nuclear strategy has a number of implications. Most important, it means that the United States should reject attempts to justify a particular nuclear capability with reference to that capability's power to prevent provocations such as limited attacks or nuclear weapons acquisition.

The Problem: Nuclear Response to Provocations

An illustrative case study in demonstrating this conclusion is North Korea's 2010 military action against South Korea. In March, North Korea sank the *Cheonan*, a South Korean patrol boat that had crossed the Northern Limit Line, an unofficial United Nations division between maritime North and South Korea.² In November of the same year, North Korea shelled Yeonpyeong, a South Korean island near the same, disputed border.³ The “measured and unified” response of the United

1. Eli Jacobs is a research assistant in the Defense and National Security Group at CSIS.

2. “North Korean Torpedo Sank *Cheonan*, South Korea Military Source Claims,” *The Guardian* (London), April 22, 2010, <http://www.guardian.co.uk/world/2010/apr/22/north-korea-cheonan-sinking-torpedo>.

3. Evan Ramstad and Jaeyeon Woo, “North Korea Fires Rockets at South,” *Wall Street Journal*, November 25, 2010, <http://online.wsj.com/article/SB10001424052748703904804575631763523837910.html>.

States and South Korea was insufficient from the perspective of the South Korean public,⁴ which compelled the resignation of the South Korean defense minister.⁵

Of particular importance, it is plausible that North Korea has an incentive to pursue such actions in the future to demonstrate, both domestically and internationally, the strength of its new supreme leader, Kim Jong-un.⁶ Despite uncertainties, early indications suggest that North Korea will continue a “military first” policy even after its recent leadership change.⁷ This potential is unsettling, since such provocations jeopardize U.S. national interests; they frighten its allies, Japan and South Korea, potentially producing a destabilizing arms race, and deepen divisions between China and the United States.⁸

Some have concluded that deterring these provocations requires new nuclear capabilities, specifically those that can destroy hard and deeply buried targets, such as leadership bunkers where North Korean leaders may hide in the event of war.⁹ Arguments for deterrence that entail threatening nuclear escalation in response to nonnuclear actions are not uncommon in the literature about preventive “deterrence by denial.”¹⁰ Thus the argument advanced by Keith Payne and Colin Gray, among others, is that adversaries “may be dissuaded from hiding weapons of mass destruction, since the United States could threaten any buried target. The whole value of [their] weapons of mass destruction could be questioned.”¹¹ If nuclear facilities are perpetually vulnerable to attack

4. David Gollust, “U.S. Promises ‘Measured, Unified’ Response to North Korean Attack,” *Voice of America News*, November 23, 2010, <http://www.voanews.com/english/news/US-Promises-Measured-Unified-Response-to-North-Korean-Attack--110216324.html>.

5. Tania Branigan, “South Korean Defence Minister Resigns as Response to North Korean Shelling Condemned,” *The Guardian*, November 25, 2010, <http://www.guardian.co.uk/world/2010/nov/25/south-korean-defence-minister-resigns>.

6. Larry Shaughnessy, “U.S. and South Korea See More North Korean Provocations Looming,” CNN.com, October 28, 2011, http://articles.cnn.com/2011-10-28/asia/world_asia_us-koreas_1_denuclearization-kim-jong-north-korea?_s=PM:ASIA.

7. Kim Young-jin, “NK Leader Signals ‘Military-First’ Policy,” *Korea Times*, January 9, 2012, http://www.koreatimes.co.kr/www/news/nation/2012/01/116_102529.html.

8. Peter Brookes, “Flashpoint: Pyongyang Provocations,” *Armed Forces Journal*, September 2010, <http://www.armedforcesjournal.com/2010/09/4656848/>.

9. See, e.g., Jeffrey Lewis and Elbridge Colby, “How to Worry Kim Jong-il,” *Diplomat*, September 23, 2001, <http://the-diplomat.com/2011/09/23/how-to-worry-kim-jong-il/>. Lewis and Colby, after discussing the danger of recent North Korean military behavior, advocate a sled test of an Earth-penetrating capability for the nuclear gravity bomb B83 in order to hold these targets at risk. This weapon would be capable of penetrating hard rock, supplementing the B61-11, which was designed to penetrate frozen tundra in the former Soviet Union. Although the linkage between provocations and nukes is not drawn explicitly, the implication is that this capability can play a role in deterring limited North Korean attacks by demonstrating that the North Korean leadership is not immune to retaliation.

10. This approach is advocated forcefully in Stephan Frühling, “Bunker Busters’ and Intra-War Deterrence: A Case for Caution and Two Solutions,” *Comparative Strategy* 24, no. 4 (2005): 327–341. “Given the unreliability of deterrence in principle, a shift in emphasis from deterrence through punishment to deterrence through denial is recommended by many authors. There are two main reasons for this: First, deterrence through denial reduces the damage in case of deterrence failures by its emphasis on active and passive defenses. Second, deterrence through punishment relies on the deterrer’s capability to significantly worsen the situation of the deterree in response to an unwanted action. This is extremely difficult in the case of last-resort use of WMD [weapons of mass destruction] during a conflict between the United States and a rogue state, when the enemy leadership by definition views itself as having little to lose.”

11. “Bunker-Busting Nuke Expands U.S. Options,” *Defense News*, September 16, 2002. See also Keith Payne, “The Nuclear Posture Review: Setting the Record Straight,” *Washington Quarterly* 28, no. 3 (Summer

with earth penetrators, so the argument goes, adversaries will forgo the attempt to produce these weapons in the first place.

In Theory: Improved Nuclear Capabilities Bolster the Threat of Retaliation

Proponents of “deterrence by denial” consider the nuclear taboo and its implications for credibility.¹² They argue that, instead of prohibiting nuclear use, the taboo merely creates a high threshold of risk that must be reached in order for nuclear threats to appear credible.¹³ Keir Lieber and Daryl Press explain this position:

The central claim about the nuclear taboo is that it inhibits the use of nuclear weapons but does not prevent it. The implication is that in future high-stakes crises, U.S. leaders may consider initiating nuclear war just as they did in the past. And to avoid such circumstances, U.S. adversaries will work hard to mitigate their vulnerability.¹⁴

In short, nuclear threats are credible only in crises that risk harming U.S. national security.¹⁵ The threat of U.S. preemption of an imminent adversary’s nuclear first strike, for example, would be credible. And such a preemptive strike would harm that adversary’s political and security situation enormously—compromising its nuclear capability and likely paving the way for regime change operations. Clearly, adversaries have no interest in fighting a large-scale war against the United States, since they are almost certain to lose.

Thus, the question on which the credibility of nuclear threats hinges becomes: What is the connection between low-level provocations—such as North Korea sinking the *Cheonan* or Iran developing nuclear weapons—and the threat of a conflict that is large enough for adversaries to find it disastrous? The presumption of nuclear war fighters is that these countries will fear an escalatory response to low-level hostility. The idea is that provocations will be met with forceful retaliation, such as bombing or cruise missile strikes on airstrips, shipyards, and other military

2005), 142–143; and Colin S. Gray, *The Second Nuclear Age* (Boulder, Colo.: Lynne Rienner, 1999), 136–137; and Frühling, “Bunker Busters.”

12. The power of the nuclear taboo is theorized in, e.g., Nina Tannenwald, *The Nuclear Taboo* (Cambridge: Cambridge University Press, 2007); Peter Gizewski, “From Winning Weapon to Destroyer of Worlds: The Nuclear Taboo in International Politics,” *International Journal* 51, no. 3 (Summer 1996): 397–418; and Thomas Schelling, “The Role of Nuclear Weapons,” in *Turning Point: The Gulf War and U.S. Military Strategy*, ed. L. Benjamin Ederington and Michael J. Mazaar (Boulder, Colo.: Westview Press, 1994), 105–115.

13. See, e.g., Colin Gray, “To Confuse Ourselves,” in *Alternative Nuclear Futures*, ed. John Baylis and Robert O’Neill (Oxford: Oxford University Press, 2000), 26: “There is a nuclear taboo which stigmatizes nuclear threat or employment. But policy-makers in the eight nuclear weapon states do not equate such stigmatization—or singularization, for a less pejorative rendering—with unusability. Nuclear weapons may be weapons of last resort—for us, at least—but last resort should not be confused with ‘no resort.’”

14. Keir A. Lieber and Daryl G. Press, “The End of MAD?” *International Security* 30, no. 6 (Spring 2006): 36–37.

15. One explanation for this function of the nuclear taboo is that countries calculate the costs and benefits not just of a single nuclear use, but of violating the ban on nuclear use, which would bring with it severe international condemnation and security risk by making others’ nuclear weapons more usable. See Verna Gehrig, “The Nuclear Taboo,” Institute for Philosophy and Public Policy, 2000, http://web.archive.org/web/20060514191333/http://www.publicpolicy.umd.edu/IPPP/Summer00/nuclear_taboo.htm: “The ban against nuclear warfare is based on a calculated reasoning of the costs and benefits of nuclear warfare, and at present this rational calculus has not tipped in favor of lifting the ban.”

installations.¹⁶ In the face of such a response, countries like North Korea could choose either to back down or to save face by further escalating the conflict. Since neither of these options is very attractive—the former would be politically costly at home, and the latter would all but ensure military defeat—hostile regimes will choose to forgo limited, episodic attacks in the first place.

In Practice: U.S. De-escalation

Thus, the assumption that adversaries will fear escalation from any conflict with the United States lies at the core of the belief that nuclear threats have a role to play in deterring provocations. However, recent experience, including North Korea's 2010 provocations and Iran's continued pursuit of at least a latent nuclear weapons program,¹⁷ suggests that this fear is not enough to decisively affect an adversary's calculations. Why not?

One plausible answer is that an escalatory defense posture is inconsistent with the United States' strategic culture, a concept that describes when and how countries tend to fight wars.¹⁸ These preferences change with respect to the social values of a particular country,¹⁹ the structure of the international system,²⁰ and the availability of technology.²¹

The United States' strategic culture makes it hesitant to risk initiating large wars. Culturally, the U.S. aversion to casualties and commitment to nation building suggest a preference for stability.²² Structurally, the U.S. economy benefits from the absence of major conflict, as does its wide network of allies; it stands to lose disproportionately from an unstable world.²³ Technologically, the existence of nuclear weapons means that large-scale war threatens both of these variables to a historically unprecedented degree. Indeed, the United States' preference to avoid major wars is "well known" and in many circumstances is not shared by its adversaries.²⁴

This situation creates an imbalance of resolve; its adversaries believe that the United States will choose de-escalation rather than escalation in response to provocations that do not jeopardize its core national security interests. Thus, although countries such as North Korea know that they

16. Indeed, the current South Korean–U.S. counterprovocations plan on the Korean peninsula, which threatens escalatory but measured retaliation to North Korean maneuvers, approximates this escalatory posture. See "ROK–U.S. Counter-Provocation Plan," *KBS World*, October 31, 2011, http://world.kbs.co.kr/english/news/news_issue_detail.htm?No=22948¤t_page=.

17. See Greg Jones, "Earliest Date Possible for Iran's First Bomb, February 2012," Nonproliferation Policy Education Centre, December 6, 2011, <http://npolicy.org/article.php?aid=1124&rid=4>.

18. See Gérard Chaliand, *The Art of War in World History* (Berkeley: University of California Press, 1994), 16–17, which defines strategic culture as "the modes of organization and strategic concepts of [a society]."

19. China, e.g., emphasizes defensive security arrangements, from the Great Wall to its contemporary construction of thousands of miles of protective tunnels; see James Acton, "The 'Underground Great Wall': An Alternative Explanation," Carnegie Endowment for International Peace, October 26, 2011, <http://carnegieendowment.org/2011/10/26/underground-great-wall-alternative-explanation/67s0>.

20. Modern nationalism centered around the nation-state, e.g., tends toward mass warfare; see Chaliand, *Art of War*, 4.

21. E.g., improvement in mechanized forces gave the attacker the advantage in late nineteenth century Europe; see Chaliand, *Art of War*, 42.

22. Keith Payne, "On Nuclear Deterrence and Assurance," *Strategic Studies Quarterly* 3, no. 1 (Spring 2009): 58.

23. See Robert Kagan, "The Benevolent Empire," *Foreign Policy* no. 111 (Summer 1998): 28.

24. Payne, "On Nuclear Deterrence," 58.

would lose a conflict that escalates to the point of making U.S. nuclear threats seem credible, they do not think that limited violence risks creating such a scenario. This sense of security gives these regimes a free hand to carry out limited attacks that bolster their national interests at the expense of America's.

Implications

These observations have two broad implications. First, nuclear strategy is tied to the United States' broader defense posture. Fundamentally, nuclear weapons are tools to achieve U.S. political and military objectives. However, they have been marked throughout their history as qualitatively distinct from other tools that serve the same purpose. Nuclear use could be militarily useful in many different circumstances, but this does not mean that a new and improved nuclear threat will necessarily bolster deterrence. Rather, for nuclear threats to make sense, nonuse must severely threaten U.S. national security. And America's defense posture dictates what sorts of actions its adversaries think could result in these circumstances. The United States' known desire to avoid major conflict may harm its national security interests in some areas by reducing the leverage of U.S. capabilities at the top of the escalation ladder.²⁵

Second, the United States cannot simply build its way out of all the credibility problems related to nuclear use. Capabilities are not the end-all of nuclear credibility. Some argue that developing more usable nuclear weapons—with lower yield and greater accuracy—will raise the credibility of U.S. nuclear threats.²⁶ Indeed, this calculus forms a crucial part of Lieber and Press's assessment of the likely effectiveness of U.S. damage-limitation strikes against Chinese nuclear weapons.²⁷ Unfortunately, these advances in nuclear weapons technology address only one of many difficulties in making credible the threat of nuclear use. Even without the risk of excessive collateral damage, the decision to cross the nuclear threshold is momentous. No matter what are the United States' capabilities, its credibility will remain at least partially tied to the history of nuclear weapons, as this history continues to influence its decisionmaking.

25. This does not mean that such an escalatory defense posture would necessarily serve U.S. national interests. It would carry costs from the perspectives of finances, international stability, and foreign perceptions of American power. This paper argues only that this posture would bolster the effectiveness of U.S. nuclear deterrence.

26. See Michelle A. Flournoy and Clark A. Murdock, *Revitalizing the U.S. Nuclear Deterrent* (Washington, D.C.: CSIS, 2002), 9; and Payne, "On Nuclear Deterrence," 58.

27. Keir A. Lieber and Daryl G. Press, "The Nukes We Need," *Foreign Affairs* 88 no. 6 (November–December 2009): "[The] United States can already conduct nuclear counterforce strikes at a tiny fraction of the human devastation that the FAS/NRDC study predicted, and small additional improvements to the U.S. force could dramatically reduce the potential collateral damage even further. The United States' nuclear weapons are now so accurate that it can conduct successful counterforce attacks using the smallest-yield warheads in the arsenal, rather than the huge warheads that the FAS/NRDC simulation modeled. And to further reduce the fallout, the weapons can be set to detonate as airbursts, which would allow most of the radiation to dissipate in the upper atmosphere. We ran multiple HPAC scenarios against the identical target set used in the FAS/NRDC study but modeled low-yield airbursts rather than high-yield groundbursts. The fatality estimates plunged from 3 to 4 million to less than 700—a figure comparable to the number of civilians reportedly killed since 2006 in Pakistan by U.S. drone strikes."

Conclusion

Due to the United States' overarching interest in pursuing de-escalation, nuclear threats will not be influential in shaping its adversaries' choices about whether to initiate limited attacks. The nation's strategic culture is incompatible with an escalatory counterprovocations policy—and its adversaries know it. America should therefore not presume that these adversaries will be persuaded by considerations of the nuclear top of the escalation ladder while contemplating actions near its base. The United States' strategic culture limits the political and diplomatic leverage that nuclear weapons, even ostensibly more usable ones, give it. Unless America's security interests and strategic culture change in a way that addresses this credibility issue, it should not think that enhancing its nuclear capabilities will make North Korea's provocations disappear.



THE FUTURE PROSPECTS OF DE-ALERTING COMPLEXITIES AND CONSIDERATIONS FOR REDUCING RISK

Henry Philippens¹

The de-alert debate is a matter that came to the fore during the early 1990s. Once the bipolar world order had come crashing down, a new era of openness and détente made it possible for a cadre of nuclear weapons specialist and armed forces personnel to speak out about what, in their minds, was a pressing nuclear issue that had largely been left undiscussed during the Cold War. Proponents of de-alerting nuclear weapons were (and still are) increasingly concerned with the situation of maintaining U.S. and Soviet strategic forces on high alert status—a system whereby launch decisions are possible in under four to six minutes if alarmed to an attack.² Over the next two decades, a number of important steps were taken by consecutive U.S. and Russian administrations to address the issue.³ Those who favor de-alert see it as a valuable step toward reducing the risk that nuclear weapons will be used and as a viable way for nuclear weapon states to demonstrate progress on Article 6 of the Non-Proliferation Treaty (NPT).

The *Final Document* of the 2010 NPT Review Conference once more recognized that “reductions in the operational status of nuclear weapons and announced measures related to de-targeting contribute to the process of nuclear disarmament through the enhancement of confidence-building measures and a diminishing role for nuclear weapons in security policies.”⁴ In following, it recommended to accelerate concrete progress on the steps outlined in the 2000 *Final Document*

1. This article is an adaptation of “Sticking to Your Guns: The Prospects of Moving to a Posture of Minimum Deterrence and De-Alerting,” by Henry Philippens, presented at the inaugural Project on Nuclear Issues (PONI) conference held by the Royal United Services Institute (RUSI), London. The article was written while the author was completing an internship at the International Centre for Security Analysis (ICSA), King’s College London. The views expressed here are exclusively the author’s. The author would like to thank ICSA, PONI, and RUSI for providing the respective opportunities to engage with the material and to make possible the presentation of the work to a wider audience. Finally, the author would also like to thank Mark Jansson for his comments and advice on earlier drafts.

2. International Commission on Nuclear Non-Proliferation and Disarmament, *Eliminating Nuclear Threats: A Practical Agenda for Global Policymakers*, November 2009, xviii, http://www.icnnd.org/reference/reports/ent/pdf/ICNND_Report-EliminatingNuclearThreats.pdf.

3. See “Memorandum of Understanding between the United States of America and the Russian Federation on the Establishment of a Joint Center for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches,” December 16, 2000, <http://www.state.gov/t/isn/4954.htm>; and “Moscow Declaration by President Clinton and Russian President Yeltsin,” Moscow, January 14, 1994, <http://www.fas.org/nuke/control/detarget/docs/940114-321186.htm>. The Russian-American Observation Satellite (RAMOS) project was initiated in 1997 to provide shared warning data; see Victoria Samson, “Prospects for Russian-American Missile Defence Cooperation: Lessons from RAMOS and JDEC,” *Contemporary Security Policy* 28, no. 3 (December 2007): 494–512, <http://www.cdi.org/pdfs/SamsonLessonsFromRAMOS.pdf>.

4. United Nations, *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Final Document*, vol. I, part I, New York, 2010, 14.

to “reduce the risk of accidental use of nuclear weapons.”⁵ Furthermore, it included proposals for a minimization point by 2025, calling on states to adopt “no first use doctrine force deployments and alert statuses reflecting that doctrine.”⁶ However, since then, little effort has been made to make progress on de-alerting. Moreover, there has been little public policy debate on the issue, not even by the disarmament-minded Obama administration, not to mention the lack of Russian efforts.

Is considerably lowering launch readiness too difficult, or does it rank too low on the current list of nuclear priorities? Whatever the United States and Russia decide to do in the near future, it is likely that other states will eventually mimic their behavior with respect to alert status. What implications will the maintenance of current alert levels have once other nuclear powers eventually pattern their alert postures after the United States and Russia?

The Pros and Cons of De-alerting

The primary accusation against high alert readiness is that it brings with it the danger of an accidental launch as a result of a false alarm or malfunction of early warning (EW) systems. The possibility of an unauthorized launch by dissident factions within a government or by a terrorist group is also a concern. Historically, there have been several episodes in which the world came close to an accidental nuclear exchange.⁷ De-alerting mitigates these dangers by instituting a delaying period to provide authorities sufficient time to perform a comprehensive analysis of the situation before taking possible retaliatory action. In addition, it decreases the immense pressure under time on leaders to launch on warning. Paradoxically, the United States and Russia both have hardened forces that could potentially ride out a first strike, which lends credibility to the former option.⁸

Nevertheless, the United States and Russia maintain that their command-and-control systems are sufficiently reliable. Furthermore, skeptics of de-alerting note that knowledge of command-and-control structures remains highly sensitive and is difficult to share in such a way that would allow for the accurate verification of de-alerting. What is more, providing more transparency and lowering alert levels could invite clandestine remobilization efforts or even enable a surprise attack designed to take advantage of perceived windows of opportunity. A robust verification regime for de-alerting would thus make forces more vulnerable by giving away their exact constitution and location. In turn, the known location of warheads and components stored separately from missiles

5. Ibid., 21.

6. The Permanent Missions of Australia and Japan to the United Nations requested that a synopsis of the *Report of the International Commission on Nuclear Non-Proliferation and Disarmament* be circulated as a working paper at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons; see United Nations, *2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Final Document*, volume II, part III, New York, 2010, 161, http://www.un.org/ga/search/view_doc.asp?symbol=NPT/CONF.2010/50%20%28VOL.%20II%29.

7. For a detailed overview of major events see A. Phillips, “20 Mishaps That Might Have Started Accidental Nuclear War,” Nuclear Age Peace Foundation, January, 1998, http://www.wagingpeace.org/articles/1998/01/00_phillips_20-mishaps.htm.

8. Christopher Ford, “Playing for Time on the Edge of the Apocalypse: Maximizing Decision Time for Nuclear Leaders” (paper presented to the Conference on Nuclear Deterrence: Its Past and Future, Hoover Institution, Stanford, Calif., November 11, 2010), 33–37.

and launchers would effectively create “multiple disabling points.”⁹ Unsurprisingly, notable advisers to the former U.S. administration have inferred that “the prospect of taking only a portion of the Russian ICBM [intercontinental ballistic missile] force off alert should raise major worries, because the remaining alert forces would logically be on even higher alert.”¹⁰ Given the immense technological and fiscal requirements necessary for an effective verification regime, not to mention trust-building measures, significant challenges will remain that might not be bridged by this method for reducing the risks posed by highly alerted forces.

To put this into context, the present consensus is that China’s strategic forces are kept on low alert with warheads separated from ICBMs and with submarine-launched ballistic missiles (SLBMs) unfueled.¹¹ Pakistan and India are said to keep their warheads separate from delivery systems;¹² the United Kingdom is estimated to keep 48 warheads operationally deployed on its Vanguard submarines and to keep its SLBMs untargeted and “on several days” notice to fire.¹³ The French maintain approximately the same amount of weapons deployed on SLBMs with the lowest possible alert posture.¹⁴ No official information is available on Israel, although it is estimated to possess over 50 intermediate-range ballistic missiles, to have recently acquired ICBM capability, and possibly to have submarine-launched cruise missiles, of which all the alert statuses are unknown.¹⁵

However, the United States and Russia will, in the future, be hard-pressed to convince other nuclear powers, such as India and China, not to maintain similar launch postures once their command-and-control systems have matured and once safety and security measures are adequately in place for weapons to go on high readiness.¹⁶ We already have seen India, Pakistan, and China

9. Thomas C. Schelling, “A World without Nuclear Weapons?” *Daedalus*, Fall 2009, 128.

10. Frank Miller, “Disarmament and Deterrence: A Practitioner’s View,” in *Abolishing Nuclear Weapons: A Debate*, ed. George Perkovich and James M. Acton (Washington, D.C.: Carnegie Endowment for International Peace, 2009), 153.

11. Nikolai N. Sokov, Jing-dong Yuan, William C. Potter, and Cristina Hansell, “Chinese and Russian Perspectives on Achieving Nuclear Zero,” in *Engaging China and Russia on Nuclear Disarmament*, CNS Occasional Paper 15, ed. Cristina Hansell and William C. Potter (Monterey, Calif.: James Martin Center for Nonproliferation Studies, 2009), 9, <http://cns.miis.edu/opapers/op15/op15.pdf>.

12. EastWest Institute, *Reframing Nuclear De-Alert: Decreasing the Operational Readiness of U.S. and Russian Arsenals* (New York: EastWest Institute, 2009): 4–5, http://www.ewi.info/reframing_dealert.

13. *Ibid.*, 5; Hans Kristensen, “Britain Discloses Size of Nuclear Stockpile: Who’s Next?” Federation of American Scientist Strategic blog, May 26, 2011, <http://www.fas.org/blog/ssp/2010/05/ukstockpile.php>.

14. Stockholm International Peace Research Institute (SIPRI), *Yearbook 2011: Armaments, Disarmament and International Security* (Stockholm: SIPRI, 2011), 338–349; EastWest Institute, *Reframing Nuclear De-Alert*, 5.

15. Further development of the Shavit space launch vehicle has led to the Jericho series of multistage missile, with the Jericho II intermediate ballistic distance missile reported to have a range of between 1,500 and 3,500 kilometers; see SIPRI, *Yearbook 2011*, 350–351; and Nuclear Threat Initiative (NTI), “Israel: Missile,” *Global Security Newswire*, November 2011, <http://www.nti.org/country-profiles/israel/delivery-systems>. The Jericho 3 ICBM was first tested in 2008 and development has continued since; see Anshel Pfeffer, “IDF Test-Fires Ballistic Missile in Central Israel,” *Haaretz*, November 2, 2011, <http://www.haaretz.com/news/diplomacy-defense/idf-test-fires-ballistic-missile-in-central-israel-1.393306>.

16. One study suggests that there is a Chinese interest in utilizing space for missile defense purposes and goes on that this “capability could eventually allow for worldwide missile launch surveillance and early warning capabilities, strengthening China’s nuclear deterrent and missile defense posture.” Ian Easton and Mark A. Stokes, *China’s Electronic Intelligence (ELINT) Satellite Developments: Implications for U.S. Air and Naval Operations* (Arlington, Va.: Project 2049 Institute, 2011), http://project2049.net/documents/china_electronic_intelligence_elint_satellite_developments_easton_stokes.pdf; see also Zia Mian, R.

acquiring EW radar installations and airborne warning-and-control systems (AWACSs) besides other (space) intelligence, surveillance, and targeting assets.¹⁷

Where Has the Debate Stalled?

Before the broader momentum toward nuclear disarmament was galvanized in the period preceding the 2010 NPT Review Conference, the UN General Assembly adopted two resolutions in 2007 and 2008 on “decreasing the operational readiness of nuclear weapons systems, submitted by the ‘de-alerting 5’ group of states.”¹⁸ Although the first resolution might have come too early to add any meaningful impetus, the adoption of the second resolution did have an impact on developments leading up to the conference. The Obama administration, however, which has otherwise directed U.S. policy toward an embrace of disarmament initiatives, asked for the postponement of the submission of the latter resolution to avoid having to vote against it shortly before the NPT Review Conference.¹⁹ This reflected a change of heart since the 2008 election campaign, when Obama and Biden had pledged to work more closely with Russia to “bring significantly more weapons off hair-trigger alert.”²⁰ Apparently, the resolution came at an inopportune time, as France, the United Kingdom, and the United States, as they had before, voted against it.

In the period preceding the 2010 NPT Review Conference, the EastWest Institute hosted a debate that led to a report to “define the issue to reconcile differing views of the de-alert concept that may themselves hinder attempts to reduce the readiness of nuclear weapons.”²¹ The most striking problem noted was the “absence of a common understanding and description of how countries

Rajaraman, and M. V. Ramana, “Early Warning in South Asia: Constraints and Implications,” *Science & Global Security* 11, nos. 2–3 (2003): 109–150; and P. R. Chari, “India’s Nuclear Doctrine, Confused Ambitions,” *Nonproliferation Review* (Fall–Winter 2000), 126. The Indian Draft Nuclear Doctrine, which was formally adopted on January 4, 2003, states: “Deterrence requires that India maintain: (Clause 2.4a) effective intelligence and early warning capabilities. . . . (Clause 5.4) The survivability of the nuclear arsenal and effective command, control, communications, computing, intelligence and information (C4I2) systems shall be assured. . . . (Clause 5.6) Space based and other assets shall be created to provide early warning, communications, damage/detonation assessment.” National Security Advisory Board on Indian Nuclear Doctrine, Draft Report, August 17, 1999, <http://www.pugwash.org/reports/nw/nw7a.htm>.

In resolutions 62/36 and 63/41, the General Assembly called for reductions in the operational readiness of nuclear weapons systems. See UN General Assembly, 62nd Session, “Resolution 62/36 [Decreasing the Operational Readiness of Nuclear Weapons Systems],” *Resolutions and Decisions Adopted by the General Assembly During Its Sixty-second Session (A/RES/62/36)*, Official Record (New York: United Nations, December 5, 2007); and UN General Assembly, 63rd Session, “Resolution 63/41 [Decreasing the Operational Readiness of Nuclear Weapons Systems],” *Resolutions and Decisions Adopted by the General Assembly During Its Sixty-third Session (A/RES/63/41)*, Official Record (New York: United Nations, December 2, 2008).

17. “Indian AWACS Moving Forward on 2 Fronts,” *Defense Industry Daily*, November 9, 2011, <http://www.defenseindustrydaily.com/Indian-AWACS-Moving-Forward-on-2-Fronts-04855>; “India: Ballistic Missile Defense,” GlobalSecurity.org, last modified: July 24, 2011, <http://www.globalsecurity.org/wmd/world/india/bmd.htm>; “Pakistan Gets Chinese AWACS Aircraft,” GlobalSecurity.org, November 14, 2010, <http://www.globalsecurity.org/wmd/library/news/pakistan/2010/pakistan-101114-irna01.htm>.

18. UN General Assembly, Resolution 62/36 and Resolution 63/41.

19. Hans M. Kristensen, “Obama Asks UN De-Alerting Resolution to Wait,” Federation of American Scientist Strategic blog, October 16, 2009, <http://www.fas.org/blog/ssp/2009/10/dealert-2.php>.

20. Barrack Obama and Joe Biden, “Barack Obama and Joe Biden on Defense Issues,” fact sheet defense, 2008, http://www.barackobama.com/pdf/issues/Fact_Sheet_Defense_FINAL.pdf.

21. EastWest Institute, *Reframing Nuclear De-Alert*, 1.

might employ their nuclear arsenals during the initial phases of a nuclear exchange.”²² Considerable differences in language and translation were noted as problematic, as was the perceived sensitivity to any discussion of these matters. It was further observed that “a lack of universally agreed[-on] terminology has hindered diplomatic efforts” on the matter.²³

The EastWest Institute report offered numerous options and answers for the problems faced by the United States and Russia. Other nuclear powers were less involved, although attention was given to what their opinions “might” have been. The problem is that they, too, will need to be included in efforts to develop a common understating of terminology and concepts related to force posture and doctrine, as their capabilities are advancing. Yet the most important state missing from this discussion, China, is unlikely to engage much in bilateral or multilateral negotiations on disarmament measures.²⁴ Other smaller nuclear powers have been similarly loath to participate in any talks on the issue.

The debate is being continued almost a year later by Christopher Ford, who has tried to summarize the major problems between the risks of accidents and the risk of failure of deterrence. Ford concludes that “the two sides in the de-alerting debate thus seem to have reached something of a stalemate—albeit one that favors the status quo of launch-ready postures, because the principal nuclear weapons holders seem to feel that de-alerting would cause more problems than it would solve.”²⁵

Reinvigorating the debate in the short term comes at an opportune time for the United States as it starts to implement new policies based on the broadly formulated Nuclear Posture Review, as the Department of Defense is completing its classified follow-on study, and as budgetary constraints might cause the country’s ICBM fleet to be mothballed.²⁶ Given these developments, the United States could take the opportunity to lead the way in taking silo-based deterrence offline, one of the direct causes that reaffirm the need for high-end alert due to their vulnerability.

Of course, submarines are the thorniest issue when it comes to verifiable de-alerting, and, at present, there are no easy answers. Leaving them until last will not be an option. Given the mix in force structures, not all other countries would maintain sufficient retaliatory capability if they needed to rely solely on submarines, which in turn would create an imbalance of preemptive capability and result in an unstable situation.²⁷ However, the challenges with the new types of nuclear-armed submarines—what are known as strategic submarine ballistic nuclear submarines (SSBNs)—do not negate the potential benefits that can be derived from reducing the alert status of weapons deployed on other platforms. Furthermore, because SSBNs are difficult to target and are therefore said to provide an assured retaliatory capability, they do not pose as acute a “use it or lose

22. Steven Starr, Robert Green, Ernie Regehr, Valery Yarynich, and Robin Collins, “New Terms for a Common Understanding of De-Alerting: Launch Before or After Nuclear Detonation,” Nuclear Age Peace Foundation, 2010, 1–7, http://www.wagingpeace.org/articles/pdfs/2010_08_13_new_terms_dealerting.pdf.

23. *Ibid.*, 1.

24. Hansell and Potter, *Engaging China and Russia*, 9, 11.

25. Ford, “Playing for Time,” 17.

26. NTI, “Panetta: Budget Sequester Could Force Elimination of ICBMs,” *Global Security Newswire*, November 15, 2011, <http://www.nti.org/gsn/article/panetta-budget-sequester-could-force-elimination-of-icbms>.

27. John Steinbruner, “PDI Live Debate 5: John Steinbruner & Walter Slocombe on De-Alerting,” transcript of debate hosted by CSIS Project on Nuclear Issues, November 5, 2009, <http://csis.org/event/pdi-live-debate-5-john-steinbruner-walter-slocombe-de-alerting>.

it” problem as do ICBMs or bombers. A possible and often-raised solution would be to have engineers who designed the systems develop an answer, possibly in bilateral or multinational working groups. This information could in turn be shared in some way or form with developing nuclear powers, possibly like the sharing of information on permissive action links.²⁸

Actual Alert Levels

Given the opaque character of nuclear force structures, it is difficult to tell what the exact operational readiness is for strategic arsenals at any given time. During the Cold War, alert levels were never static and fluctuated in response to developing crises. Since this period, strategic forces have reduced the number of strategic assets kept on high-alert status. However, declarative policy and operational practice do not necessarily reflect each other; some experts believe that few U.S. nuclear forces are actually deployed on high-alert status, even if declared policy indicates such a stance.²⁹ It is said that “the U.S. carefully maintains the ability to respond promptly to any attack in order to complicate any adversary’s planning and thereby enhance deterrence, but it does not assume a launch-on-warning readiness.”³⁰

It is indeed difficult to ascertain precisely what the actual alert status is at any given time. Some estimates state that the United States and Russia have at least 1,739 strategic nuclear weapons that remain on high alert.³¹ In the Russian and American context, the importance of speed in defending arsenals against decapitating first strikes has been offset by increased force mobility and by the hardening of forces. The prevailing view is that strategic ambiguity of alert status aids the survivability of forces and thus improves crisis stability. The 2010 Nuclear Posture Review concluded “that the current alert posture of U.S. strategic forces—with heavy bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs at sea at any given time—should be maintained for the present.”³² The report added that “reducing alert rates for ICBMs and at-sea rates of SSBNs could reduce crisis stability by giving an adversary the incentive to attack before “re-alerting” was complete.”

In recent years, the declared mission for Russia’s strategic forces has diminished the role of nuclear weapons slightly.³³ Yet in comparison, a large reduction in Russian readiness levels seems equally unlikely, given the continued reliance on nuclear weapons in Russia’s security strategy due to the material degradation of its conventional forces, causing disparity with the United States.

28. Gregory Giles, “Safeguarding Undeclared Nuclear Arsenals,” *Washington Quarterly* 16, no. 2 (Spring 1993): 173–186.

29. Christopher A. Ford, “Dilemmas of Nuclear Force ‘De-Alerting,’” paper presented at International Peace Institute Policy Forum, New York, October 7, 2008, 4–5, [http://www.hudson.org/files/documents/De-Alerting%20FINAL2%20\(2\).pdf](http://www.hudson.org/files/documents/De-Alerting%20FINAL2%20(2).pdf).

30. *Ibid.*, 4.

31. Steven Starr, “The Importance of Lowering the Operational Readiness Status of Nuclear Weapons Systems,” statement given at seminar organized by Nuclear Age Peace Foundation and held at Geneva Centre for Security Policy, June 24, 2011, http://www.wagingpeace.org/articles/db_article.php?article_id=265. The International Commission on Nuclear Non-Proliferation and Disarmament puts the number at 2,150 on very high alert; see International Commission on Nuclear Non-Proliferation and Disarmament, *Eliminating Nuclear Threats*, 27.

32. U.S. Department of Defense, *Nuclear Posture Review Report* (Washington, D.C.: U.S. Government Printing Office, 2010), x.

33. Hansell and Potter, *Engaging China and Russia*, 15.

Also its nuclear force will not continue to be commensurable with that of the United States, creating further asymmetrical imbalances.³⁴ Finally, Russian EW capabilities will increasingly become antiquated, with both ground based radar and satellites reaching the end of their operational lifetimes.³⁵ Complete coverage cannot be guaranteed, leading to a decline in confidence and the level of information available to decisionmakers.

Future Complexity

In their most recent article, Shultz and his colleagues state that “it is not possible to replicate the high risk stability that prevailed between the two nuclear superpowers during the Cold War in such an environment. The growing number of nations with nuclear arms and differing motives, aims and ambitions poses very high and unpredictable risks and increased instability.”³⁶ At the same time as this new dynamic slowly unfolds, the international community has increasingly become aware of the rise of new strategic actors that might not want to conform to a Western-led strategic balance, nonproliferation regime, or, even worse, that assume a readiness to use nuclear weapons first in a conflict—possibly by not having the same appreciation of the main tenets of deterrence via mutually assured destruction.³⁷

Moreover, the multilateralization of deterrence over the course of the last 60 years and the more recent emergence of new ballistic missile capable states, which—in conjunction with the development of more robust command, control, communications, computers, intelligence, surveillance, and reconnaissance capabilities by more states—will lead to a more dynamic global strategic arena.³⁸ A likely consequence will be more weapons on high alert. Disturbingly, as James Doyle explains, “in today’s world, nuclear-armed states share disputed borders, have limited experience

34. Nikolai N. Sokov, “The Evolving Role of Nuclear Weapons in Russia’s Security Policy,” in *Engaging China and Russia*, ed. Hansell and Potter, 80–81.

35. “Early Warning,” *Russian Strategic Nuclear Forces*, August 19, 2011, [http://russianforces.org/blog/2010/04/early_warning_system_is_down_t.shtml](http://russianforces.org/sprn;Early Warning System Is Down to Three Satellites,” Russian Strategic Nuclear Forces, April 28, 2010, <a href=); “Only Two Satellites Left in Russia’s Early-Warning System,” *Russian Strategic Nuclear Forces*, September 2, 2010, http://russianforces.org/blog/2010/09/only_two_satellites_left_in_ru.shtml; “A Joint U.S.-Russian Missile Defense Site in Azerbaijan?” *Russian Strategic Nuclear Forces*, June 7, 2007, http://russianforces.org/blog/2007/06/a_joint_usrussian_missile_defe.shtml.

36. George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, “Deterrence in the Age of Nuclear Proliferation: The Doctrine of Mutual Assured Destruction Is Obsolete in the Post-Cold War Era,” *Wall Street Journal*, March 7, 2011.

37. A study of 115 Iranian school textbooks’ teacher’s guides concluded that they “provide an example of a hate curriculum and betray an educational system that prepares school children for war and martyrdom.” Arnon Groiss, Nethanel Toobian and Gabriel Beiner, *The Attitude to “The Other” and to Peace in Iranian School Books and Teacher’s Guides* (Mevaseret-Zion, Israel: Center For Monitoring the Impact of Peace, October 2006), <http://www.impact-se.org/docs/reports/Iran/Iran2006.pdf>. Or, as a more opinionated piece by Bernard Lewis describes this possibility, “the threat of direct retaliation on Iran is . . . weakened by the suicide or martyrdom complex that plagues parts of the Islamic world today.” Bernard Lewis, “August 22: Does Iran Have Something in Store?” *Wall Street Journal*, August 8, 2006. These are but examples for one nation, but they serve to illustrate the difficulties inherent when any state has a monopoly on control of information to the public.

38. Tom Withington, “Starting Small, French Microsats Test Missile-Warning Technologies,” *CAISR Journal*, June 2, 2009; “SAIC Helps Launch Commercially Hosted Infrared Payload Sensor for U.S. Air Force Space and Missile Systems Center,” Science Applications International Corporation, September 27, 2011.

with nuclear weapon safety and security, and have vulnerable EW systems and nuclear weapon control capabilities.”³⁹ A poignant illustration of this is the fact that almost none of the current regional advisories are located at a distance from each other comparable to the much longer ICBM flight times between Moscow and Washington, which are estimated at approximately 30 minutes.⁴⁰ Given the extremely short flight times of missiles between countries in the Middle East or near the Indian subcontinent, nuclear leaders would have even less time to weigh their options. In South Asia, for example, Mian, Rajaraman, and Ramana have calculated total flight times ranging from 8 to 13 minutes.⁴¹ Countries in the region would need to process EW information, inform decision-makers, and take action within a fraction of the U.S.-Russian time, namely, 4 to 7 minutes between Indian and Pakistan and about 10 minutes between India and China.⁴²

The Different Character of Deterrence

The problem with many of the proposals from the EastWest Institute is that, at present, no country’s nuclear forces are constituted in the same manner with equal numbers of warheads or delivery and support systems. In a hypothetical future, a de-alerting regime might need to have different specification for each type and will not be uniformly applicable. The regime would, of course, become more difficult to manage as more countries joined it. Yet, at present, a regime between the United States and Russia might be possible.

It has been proposed that both states implement different stages of alert: Stage 1 would make it possible for weapons to be ready in 24 hours; stage 2, in a week; and stage 3 would require over a month to reconstitute the weapons system.⁴³ Bruce Blair and others have proposed a two-tiered de-alert regime with two different degrees of reduced combat readiness for forces in both categories. The first echelon would contain equal numbers of the most vulnerable silo-based ICBMs with the shortest re-alert times and with single warheads and high yield. Second-echelon forces would take a number of hours to ready and would consist of a more diverse group of launchers, yet overall both forces would hold an equal arsenal of warheads. In this manner, first-echelon forces would “maintain day-to-day deterrence,” while second-echelon forces would be further de-alerted and form a backup once war broke out. The authors postulate that the United States and Russia could monitor each other’s second echelons. Any sign of deployment would mean a roughly symmetrical re-alert.⁴⁴ Also, there would be no advantage to a preemptive strike, because an attack on a state’s first-echelon forces would be insufficient to nullify both the first- and second-echelon forces of

39. James E. Doyle, “Eyes on the Prize: A Strategy for Enhancing Global Security,” in *Abolishing Nuclear Weapons: A Debate*, ed. George Perkovich and James M. Acton (Washington, D.C.: Carnegie Endowment for International Peace, 2009), 24.

40. This is notwithstanding closer launches from mobile platforms such as surface-to-surface ballistic missile submarines.

41. Mian, Rajaraman, and Ramana, “Early Warning,” 131–132.

42. *Ibid.*, 131–132. See also Harsh V. Pant, “India’s Nuclear Doctrine and Command Structure Implications for Civil-Military Relations in India,” *Armed Forces & Society* 33, no. 2 (January 2007): 258.

43. Steven Starr, “An Explanation of Nuclear Weapons Terminology,” Nuclear Age Peace Foundation, 2008, http://www.wagingpeace.org/articles/2007/11/29_starr_explanation_terminology.php. See also Rebecca Johnson, “2010 and Beyond: Reducing the Role of Nuclear Weapons—A Global and Regional Security Imperative,” Acronym Institute for Disarmament Diplomacy, 2010.

44. Bruce Blair, Victor Esin, Matthew Mckinzie, Valery Yarynich, and Pavel Zolotarev, “One Hundred Nuclear Wars: Stable Deterrence between the United States and Russia at Reduced Nuclear Force Levels Off Alert in the Presence of Limited Missile Defenses,” *Science & Global Security* 19, no. 3 (2011): 167–194.

the opponent. This analysis seems very promising only within the U.S.-Russian context. However, even if it were to be implemented rapidly, it might not be enough to convince other states to embrace similar approaches.

A future de-alerting regime might need to have different specifications for each context and would not be uniformly applicable, as no state would rely on the same mix of delivery systems. Also, many states might not have sufficient surveillance capabilities to track all potential threats. As noted above, the regime would grow extremely complex as more countries joined. Moreover, concerted efforts to build concealed mobilization bases might in the future significantly complicate the design and implementation of a multilateral verification regime.⁴⁵

As Eric Edelman and his colleagues point out, nuclear “n’-player competition” (i.e., interaction among more nuclear-armed powers) would be more prone to miscalculation and escalation than a bipolar competition. Especially, proliferation in the Middle East, Southeast Asia, and East Asia could lead to a nuclear cascade among neighboring states. What is more, they contend that those states might not take the necessary precautions to preserve stability by investing in the survivability of launch vehicles and installations, which given the vulnerable nature of their weapons, would necessitate a “launch-on-warning readiness” posture.⁴⁶ In this regard, the often-quoted passage by Thomas Schelling would need amending: “A world with more nuclear forces on hair trigger would be a world in which the United States, Russia, Israel, China, and half a dozen or a dozen other countries would have nuclear weapons, delivery systems, and C4SIR [command, control, communications, computers, intelligence, surveillance, and reconnaissance] architecture in place and would have prepared targets to preempt other nations” nuclear facilities, with practice drills and secure emergency communications. Every crisis would be a nuclear crisis.⁴⁷ This environment would be dazzlingly complicated and dangerous, especially for countries with degrading or developing EW capabilities, which both would be particularly susceptible to malfunctions.

Before the situation would get this far, a way to take action to engage with these other states should be found, to dissuade or deemphasize the need for such capabilities but also as a way for the United States and Russia to get out of the self-reinforcing cycle. One conclusion that coalesced from the EastWest Institute’s debate was “a sense that nuclear doctrines and alert practices of different nuclear weapon states cannot be seen in a vacuum and must be evaluated as parts of a larger political and security framework.”⁴⁸ Also important is that “the United States and Russia were ‘trapped’ in their legacy postures. They would need a broader framework to be able to escape this trap.”⁴⁹

45. See Jeffrey Lewis, “Collected Thoughts on Phil Karber,” *Arms Control Wonk*, December 7, 2011, <http://lewis.armscont.rolwonk.com/archive/4799/collected-thoughts-on-phil-karber>. Also see William Wan, “Georgetown Students Shed Light on China’s Tunnel System for Nuclear Weapons,” *Washington Post*, November 30, 2011, http://www.washingtonpost.com/world/national-security/georgetown-students-shed-light-on-chinas-tunnel-system-for-nuclear-weapons/2011/11/16/g1QA6AmKAO_story.html; and Phillip Karber, interviewed by Neal Conan, “Team Ignites Debate over China’s Nuclear Tunnels,” National Public Radio, December 22, 2011, <http://www.npr.org/2011/12/22/144141325/team-ignites-debate-over-chinas-nuclear-tunnels>.

46. Eric Edelman, S. Krepinevich, Andrew F. Montgomery, and Evan Braden, “The Dangers of a Nuclear Iran: The Limits of Containment,” *Foreign Affairs* 90, no. 1 (January–February 2011): 4–5.

47. Schelling, “World without Nuclear Weapons?” 127.

48. EastWest Institute, *Reframing Nuclear De-Alert*, 5.

49. *Ibid.*, 5.

What to Do?

What is needed is a fivefold approach that should increase transparency through information sharing and, at the same time, reduce the number of nuclear missions, most of all counterforce strike, including no-first-use policies.⁵⁰ First, the most basic tool that could avert any inadvertent and uncorrectable decision would be for other states to follow the U.S.–Russian example and establish “hotlines” between each other in volatile areas. In 2008, the United States and China established such a bilateral link, as have India and Pakistan. Similar efforts are under way between China and India, and China and Russia.⁵¹ More lines of communication will become necessary in the future between ICBM-capable nations.

Second, there should be an increased exchange of information on a bilateral or multilateral level on the sharing of commercial, scientific, and military launches. Again, Russia and the United States do so already, as do China and Russia.⁵² Increased voluntary sharing through prelaunch and postlaunch notifications of launches of ballistic missiles and space launch vehicles by all space-faring nations and organizations, especially among competing states, will increase strategic stability. More countries should adopt similar initiatives on a bilateral or multilateral basis to reduce the risk of a false warning.

Third, and most important, will be the creation of a global EW system. As stated above, one of the primary concerns related to high-alert statuses are degrading or otherwise underdeveloped warning systems. The best way forward would be some form of increased situational awareness by global shared EW data exchanges among all strategic players and other interested states, much like the tsunami warning system or the International Monitoring System and Communications infrastructure of the Comprehensive Nuclear Test Ban Treaty Organization. This would strengthen global security and strategic stability and help to prevent any mistakes and to alert national civil defense agencies in a timely fashion to take passive defense measures to protect populations.

Fourth, the United States and Russia can expand other initiatives. For over a decade, the United States has offered to establish Joint Data Exchange Center with Russia, an initiative that stalled due to budgetary and trust issues.⁵³ This center and the Russian American Observation Satellites program should resume in order to provide shared EW data and reliable coverage. Although slightly skeptical of the real possibilities, this same conclusion was already reached by

50. Ivan Oelrich, “The Next Step in Arms Control: Eliminate the Counterforce Mission,” *Bulletin of the Atomic Scientists* 68, no. 1 (January–February 2012): 79–85. This would also be in line with Step 9 of the 13 practical steps for the systematic and progressive efforts to implement Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons made in Final Document of the 2000 Review Conference.

51. See Hansell and Potter, *Engaging China and Russia*, 9; Nabil Fahmy, “Cooperative Security: The Importance of Regional and Other Security Arrangements: Pointers for a New Administration,” in *Nuclear Challenges and Policy Options for the Next U.S. Administration*, CNS Occasional Paper 14, ed. Jean du Preez (Monterey, Calif.: James Martin Center for Nonproliferation Studies, 2008), 79.

52. Luke Champlin, “China, Russia Agree on Launch Notification,” Arms Control Association, November 2009, <http://www.armscontrol.org/print/3932>; “Memorandum of Understanding on Notifications of Missile Launches,” December 16, 2000, <http://www.state.gov/t/isn/4954.htm>.

53. “Memorandum of Agreement between the United States of America and the Russian Federation on the Establishment of a Joint Center for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches,” June 4, 2000, <http://www.state.gov/t/isn/4799.htm>; Samson, “Prospects,” 494–512.

an influential, high-level committee in 2001.⁵⁴ However, both initiatives should be expanded to include other partners in a multilateral center or by establishing a number of nodes in particular regions.⁵⁵ Harald Müller suggests that this could be further enhanced if reinforced by possibly placing liaison officers with real-time, tamper-proof, secure communication lines at launch centers and launch bases.⁵⁶

The fifth and last point calls for the categorization of the threat to increase recognition of incoming missiles. In the past, the United States and the Soviet Union effectively made deterrence solely a strategic matter through the ratification of the Intermediate-Range Nuclear Forces (INF) Treaty, which required the destruction of tactical ground-launched ballistic and cruise missiles. Currently, it still remains very difficult for non-INF members or their INF neighbors to reliably know if an incoming cruise missile or other short-range ballistic missile / medium-range ballistic missile (MRBM/SRBM) does not have a nuclear payload.⁵⁷ In such an instance, any detected launch would be treated as a worst case scenario. Currently both INF and non-INF countries are ardently pursuing new types cruise and MRBM/SRBM capabilities.⁵⁸ This has led to concerns from Russia that if no other countries are brought into the INF Treaty, it will lose its utility.⁵⁹ Mark Stokes and Dan Blumenthal warn that “the end of the INF would mean a missile arms race involving four great nuclear powers—India, China, Russia and the United States,” because a Chinese buildup would lead regional neighbors feeling compelled to develop similar capabilities.⁶⁰ In order to forgo this possibility, a new form of INF Treaty must be fostered to include both the United States and the whole Eurasian continent; this would take away many of the fears of countries vis-à-vis their neighbors and help alleviate EW mishaps. Proposals to this effect have already been made by Russia.⁶¹ In following, Stokes and Blumenthal rightly state that “China’s unrelenting deployment

54. John Steinbruner, *The Significance of Joint Missile Surveillance*, Occasional Paper (Cambridge, Mass.: Committee on International Security Studies of the American Academy of Arts and Sciences, 2001).

55. Geoffrey Forden, “Reducing a Common Danger: Improving Russia’s Early-Warning System,” *Policy Analysis*, no. 399 (May 2001): 17–19.

56. Harald Müller, “Progressive and Systemic Steps: Short- and Medium-Term Goals,” in *Nuclear Challenges*, ed. du Preez, 67.

57. Russia’s Strategic Force Commander stated that “existing missile attack warning systems were unable to distinguish between a nuclear and conventionally armed ballistic missile,” adding that a state receiving real-time data about a missile launch would proceed from the “worst-case scenario.” Colonel General Nikolai Solovtsov, commander of the Russian Strategic Missile Forces, *RIA Novosti*, June 10, 2009, <http://en.rian.ru/russia/20090610/155220240.html>.

58. For a number of recent examples, see NTI, “Russia Considers Nuclear-Armed Cruise Missiles for Submarines,” *Global Security Newswire*, March 24, 2009, <http://www.nti.org/gsn/article/russia-considers-nuclear-armed-cruise-missiles-for-submarines>; and “BrahMos to Increase Production of Russian-Indian Cruise Missiles,” *RIA Novosti*, December 6, 2007, <http://en.rian.ru/world/20071206/91245076.html>. Also, it has been proposed to arm the U.K. Astute-class submarines with nuclear-armed cruise missiles as a replacement option for Trident; see George Parker and Helen Warrell, “Trident Upgrade to Be Used against Tories,” *Financial Times*, May 24, 2011, <http://www.ft.com/cms/s/0/c8e57138-863a-11e0-9e2c-00144feabdc0.html#axzz1of8WN3TZ>; and “Pentagon Tests Long-Range Hypersonic Weapon,” BBC News, November 18, 2011, <http://www.bbc.co.uk/news/world-us-canada-15790620>.

59. Luke Harding, “Putin Threatens Withdrawal from Cold War Nuclear Treaty,” *The Guardian* (London), October 12, 2007, <http://www.guardian.co.uk/world/2007/oct/12/russia.usa1>.

60. Mark Stokes and Dan Blumenthal, “Can a Treaty Contain China’s Missiles?” *Washington Post*, January 2, 2011, <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/31/AR2010123102687.html>.

61. Joint Statement to the UN General Assembly’s First Committee by Russia and the United States called on all countries to join a global INF Treaty, October 25, 2007, <http://www.un.int/russia/new/Main->

of missiles will soon force Washington to choose between pulling out of the INF or developing longer-range, strategically unstable military responses that are consistent with the agreement.”⁶² To avoid the very same confusion, strategic weapons should not be used for more tactical purposes; and, correspondingly, the United States and others should abandon projects leading to a conventional role for ICBMs and SLBMs—such as of one the current U.S. Prompt Global Strike options.⁶³ Russia has already called for their banning during New START negotiations.⁶⁴ However, the latter task might remain exceedingly difficult to achieve given the linkages made with, first, other force-restricting treaties such as the Treaty on Conventional Armed Forces in Europe; second, new United States–NATO ballistic missile defense initiatives; and third, the more general problem of separating nuclear weapons out from overarching defense and deterrence considerations.

Conclusion

De-alerting remains a pressing topic, yet will likely continue to be marginalized because its implementation is a complex process linked to the overarching issues of credible deterrence and global stability as a whole. Traction on successful de-alerting initiatives will depend partly on how other nuclear-armed states will develop their arsenals and doctrines. However, given the example presented by the United States and Russia, many might not be easily deterred from reconfiguring sensitive nuclear alert postures. Therefore, continued U.S., and to a lesser extent Russian, engagement and leadership will remain crucial in addressing this issue over the course of the next decade. Maintaining the number of nuclear weapons on high alert runs the risk of reinforcing a process that reaffirms and legitimizes high-alert nuclear postures. Not only would this add myriad new complexities to the strategic environment; it could considerably increase the chances of nuclear war.

Root/docs/off_news/291007/newen1.htm. The Russian delegation to the Conference on Disarmament set forth proposals to open the INF Treaty “to broad international accession,” February 12, 2008, <http://www.ln.mid.ru/ns-dvbr.nsf/8329e2a2d0f85bdd43256a1700419682/432569d800226387c32573ee002ccdc9?OpenDocument>.

62. Stokes and Blumenthal, “Can a Treaty Contain China’s Missiles?”

63. Bureau of Arms Control, Verification, and Compliance, U.S. Department of State, “Investments in Conventional Prompt Global Strike,” fact sheet, December 13, 2010, <http://www.state.gov/t/avc/rls/152730.htm>.

64. Bill Gertz, “Chiefs Opposed Russian Ban on Conventional ICBMs,” *Washington Times*, December 20, 2010, <http://www.washingtontimes.com/news/2010/dec/20/chiefs-opposed-russian-ban-conventional-strike-icb>.

INDIA AND BALLISTIC MISSILE INTERCEPTION

FROM THEORY TO PRACTICE

Yogesh Joshi and Alankrita Sinha¹

The revival of ballistic missile interception (or ballistic missile defense) (BMI/BMD) plans by the United States in 2001, after it abrogated the Anti-Ballistic Missile Treaty of 1972, has had manifold implications internationally.² Soon after United States announced its plans to acquire missile interception capabilities, India officially indicated that it too would look toward BMI as an element of its national security. The issue of BMI is significant for India for three major reasons. First, it marks a diplomatic turnaround for India since it had previously opposed BMI at the international level, although it never closed this option at the domestic level. Second, BMI systems have been touted as essential because they strengthen two important facets of India's nuclear doctrine, credible minimum deterrence and the no-first-use policy. Third, at a more practical level, the impact of India's pursuance of BMI on the regional stability in South Asia cannot be ignored. The focus of this paper outlines three central aspects of India's pursuit of the BMD system, providing an analysis of India's interests with respect to BMI and its diplomatic backtrack since 2001; the theoretical significance of BMI vis-à-vis the Indian nuclear doctrine; and finally the adoption of BMD systems by India and its repercussions for the offense/defense balance in the South Asia region.

India's Ballistic Missile Interception Program

India's interest in BMI systems goes back to the initiation of the Integrated Guided Missile Defense Programme of 1983. This program not only led to the development of offensive missile platforms like Prithvi and Agni series but also had a defensive component in the form of Akash surface-to-air missiles initially planned for air defense measures and equipped with a potential for conversion to a theater missile defense system.³ In the 1990s, the Defense Research and Development Organization started conceptualizing a missile defense plan for India. Subsequently, the Indian military also entered into negotiations for BMI platforms and associated technologies with Israel and Russia.⁴

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2. Ballistic missile defense (BMD) and ballistic missile interception (BMI) imply one and the same thing. However, we use the latter terminology because, first, BMI is a more accurate representation of what BMD systems are supposed to achieve technologically; and second, it also eliminates the value bias toward an inherently defensive nature of the technology as the term "defense" in BMD terminology seems to connote. We thank Mark Jansson for suggesting this nuanced change in vocabulary.

3. Bharath Gopalaswami, "Missile Defense in India," *Bulletin of the Atomic Scientists*, February 27, 2011, <http://www.thebulletin.org/web-edition/features/missile-defense-india>.

4. Gaurav Kampani, "Stakeholders in the Indian Strategic Missile Program," *Nonproliferation Review* 10 (Fall-Winter 2003): 48-70.

Currently, the Indian BMI system boasts of both exo-atmospheric as well as endo-atmospheric BMD capability, providing India with a two-layered BMI system.⁵ Whereas the Prithvi air defense is supposed to tackle incoming missiles at a range of 50 to 80 kilometers (exo-atmospheric interception), the advanced air defense mainly consists of Akash surface-to-air missiles and can kill incoming missiles at the range of 15 to 30 kilometers (endo-atmospheric interception). To bolster its missile-tracking capabilities, India has imported two Green Pine radar installations, which Israel uses in its Arrow missile defense system. Moreover, India has also developed tracking and fire control radar called “swordfish” in collaboration with Israel and France.⁶ India had previously acquired the Phalcon airborne warning-and-control system from Israel at a cost of \$2 billion, providing India with a capability of low-level detection of hostile missile platforms, and it has considerably enhanced the response time for missile interception.⁷

After the success of the test in March 2011, top scientists at the Defence Research and Development Organization claimed that India will have some missile interception capability installed by the end of 2014.⁸ However, similar claims have been made before, and there appears to be a tendency toward premature declarations regarding India’s missile interception capabilities among the scientific enclave.⁹ As far as the scope of missile interception is concerned, there are indications that India will opt for limited coverage rather than the development of a national capability.¹⁰ Two reasons for this need to be mentioned. First, for Indian strategists, a limited missile interception coverage complements India’s nuclear doctrine. Second, the development of a missile interception capability that would cover the country’s entire geographic area is beyond India’s economic means.

BMI and India’s Diplomatic Volte-Face

It is important to acknowledge that the recent embrace of missile interception constitutes a diplomatic volte-face as far as India’s historical stand on the issue is concerned. India vehemently opposed the Star Wars initiative of Ronald Reagan on the grounds that it destabilized the Cold War nuclear balance. India’s support for George W. Bush’s National Missile Defense plans in 2001 thus represented a departure from previous policy and surprised international as well as domestic audiences.¹¹

A number of political calculations went into welcoming the Bush plans. First, the revival of National Missile Defense in the United States’ calculus and its abrogation of the Anti-Ballistic

5. The concept of layered defense is also known as “defense in depth.” Multiple layered missile defense increases the chances of successful interception of incoming missiles. Redundancy therefore is accepted as a virtue in BMD systems.

6. Anand Sharma, *Ballistic Missile Defense: Frontier of the 21st Century* (New Delhi: KW Publishers, 2011), 232–237.

7. *Ibid.*, 234.

8. “New Delhi Can Have an Anti-Missile Shield by 2014,” *Business Standard*, August 2011, <http://www.business-standard.com/india/news/new-delhi-could-have-anti-missile-shield-by-2014/447350/>.

9. After the success of first two tests, scientists claimed that the first phase of missile interception would be ready by 2011. The dates have now been shifted to 2014. Siddharth Srivastava, “India Hones Its Missile Shield,” *Asia Times*, April 16, 2011, http://www.atimes.com/atimes/South_Asia/MD16Df01.html.

10. Rajesh Basrur, *Minimum Deterrence and India’s National Security* (Stanford, Calif.: Stanford University Press, 2006), 102–21.

11. Ashley Tellis, “The Evolution of U.S.-India Ties: Missile Defence in an Emerging Strategic Relationship,” *International Security* 30, no. 4 (Spring 2006): 113–151.

Missile (ABM) Treaty reflected the Bush administration's inclination to move beyond the Cold War nuclear order. What Bush was offering was a "clear break from the past," a past which for India was saddled with discrimination at the hands of the five major nuclear powers in the form of the Nuclear Non-Proliferation Treaty (NPT) regime. The ABM Treaty was an offspring of the NPT regime. Annulment of the treaty marked the first steps toward a new nuclear order, as the Bush administration pursued an agenda that seem unconcerned with the NPT system, whether it was at the 2005 NPT Review Conference or with the Indo-U.S. Civil Nuclear Deal. Indeed, the Indian decisionmakers were perspicacious enough to foresee that America's abrogation of the ABM Treaty symbolized a new dawn for the revival of India's political fortunes as far as international nuclear politics was concerned.¹²

Second, BMD has helped to foster an Indo-U.S. strategic partnership.¹³ Moreover, the promise of technological cooperation that Bush made in his May 1, 2001, speech was an opportunity unprecedented in the history of India–United States relations.

The third motivation has come from the threat of an unintended use of nuclear weapons on the subcontinent.¹⁴ This is most relevant in matters concerning Pakistan, where nuclear authority is delegated to military commanders and there is a substantial threat of usurpation of political authority by radical elements, along with the possible theft of nuclear weapons and related materials.¹⁵

Fourth, and finally, in the strategic minds of India's decisionmakers, missile interception may help their country break the impasse that the nuclearization of the subcontinent has created vis-à-vis the use of conventional force against Pakistan. Nuclear deterrence has allowed Pakistan to sow instability at the subconventional level by harboring terrorist elements, which have time and again imperiled India's national security. With missile interception in place, India can make a more credible conventional threat and retaliate against Pakistan for terrorist attacks carried out on Indian soil.¹⁶ To this end, India's limited missile interception capability can supplement its Cold Start military doctrine.

BMI in Indian Nuclear Doctrine

India's National Security Advisory Board released a draft report of the Indian Nuclear Doctrine in 1999 to assuage concerns related to its nuclear policy following the Pokhran II tests in 1998. This draft doctrine was of a declaratory nature when it was first released in 1999, and it later came to be

12. Ibid., 132. According to Tellis, a number of confidential reports of the government of India considered the ABM Treaty as a relic of the old regime that excluded India from the category of "legitimate nuclear weapon states." See also C. Raja Mohan, "In Praise of Diplomatic Exuberance," *The Hindu*, May 7, 2001, <http://hindu.com/2001/05/07/stories/05071348.htm>.

13. Tellis, "Evolution"; Bharth Gopalaswamy, "Missile Defense in India," *Bulletin of the Atomic Scientists*, February 27, 2009, <http://www.thebulletin.org/web-edition/features/missile-defense-india>; Basrur, *Minimum Deterrence*, 102–121.

14. Basrur, *Minimum Deterrence*, 102–121.

15. This can take place both via unauthorized use and the loss of possession of nuclear arsenals. For a debate on unintended use, see Rajesh Rajagopalan, "The Threat of Unintended use of Nuclear Weapons in South Asia," in *The India-Pakistan Nuclear Relationship: Theories of Deterrence and International Relations*, ed. E. Sridharan (New Delhi: Routledge, 2007), 266–287.

16. Manpreet Sethi, *Nuclear Strategy: India's March towards Credible Deterrence* (New Delhi: Knowledge World, 2009): 207–235.

“operationalized” as India’s nuclear doctrine in 2003 upon the review of the Cabinet Committee on Security. Like any other nuclear state, India’s nuclear doctrine is a document intended for the purpose of effective *signaling*, both to the international community and also to India’s adversaries. To this end, India’s nuclear doctrine relies on two cardinal aspects: credible minimum deterrence (CMD) and no first use (NFU). The CMD posture combines both credibility and minimalism, wherein a minimum force (which is survivable in all contingencies) establishes a credible threat of punitive retaliation.¹⁷ The NFU policy is intended to reinforce deterrence by asserting that India has the capability to defer a first strike to an adversary and respond to it thereafter.¹⁸

BMI purports to strengthen India’s CMD and NFU posture where India can maintain a smaller arsenal for the purpose of retaliation while obtaining the capability to block a first strike by an adversary using a layered defense. This is aimed at filling a previously glaring gap in India’s ability to deter low-level attacks. While nuclear deterrence has prevented an interstate war in the South Asian region, India has been unable to deter subconventional attacks against it.¹⁹ As BMI systems would be aimed at intercepting a nuclear strike against India, it could bolster the credibility of an Indian threat to respond to low-level attacks while upholding its position on NFU.²⁰ This would further reiterate India’s policy of strategic restraint, signal a tougher stance on the full range of threats, and emphasize that terror tactics against India are more likely to bring about more severe (conventional) punitive action than ever before. In theory, BMI makes sense from the Indian perspective.

However, this picture becomes more complex as both Pakistan and China also begin developing BMI. It is here that India’s reliance on massive retaliation as a punitive response takes a step backward. If all three nuclear neighbors acquire intercept capabilities against ballistic missiles, the strategic stability in the region, which is hinged on nuclear deterrence, would be disturbed.²¹ More important, because signaling is a function of both capability and intent, perceptions have all the more important a role to play. It is here that debates about the development of BMD and the offense/defense balance in the South Asian region are crucially important.

The Offense/Defense Balance and BMI in South Asia

The offense/defense theory states that states are more likely to engage in conflict when they perceive an advantage of offensive capabilities over an adversary’s defensive capabilities or when they sense that their own defensive capabilities are inadequate.²² The balance between offense and

17. Tanvi Kulkarni and Alankrita Sinha, *India’s Credible Minimum Deterrence: A Decade Later*, IPCS Issue Brief 179 (New Delhi: Institute of Peace and Conflict Studies, 2011), http://www.ipcs.org/pdf_file/issue/IB179-NSP-AlankritaTanvi.pdf.

18. *Ibid.*, 3.

19. Many arguments reiterating the same have been made by scholars. See Gopalaswamy, “Missile Defense”; Harsh V. Pant, *Contemporary Debates in Indian Foreign and Security Policy: India Negotiates Its Rise in the International System* (New York: Palgrave Macmillan, 2008); and Sumit Ganguly, “A Race to Oblivion?” *Deccan Chronicle*, April 20, 2011, <http://www.deccanchronicle.com/editorial/dc-comment/race-oblivion-617>.

20. Tellis, “Evolution,” 148.

21. Pant, “Contemporary Debates,” 101–104; Ganguly, “Race to Oblivion?”

22. Robert Jervis, “Cooperation under the Security Dilemma,” *World Politics* 30, no. 2 (January 1978): 167–214. See also Charles L. Glaser and Chaim Kaufmann, “What Is the Offense-Defense Balance and Can

defense—the relative ease or relative costs in following an offensive or defensive strategy—therefore becomes an important variable in decisions of war and peace.²³ According to Jervis, as the balance shifts toward offense, security dilemmas deepen and states pursue arms races because there exists an incentive for undertaking preemptive or surprise strikes. However, if it is easy to defend rather than attack, states become less paranoid about security and can cooperate on arms control measures.²⁴

Nuclear weapons, due to their ability to impose massive consequences in response to aggression, have shifted the balance in favor of defense. Nuclear retaliatory threats, as Waltz puts it, attempt to “pose an absolute defense against an absolute weapon.”²⁵ Because of the absolute character of nuclear weapons and their immense deterrence value, the Soviet Union and the United States settled for a situation of high mutual vulnerability during the Cold War. A similar mutual vulnerability characterizes the offense/defense balance between India and Pakistan.

This balance creates a zero-sum security dilemma: A decrease in the vulnerability of one party amounts to an increase in the vulnerability of the other and hence the other’s insecurity. BMI threatens to break the stability of mutual vulnerability by providing one side with an advantage of defense against an adversary’s nuclear weapons. This is possible in two ways. First, missile intercept capacity decreases the threat posed by others’ nuclear arsenals and thus undermines the arsenals’ deterrent value. Consequently, a state weakened by a lack of confidence in its defensive capability is more likely to go on the offensive. Second, missile intercept capabilities provide incentives for a state to undertake decapitating strikes against adversaries because now it can handle the residual forces with limited expected damage. A state that is capable of missile interception can also be lured to undertake conventional thrusts into enemy territory without fear of a nuclear response. For these reasons, BMI capabilities shift the strategic locus from defense to offense.

It can be argued that this is hyperbole given the problems with BMI technology and also the impossibility of developing an impermeable missile “shield.” In the Indian case, it can be further argued that the danger of a BMI-enabled first strike is also not applicable because India maintains a no-first-use doctrine.

However, it is important to look beyond capabilities. Perceptions also matter in international security. For example, Pakistan has time and again rejected India’s NFU policy as a mere gimmick.²⁶ Moreover, given the anarchic nature of international relations, states tend to prepare for worst case scenarios and take the promulgations of their adversaries at face value. This problem is compounded when perceptions of hostility are mutual. Finally, perceptions of the changing offense/defense balance matter. There is no way one can determine this balance objectively. As William Wohlforth has shown conclusively in his book on Soviet perceptions of U.S. capabilities during the Cold War, objective realities are always filtered through elite perceptions.²⁷ Change in

We Measure It?” *International Security* 22, no. 4 (Spring 1998): 44–82.

23. Keir A. Lieber, “Grasping the Technological Peace: The Offense/Defense Balance and International Security,” *International Security* 25, no. 1 (Summer 2000): 71–104.

24. Jervis, “Cooperation,” 187–188.

25. Scott Sagan and Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W. W. Norton, 2003), 152.

26. Naem Salik, *The Genesis of South Asian Nuclear Deterrence: Pakistan’s Perspective* (New York: Oxford University Press, 2010), 225.

27. William C. Wohlforth, *Elusive Balance: Power and Perceptions During the Cold War* (Ithaca, N.Y.: Cornell University Press, 1993).

perceptions therefore might be just as destabilizing as any concrete change in the offense/defense balance.²⁸ Conversely, BMI-capable states tend to overadvertise their defensive capabilities, partly because there exists a need to rationalize BMI due to the parochial interests of the scientific bureaucracies involved in technology development.

From the perspective of offense/defense theory, India's plan for BMI seems to have at least provided a rationale for Pakistan to increase the offensive capability of its nuclear arsenals. For Pakistan, if India is able to overcome technological hurdles to development of a robust and reliable missile intercept capability, it will likely create an existential threat that would make Pakistan uncomfortable with reliance on nuclear deterrence for defense. In other words, BMI will shift the offense/defense balance to Pakistan's peril. Pakistan may fear a first strike or a major conventional thrust inside its territory by an India emboldened and shielded by its missile intercept system.²⁹

To counter such a possibility, Pakistan is taking a number of steps. First, there is a rapid increase in numbers as far as the Pakistan's nuclear arsenal is concerned. Pakistan today possesses more nuclear weapons than India and, at its present rate of production, will soon overtake France and the United Kingdom.³⁰ Second, Pakistan is not only actively deploying more missiles; it is also trying to modernize its force for greater diversity and deadliness by equipping missiles with multiple independently targetable reentry vehicles and other decoy technologies,³¹ and it has developed tactical nuclear weapons of low yields. It recently test-fired a short-range missile capable of carrying nuclear warheads called NASR.³² Also, Pakistan's increasing research on plutonium reactors has raised speculation that it now intends to produce plutonium-based nuclear weapons that are smaller in size than uranium-based weapons and therefore easier to mobilize, deploy, and camouflage.³³ Third, some changes are observable in Pakistan's nuclear posture, especially its constantly reducing thresholds for nuclear exchange and incorporation of "ready to use" nuclear force requirements. This dynamic underscores the fact that, whereas India's perception of its BMI development is benign, practically such a move provides ample fuel to propel Pakistan into a South Asian arms race.

Conclusion

Two major points emerge out of this discussion. First, India's policy toward BMI evolved from an initial opposition to missile interception, to welcoming the declaration of the United States'

28. It is also possible that perceptions may obscure an objective change in the offense/defense balance, thus making our delusions a peacemaking asset. Psychologically, there are probably associated phenomena that would make us, conveniently, conflict avoidant. However, in the case of historical hostilities and clashing identities, perceptions can hardly play a benign role. In an oblique way, this is what Steven Walt meant when he said that states balance threats, not capabilities. See Stephen Walt, *The Origins of Alliances* (Ithaca, N.Y.: Cornell University Press, 1987).

29. Ghazala Yasmin, "Missile Defence in South Asia: Implications for the Region," Institute of Strategic Studies, Islamabad, http://www.issi.org.pk/old-site/ss_Detail.php?dataId=399.

30. Andrew Bast, "Pakistan's Nuclear Calculus," *Washington Quarterly* 34, no. 4 (Fall 2011): 73–86.

31. Usman Ansari, "Pakistan Seeks to Counter Indian ABM Defences," *Defense News*, March 21, 2011, <http://www.defensenews.com/story.php?i=6012501>.

32. Reuters, "Pakistan Builds Low-Yield Nuclear Capability," *Dawn* (Karachi), May 15, 2011, <http://www.dawn.com/2011/05/15/pakistan-builds-low-yield-nuclear-capability-concern-grows.html>.

33. Nuclear Threat Initiative, "Pakistan Might Be Working on New Plutonium Reactor: Report," *Global Security Newswire*, February 10, 2011, <http://www.nti.org/gsn/article/pakistan-might-be-working-on-new-plutonium-reactor-report/>.

plans for National Missile Defense, and later to operational inclusion of BMD systems in India's national security. This is indicative of the manner in which powers get socialized into patterns of behavior established by other powers.³⁴ India's economic liberalization in the 1990s and nuclear tests in 1998 have generated much more impetus than ever before for other powers to interact and engage with India and vice versa. This sustained interaction has compelled India to move beyond its traditional posture based on nonalignment to one that demands that its "instrumental needs" be considered at par with "normative ideals." Moreover, as India's position vis-à-vis other powers is changing in the international system, it is fighting to maintain its own identity, even as it is socialized into patterns of behavior similar to other great powers. Its position on BMI is an example of this. However, India's position on BMI has also brought out obvious discrepancies between theory and practice.

Second, the BMI debate in India underlines discrepancies between policy postures and operational consequences. Indeed, self-perceptions often rationalize policies that might have very different practical implications. At the theoretical level, BMI bolsters the Indian nuclear doctrine's CMD and NFU aspects by assuring the credibility of a massive retaliatory strike—or at least this is India's self-perception as far as BMI is concerned. However, for Pakistan, even though theoretically consistent with India's nuclear doctrine, the development of missile interception impinges on the stability of the offense/defense balance in the region—or at least this is Pakistan's perception of it. Hence, the theoretical consistency of BMI in India's deterrent calculus produces real-world security dilemmas for Pakistan.

34. On the idea of socialization in international politics, see Kenneth Waltz, *Theory of International Politics* (New York: Random House, 1979), 74–77.

A CASE FOR (RHETORICALLY) TAKING THE MILITARY OPTION OFF THE TABLE WITH IRAN

Stephanie Spies¹

In his 2012 State of the Union Address, President Barack Obama reiterated the long-standing U.S. policy regarding Iranian nuclearization:

Let there be no doubt: America is determined to prevent Iran from getting a nuclear weapon, and *I will take no options off the table* to achieve that goal. But a peaceful resolution of this issue is still possible, and far better, and if Iran changes course and meets its obligations, it can rejoin the community of nations.²

In less than a minute, the president managed to endorse nonmilitary options as the most effective means for dealing with Iran's nuclear activities while simultaneously highlighting the possibility of military action. The statement "I will take no options off the table" is in fact emblematic of the overall U.S. approach toward Iran: publicly emphasize the threat of military action in order to bolster the appeal of its offers to resolve the nuclear dispute another way.

However, this strategy does not come without significant costs. As the United States continues to publicly emphasize the military option, it increases the salience of strikes in policy discussions about Iran and distracts from other nonmilitary strategies, particularly diplomacy. Not only does this undermine the effectiveness of genuine engagement with Iran, but it also makes the use of the military option, which would likely fail to eliminate Iran's nuclear capability anyway, more plausible. Meanwhile, the United States' ability to pressure Iran and damage its nuclear infrastructure with military strikes is and will remain well known for the foreseeable future, even without explicit reference to it by U.S. officials. Therefore, rather than emphasizing—or worse yet, executing—this risky option, the United States should adopt a more nuanced approach by publicly taking the military option off the table and instead focusing on diplomacy and allowing the latent threats of U.S. pressure to induce Iran to renounce its nuclear ambitions.

Post-IAEA Report Hype and the Urge to Strike

In November of 2011, the International Atomic Energy Agency (IAEA) released a long-awaited report on Iran's nuclear program.³ The report's ultimate conclusion—that Iran is developing

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2. Barack Obama, "Remarks by the President in State of the Union Address," speech presented at the House Representatives Office, Washington, January 24, 2012, <http://www.whitehouse.gov/the-press-office/2012/01/24/remarks-president-state-union-address>.

3. "Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran," Report by the Director-General, International Atomic Energy Agency, November 8, 2010, http://isis-online.org/uploads/isis-reports/documents/IAEA_Iran_8Nov2011.pdf.

capabilities that are clearly intended for the eventual production of nuclear weapons—should come as no surprise to those who have been following Iran’s nuclear activities for the past several years. Yet the media frenzy following the release of the report described the threat of Iranian nuclear proliferation as imminent. Even former government officials and proliferation experts expressed significant concerns about Iran’s nuclear advancements, prompting debate over the best policy “solution” to the nuclear issue.

Compounding these fears of nuclear activity, Iranian representatives have announced that the country intends to move its uranium enrichment activities to the Fordo facility, which is buried deep underground inside a mountain and is considered well protected against military strikes.⁴ Adopting a response similar to the ones following the IAEA report, many experts and policymakers alike have speculated that such a move indicates that Iran’s nuclear program is rapidly advancing, posing a threat to Israel, the Middle East, and perhaps eventually the United States.⁵ According to Karim Sadjadpour, an Iran analyst at the Carnegie Endowment for International Peace, many officials within the Obama administration are concerned that Iran may be attempting to incite an Israeli attack that would increase domestic and international support for Iran.⁶ Although the United States desires to avoid any miscalculations or military conflict with Iran, senior advisers warn that “the U.S. and Israel say military action remains an option” should other initiatives fail to prevent Iranian nuclearization.

This “all options on the table” approach is not new to the United States. The Obama administration has been hesitant to openly endorse military action, instead emphasizing diplomacy and financial sanctions as the primary tools for dealing with the Iranian nuclear threat. However, the recent developments in Iran’s nuclear program have highlighted the importance of devising a solution to this problem, prompting the United States to publicly consider many different policy options. As a result, many administration officials have recently emphasized the possibility that the United States could, and in fact may, execute a military strike on Iranian nuclear facilities.

The Obama administration has stood adamantly with Israel in maintaining that a nuclear-armed Iran is intolerable. To ensure that this scenario does not arise, the two allies will “take no options off the table.”⁷ This position, while prudent in the abstract, is somewhat disconcerting for those that are opposed to military action. In particular, recurring stories in the media speculating that Israel is contemplating a strike against Iranian nuclear facilities have begun to stoke fears that a war with Iran is on the horizon. In early November 2011, the widely respected Israeli journalist Nahum Barnea reported that Prime Minister Benjamin Netanyahu and Defense Minister Ehud Barak were quietly considering, and even advocating for, an attack on Iran within the Israeli government.⁸ Against this backdrop, other media sources began speculating that Israeli Air Force exercises and Jericho missile testing were intended either as warnings for the Iranian government

4. Reuters, “Iran Ready to Start Nuclear Work in Bunker: Sources,” December 14, 2011, <http://www.reuters.com/article/2011/12/14/us-nuclear-iran-fordow-idUSTRE7BD15420111214>.

5. “U.S. Condemns Iran’s Announcement on Qom,” Voice of America, January 10, 2012, <http://blogs.voanews.com/breaking-news/2012/01/10/us-condemns-irans-announcement-on-qom/>.

6. Bloomberg, “Obama Concerned That Iran Is on Verge of Underground Nuclear Enrichment,” December 15, 2011, <http://www.bloomberg.com/news/2011-12-15/u-s-worried-iran-on-verge-of-nuclear-enrichment.html>.

7. “Israel, U.S. Determined to Halt Iran Nuclear Drive: Barak,” *Daily Star* (Beirut), December 18, 2011, <http://www.dailystar.com.lb/News/Middle-East/2011/Dec-18/157213-israel-us-determined-to-halt-iran-nuclear-drive-barak.ashx#ixzz1h6P3brF>.

8. Karl Vick, “Israel Consumed by Debate over Whether to Attack Iran,” *Time*, November 3, 2011, <http://globalspin.blogs.time.com/2011/11/03/israel-consumed-by-debate-over-whether-to-attack-iran/>.

or, more ominously, as signs of preparation for military action.⁹ Although speculation about Israeli readiness to attack Iran has been largely overblown, the prospect of addressing the nuclear issue militarily has undeniably gained some momentum among leaders in Jerusalem.

However, the Obama administration's position has been somewhat mixed on the likelihood and feasibility of exercising the military option. While the United States has not altered its stance that a nuclear Iran is an intolerable prospect and that preventing it must therefore be assigned a high priority, it has not elaborated upon what the concept of "all options on the table" truly means. Secretary of Defense Leon Panetta has disputed the feasibility of any military strike on Iranian facilities, publicly admitting that it would delay the program "by only up to three years" and may have "unintended consequences," including a failure to ultimately deter the Iranian regime from pursuing nuclear weapons. The former chairman of the Joint Chiefs of Staff, Admiral Michael Mullen, and the former secretary of defense, Robert Gates, have also expressed similar sentiments.¹⁰ Yet other senior officials, such as former Middle East adviser Dennis Ross, emphasize that President Obama is "prepared to exercise" the military option and is serious about maintaining all options on the table, despite the commentary of other officials.¹¹

Notwithstanding this uncertainty about using military force, the "all options on the table" attitude remains a core tenet of the administration's Iran strategy. As the United States continues to escalate "nonmilitary pressure" on the Iranian regime, including sanctions and potentially even various forms of program sabotage,¹² the administration also continues to supplement these measures with public insistences that the military option remains viable.¹³ Secretary Panetta has declared on national television that "you don't take any option off the table," while the new chairman of the Joint Chiefs of Staff, General Martin Dempsey, has stated that "I certainly want [Iran] to believe that" the United States could "act against Iran's nuclear capability using conventional weapons."

Strangely, these are some of the same officials who previously admitted that a military strike on Iranian facilities would be unlikely to be effective. This cognitive dissonance on the topic of force is demonstrative of the administration's overall Iran strategy: to publicly emphasize the threat of military action in order to bolster the appeal of its offers to resolve the nuclear dispute another way.

Overall, the United States has been anything but subtle in its attempts to communicate to Iran that this military threat is real. The administration has described the ability to defeat hard and deeply buried targets such as Iranian nuclear facilities as an "operational need."¹⁴ To fulfill this need, the United States subsequently procured the Massive Ordnance Penetrator, a 30,000-pound

9. Bruce Reidel, "Will Israel Really Strike Iran?" *Daily Beast*, November 2, 2011, <http://powerwall.msnbc.msn.com/politics/will-israel-really-strike-iran-1706381.story>.

10. Bloomberg, "Attack on Iran Facilities Would Only Delay Nuclear Program, Panetta Says," November 10, 2011, <http://www.bloomberg.com/news/2011-11-10/attack-on-iran-facilities-would-only-delay-nuclear-program-panetta-says.html>.

11. Robert Dreyfuss, "Yes, Obama May Call Iran Strike," *Diplomat*, December 15, 2011, <http://the-diplomat.com/2011/12/15/yes-obama-may-call-iran-strike/?all=true>.

12. "Anti-U.S. Chants as Slain Iran Nuclear Expert Buried," *Time*, January 13, 2012, <http://www.time.com/time/world/article/0,8599,2104430,00.html>.

13. Reuters, "Iran Nuclear Sites May Be Beyond Reach of 'Bunker Busters,'" January 12, 2012, <http://www.reuters.com/article/2012/01/12/us-iran-nuclear-strike-idUSTRE80B0WM20120112>.

14. Bloomberg, "B-2 Bomber Gets Boeing's New 30,000-Pound Bunker-Buster Bomb," November 15, 2011, <http://www.bloomberg.com/news/2011-11-14/30-000-pound-bunker-buster-bomb-now-ready.html>.

conventional bunker buster intended for underground targets,¹⁵ and it tested the Advanced Hypersonic Weapon, a conventional prompt global strike weapon intended to “destroy, delay, or disrupt key enemy targets at very short notice.”¹⁶ In addition to acquiring these new military capabilities, the Obama administration seems determined to strengthen extended deterrence and military cooperation with U.S. allies in the region, advocating for a strengthened Gulf Cooperation Council security alliance in order to counter growing Iranian influence,¹⁷ and it is proposing a sale of conventional bunker busters to the United Arab Emirates so that it can better deter Iran.¹⁸

However, these moves beg a question. If the Obama administration is able to make other non-military options to deal with the nuclear issue more appealing to Iran, why does the administration also continue to emphasize that all options are on the table? Upon first glance, this question may seem to highlight a distinction without a difference, yet it poses interesting questions for the overall effectiveness of the effort to prevent Iranian nuclearization. Demonstrating military resolve and building a regionwide containment strategy toward Iran in the Middle East may indeed enhance the attractiveness of diplomatic overtures by establishing a latent threat of military confrontation should they fail. However, publicly reiterating that all options are (and “must”) remain on the table goes too far, undermining the *credibility* of offers for diplomatic engagement and, in turn, potentially increasing the chances of conflict.

There are thus two reasons why announcing an “all options on the table” approach is counter-productive with respect to Iran. First, a military strike would create more problems than it would solve. Second, by making other efforts to resolve the dispute appear disingenuous, the military “option” risks becoming a self-fulfilling prophecy.

Military Strikes: A Risky Option

Some scholars believe that using force to destroy Iran’s nuclear facilities now represents the “least bad option” to at a minimum delay the emergence of a dangerous and destabilizing nuclear Iran.¹⁹ However, most experts and policymakers in the field seem to agree that military strikes on Iranian nuclear facilities would be both difficult to execute and also unlikely to be successful. Not only would U.S. military action likely face a host of tactical and political issues in implementation, but also, even if effective, strikes would only delay but not completely eliminate Iran’s nuclear capability. Moreover, strikes would ensure Iranian retaliation and escalation of conflict in the region, with potentially devastating political and military consequences.

Meanwhile, advocates of strikes, though they are correct in fearing the prospect of Iranian nuclearization, fail to justify the necessity of military action at the expense of strengthening other strategies, such as diplomacy and sanctions, and instead raise the profile of a policy option that

15. Reuters, “Iran Nuclear Sites.”

16. “Pentagon Tests Missile That Flies at Five Times the Speed of Sound,” *The Telegraph* (London), November 18, 2011, <http://www.telegraph.co.uk/news/worldnews/northamerica/usa/8899031/Pentagon-tests-missile-that-flies-at-five-times-the-speed-of-sound.html>.

17. “America’s New Middle East ‘Mini-NATO,’” *The Guardian* (London) October 31, 2011, <http://www.guardian.co.uk/commentisfree/2011/oct/31/america-middle-east-gulf-military?newsfeed=true>.

18. “Report: W. H. Eyes Bomb Sale to UAE,” *Politico*, November 11, 2011, <http://www.politico.com/news/stories/1111/68129.html>.

19. Matthew Kroenig, “Time to Attack Iran,” *Foreign Affairs*, January–February 2012, <http://www.foreignaffairs.com/articles/136917/matthew-kroenig/time-to-attack-iran>.

could result in serious problems for the United States, the Middle East, and potentially the rest of the world.

Despite the abundance of intelligence reports and IAEA inspections of Iranian nuclear facilities, some ambiguity still remains about Iran's rather opaque program. Although Iran has disclosed, somewhat reluctantly, all its nuclear sites to the IAEA, whether or not the country possesses other covert facilities and resources used to produce components for nuclear weapons remains a topic of debate. Given Tehran's history of noncompliance with the IAEA and its continued investment in nuclear activities in spite of international sanctions, the prospect that it maintains a significant portion of its program in secret is certainly plausible.²⁰ Moreover, since the United States would have to obtain its targeting information primarily from Special Forces and satellites with a limited ability to detect Iran's underground facilities, access to verifiable intelligence would be constrained throughout a sustained bombing campaign.²¹ As a result, the United States would likely have to launch several attacks against all possible targets in order to ensure the elimination of Iran's current nuclear capability. Statements by former Central Intelligence Agency director General Hayden of the George W. Bush administration echo this sentiment, concluding that short of "an actual occupation of Iran," limited military strikes are unlikely to eradicate Iran's nuclear program.²²

However, many of Iran's nuclear facilities are not found in locations vulnerable to bombing campaigns. Some of Iran's reactors and enrichment plants, along with being geographically distributed throughout the country, are located underground or within impenetrable mountains, complicating the effectiveness of a targeted military strike.²³ Meanwhile, Iran maintains many of its secondary nuclear facilities in heavily populated areas, and therefore the United States would cause considerable collateral damage in any strike aimed at eliminating Iran's nuclear capacities.²⁴

Yet the military option cannot truly *eliminate* Iran's nuclear capability. The most disturbing revelation in the new IAEA report is not that Iran possesses the latent knowledge and technical capacity necessary to enrich uranium and eventually produce a bomb but that it has demonstrated a willingness to invest these resources in nuclear-weapons-related activities. Thus, at best, a successful military strike on Iran's nuclear facilities would delay Iranian development of a nuclear weapon,²⁵ not permanently eradicate the possibility of it.²⁶ Strikes are not only logistically infea-

20. Jamie M. Fly and Gary Schmitt, "The Case for Regime Change Iran," *Foreign Affairs*, January 17, 2012, <http://www.foreignaffairs.com/articles/137038/jamie-m-fly-and-gary-schmitt/the-case-for-regime-change-in-iran?page=show>.

21. Dov S. Zakheim, "The Military Option," in *The Iran Primer*, ed. Robin Wright (Washington, D.C.: U.S. Institute of Peace, 2010), <http://iranprimer.usip.org/resource/military-option>.

22. "Bush's CIA Director: We Determined Attacking Iran Was a Bad Idea," *Foreign Policy*, January 19, 2012, http://thecable.foreignpolicy.com/posts/2012/01/19/bush_s_cia_director_we_determined_attacking_iran_was_a_bad_idea.

23. Zakheim, "Military Option."

24. Fly and Schmitt, "Case for Regime Change."

25. Multiple studies have confirmed this position, including one by the Independent Task Force of the Bipartisan Policy Center, which concluded that the United States would need to execute "repeated strikes against rebuilt or newly-discovered sites" for several years in order to eliminate Iran's nuclear capability. Michael Rubin, "Meeting the Challenge: U.S. Policy toward Iranian Nuclear Development," American Enterprise Institute, Washington, D.C., September 2008, <http://www.irantracker.org/full-publication/meeting-challenge-us-policy-toward-iranian-nuclear-development>.

26. Colin H. Kahl, "Not Time to Attack Iran," *Foreign Affairs*, January 17, 2012, <http://www.foreignaffairs.com/articles/137031/colin-h-kahl/not-time-to-attack-iran?page=show>.

sible for the U.S. military but also politically untenable,²⁷ because a sustained military campaign would risk unnecessary casualties, resources, and diplomatic credibility in the region.²⁸

U.S. military strikes, even if successful in the short term, may ultimately embolden Iran to resume its nuclear activity in a more covert manner. A U.S. attack on Iran *before* it obtained nuclear weapons could spur the regime to acquire such a capability to deter future invasions or attacks.²⁹ Due to the history of United States–led regime changes in the Middle East, including the recent invasion of Libya after the Gaddafi regime agreed to abandon its nuclear ambitions, Tehran will likely prove even more determined to acquire nuclear weapons in order to deter an attack by the United States.³⁰ Moreover, a renewed Iranian nuclear program following limited or failed U.S. military strikes could be more destabilizing to the region than the current program, as the next effort would likely be more opaque and constructed to guarantee protection from further attacks.³¹

Furthermore, following a U.S. attack, Iran would likely feel no further obligation to abide by any obligations vis-à-vis the IAEA or the Nuclear Non-Proliferation Treaty. Such a situation would effectively close the door to the IAEA, which has been the leading source of information on Iran’s nuclear activities and is the only organization legally and technically able to monitor and detect irregularities in the country’s nuclear program.³² The ever-dwindling supply of reliable information on Iran’s nuclear activities will be a source of ongoing global concern. Ironically, it could also compromise the ability of the United States to execute future military strikes when they may truly be needed.

Others have noted that the response of the Iranian people to military attack will be unfavorable to the United States. If forced to choose, the public is likely to rally around the Iranian regime, entrenching national support for anti-Americanism, zealous protection of Iran’s nuclear rights, and other policies that are antithetical to U.S. goals in the region.³³ There are many other potential negative effects of U.S. military strikes on Iranian nuclear facilities, including the prospect of retaliation toward U.S. forces and allies in the region, disruptions of oil supplies, and further degradation of the U.S. image overseas.³⁴ Overall, experts in the field seem to agree that the military option is *not* the “least bad” option; it is just a bad one.

All Options (Latently) on the Table

The fallibility of the military option suggests that the United States can and should reformulate its policy toward Iran. While continuing to pursue nonmilitary approaches, particularly diplomacy and sanctions, the United States should functionally take the military option off the table by

27. Ibid. Kahl argues that following military strikes, the U.S. would have to maintain a costly containment strategy in the region in order to ensure that Iran does not restart its nuclear program, overstressing military resources, alienating countries opposed to violations of Iran’s sovereignty, and increasing the chances of conflict involving U.S. forces overseas.

28. Ibid.

29. Elbirdge Colby and Austian Long, “Why Not to Attack Iran,” *National Interest*, January 11, 2012, <http://nationalinterest.org/commentary/why-not-attack-iran-6352?page=show>.

30. Reuters, “Analysis: Iran Hopes Gaddafi Domino Will Fall the Right Way,” August 23, 2011, <http://www.reuters.com/article/2011/08/25/us-libya-iran-idUSTRE77O39V20110825>.

31. Colby and Long, “Why Not to Attack Iran.”

32. Kahl, “Not Time to Attack Iran.”

33. Ibid.

34. Ibid.

ending all public references to it, particularly in its interactions with Iranian leaders. Using this approach, the United States would still retain the operational military capability to strike Iranian nuclear facilities if it later becomes necessary, thus maintaining a latent threat of attack that improves the credibility of other nonmilitary approaches, but would not compromise its diplomatic efforts by referencing it when discussing the current U.S. policy on Iranian nuclearization. In addition to improving the chances for successful diplomacy, this policy would also serve to reduce the saliency of strikes in the broader debate over counterproliferation strategies. Such a shift in the United States' emphasis could help mitigate the likelihood of other states such as Israel resorting to strikes, or discussion thereof, prematurely. Letting go of the public "all options on the table" rhetoric, while surely an unconventional approach in the eyes of the nonproliferation community, may prove helpful in the effort to induce Iran to forgo nuclear weapons.

U.S. and international diplomatic pursuits to resolve the Iranian nuclear issue over the past several years have been complex and undoubtedly have been confounded by some intransigence from Tehran, but more work can be done to improve these efforts. In particular, the United States should not explicitly reference the possibility of military action if diplomacy fails each time Iran agrees to enter into negotiations. The State Department recently offered Iran a new opportunity for diplomacy, proclaiming that "the United States is open to engagement" if Iran is willing to "engage seriously" about the intentions of its nuclear program. However, almost immediately, Secretary Panetta also publicly stated that "diplomacy is an option" but the United States is always prepared to "respond militarily."³⁵

The secretary of defense is of course responsible for ensuring military readiness if the president or Congress decides that force is necessary. Yet statements such as these do not increase the credibility of U.S. diplomatic offers; they make them seem disingenuous, as if the United States expects diplomacy to fail. An Iranian regime already skeptical of direct engagement with the United States is understandably reticent to enter into talks, let alone potentially abandon its nationally esteemed nuclear program, upon the insistence of a country that is publicly posturing to attack it. Iranian officials' public reactions to U.S. military threats, while they likely do not demonstrate the depth of the Iranian perspective and thus should not be taken entirely at face value, seem to indicate that the military option discourages Iran from reviving diplomacy over the nuclear issue.³⁶ At the very least, these threats give the regime an excuse to be standoffish in a situation that has already aggravated its feelings of weakness.³⁷ Although some may argue that keeping the military option on the table provides crucial leverage over Iran, financial sanctions provide sufficient pressure to induce Iranian concessions by forcing an internationally isolated and economically fragile regime back to the negotiating table.³⁸

35. "Panetta: U.S. Willing to Pursue Diplomacy with Iran but Ready for any Contingency," CNN, January 18, 2012, <http://www.cnn.com/2012/01/18/world/meast/iran-us/>.

36. "Mahmoud Ahmadinejad Accuses Israel and U.S. as Tension over Possible Strike Grows," *The Telegraph*, November 7, 2011, <http://www.telegraph.co.uk/news/worldnews/middleeast/iran/8874152/Mahmoud-Ahmadinejad-accuses-Israel-and-US-as-tension-over-possible-strike-grows.html>.

37. Suzanne Maloney, "Obama's Counterproductive New Iran Sanctions," *Foreign Affairs*, January 5, 2012, <http://www.foreignaffairs.com/articles/137011/suzanne-maloney/obamas-counterproductive-new-iran-sanctions>.

38. Robert J. Einhorn, Kenneth Katzman, Kimberly Elliot, John Limbert, and Greg Thielmann, "The Impact of Sanctions on Iran's Nuclear Program," transcript of debate presented at Arms Control Association Briefing Series, "Solving the Iranian Nuclear Puzzle," Washington, D.C., March 2011, <http://www.armscontrol.org/events/RoleSanctionsIranNuclear>.

The United States' emphasis on the military option also hinders diplomatic innovation by domestic leaders and the larger international nonproliferation community. If countries become too focused on making the military option credible, they will find themselves hamstrung diplomatically.³⁹ Indeed, it is telling that the Obama administration is hesitant to admit that it recently offered direct talks to Iran and instead only says that a diplomatic solution would be preferable to a military one. In order for diplomacy to be effective, all of the major players, including the United States, must put something into it, whether this entails altering the preconditions for negotiations, agreeing to initially put aside the most volatile issues or to add issues to the agenda that are normally deemed outside the scope of the P5+1 negotiations,⁴⁰ or even to accede to Iranian demands over issues as trivial as seating arrangements. In order to encourage any genuine dialogue with Iran, the United States should be prepared to remove military threats from the discussion and take the military "option" off the table.

To be effective, this strategy will require changes in U.S. actions and, more fundamentally, conceptions about the nuclear issue. In particular, U.S. officials and policy analysts should question the notion that the United States *should* do everything that it *can* do to solve problems in foreign policy. The United States and the international community have a variety of tools at their disposal to halt Iranian nuclearization, but it would be a mistake to discount the possibility that threatening military action undermines the effectiveness of diplomacy. Considering the shortcomings of the military option and the potential benefits of engagement, publicly taking the military option off of the table increasingly appears to be a promising approach for dealing with Iran.

39. Leslie Gelb, "Leslie H. Gelb on How President Obama Should Handle Iran," *Daily Beast*, January 30, 2012, <http://www.thedailybeast.com/articles/2012/01/30/leslie-h-gelb-on-how-president-obama-should-handle-iran.html>.

40. The "P5+1" negotiations are between Iran and the United States, Russia, China, England, France, Germany, and the United Kingdom.

FOLLIES, FALLACIES, AND FETISHES

THE CRISES OF ARMS CONTROL

Heather Williams¹

In recent years arms control has been labeled a “folly,” “fallacy,” and even a “fetish” by those who believe that it is an obsolete legacy of the Cold War. These assertions, however, ignore the increase in arms control activity and its enduring political benefits, particularly *since* the Cold War. Along with the recent New Strategic Arms Reduction Treaty (New START), other examples include the Chemical Weapons Convention, the Comprehensive Test Ban Treaty (CTBT), the Moscow Treaty, the Open Skies Treaty, and the permanent extension and increased membership in the Nuclear Non-Proliferation Treaty (NPT). This activity suggests that arms control is not a relic of a bygone era but a useful tool for confronting evolving nuclear threats.

But is there a crisis in nuclear arms control? In 2000, Brad Roberts highlighted threats to the credibility of arms control because of the apparent weakness of enforcement mechanisms, as later evidenced by North Korea’s withdrawal from the NPT and testing of nuclear explosive devices.² Along with these underlying credibility concerns, there are practical problems. Others suggest that arms control has reached its limits due to waning political will. If these criticisms are sound, then should arms control be abandoned? Are the potential benefits of arms control not worth the political capital and energy required to incorporate new states and types of weapons? Is the recent activity merely arms control for the sake of arms control?

In 1990, Joseph Nye described arms control as a “political process.”³ Although this characterization may seem rhetorical over 20 years later, it is still worth noting because current debates on the utility and feasibility of arms control tend to focus primarily on military factors. In contrast, traditional arms control is typically conceived as treaty-based, with quantitative, verifiable provisions. However, this view of arms control is too narrow. Arms control is more a matter of managing arms than eliminating them.⁴ Rather than abandon arms control, one can reconceptualize it by focusing on small steps to capitalize on its political benefits, such as predictability and confidence-building measures, and respond accordingly to skeptics. Ultimately, arms control is dependent on the political context; yet it also has the power to shape that context. Even when arms control may not deliver tangible results, it may contribute to the improvement of bilateral relations and pave the way for future agreements. Given these benefits, arms control may be both a means and an end in and of itself.

1. Heather Williams is a Ph.D. candidate at King’s College London.

2. Brad Roberts, “Road Ahead for Arms Control,” *Washington Quarterly* 23, no. 2 (Spring 2000): 225.

3. Joseph S. Nye, “Arms Control after the Cold War,” *Foreign Affairs* 68, no. 5 (Winter 1989): 54.

4. Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd ed. (London: Palgrave Macmillan, 2003), 184.

What Is Wrong with Arms Control?

Many experts and politicians opposed to arms control suggest that it is dangerous to limit military capabilities. Others are amenable to arms control in principle but are skeptical about its practicality and feasibility today. Despite political leanings or objectives, the theme of these arguments is that arms control is outdated and overhyped.

In the 1999 CTBT ratification debate in the U.S. Senate, Senator Jon Kyl (D-Ariz.) led the push to defeat the treaty by denouncing the “fallacy of arms control.” Kyl cited failures of arms control throughout history, starting with attempts by the Catholic Church to ban the crossbow in 1139, to demonstrate that arms control would only “prevent us from defending ourselves.”⁵ In this view, any limits—whether on nuclear weapons or crossbows—invariably endangers security.

Others assert that arms control is a “folly.” The argument here is not that arms control is inherently dangerous, but that it achieves too little and, in fact, jeopardizes nonproliferation and impedes disarmament. Jonathan Schell, for instance, argued that the U.S. arsenal is more of a “proliferant than a deterrent” because continued reliance on it only serves to institutionalize and confirm the desirability of nuclear weapons.⁶ He goes on to argue that arms control offered a false sense of achievement during the 1990s: Negotiations on START I and II and the CTBT were successfully concluded; however, neither START II nor the CTBT actually entered into force and no tangible progress was made toward disarmament. In this view, pursuing incremental reductions in weapons distracts from the more important task of eliminating them.

These debates beg an important question: If arms control is so problematic and impractical, then why continue to do it? One answer, which links the preceding two objections, is the idea that arms control represents a “fetish” of sorts—in other words, something nations do for no objective reason. Christopher Ford, a former U.S. special representative for nuclear nonproliferation, insinuated this when he stated that the George W. Bush administration harbored no “fetishistic attachment” to arms control or multilateral negotiations.⁷ Those who refer to arms control in this way reject the idea that treaty-based approaches to improving security are intrinsically desirable. Others would argue that this fetish is a Cold War legacy and that traditional arms control does not contribute to international security, given the rise of terrorism and proliferation outside the NPT.

The shortcoming of the “fallacy” argument is that it misrepresents the objectives of arms control. Alone, arms control cannot stop proliferation or deliver disarmament. Whether or not a state acquires nuclear weapons or keeps the ones it has is, fundamentally, a matter of political choice. But the notion that *any* limitations are unacceptable in order to account for future uncertainty is fantastical; this approach suggests that nuclear weapons—in fact, all weapons—should be isolated from the realities of political and fiscal constraints and are thus impervious to cost/benefit analyses.

The “folly” argument also misses the mark. It presupposes that arms control and disarmament impede one another, which is not necessarily the case. As discussed below, arms control can support nonproliferation and disarmament by strengthening existing norms and sustaining momen-

5. Ibid., S12258.

6. Jonathan Schell, “The Folly of Arms Control,” *Foreign Affairs*, 79, no. 5 (September–October 2000): 32.

7. Christopher A. Ford, “A New Paradigm: Shattering Obsolete Thinking on Arms Control and Nonproliferation,” *Arms Control Today*, November 2008. The full quotation reads: “The [Bush] administration also did not show any fetishistic attachment to formal instruments or ‘official’ multilateral fora for their own sake.”

tum toward deeper and broader nuclear reductions. It would be misguided to snub short-term gains in stability, cooperation, and reductions because of a long-term vision of global zero that is, at present, inconceivable.

But the question remains as to whether traditional arms control is a fetish. If arms control is some obsolescent habit, then its payoffs are no longer relevant or provide diminishing returns. Addressing this argument requires examining in greater detail the enduring benefits of arms control. It also requires exploring alternative means for managing nuclear weapons—for instance, ways that do not include arms control as we know it.

The Utility of Arms Control

The problem with arms control is not arms control itself, but rather our conceptualization of it. As evidenced by the recent debate over New START, arms control is typically discussed in terms of strategic stability and numerical parity. In 1961, Thomas Schelling and Morton Halperin identified the goals of arms control as to improve stability, decrease the risk of war, decrease the destruction caused by war if it occurs, and reduce defense costs.⁸ Despite this military focus, however, Schelling and Halperin acknowledged the *political* benefits of arms control as the “more genuine [and] direct contribution to international security.”⁹ These benefits include transparency and predictability, confidence-building measures, and contributing to nonproliferation. They are as enduring and relevant today as during the Cold War.

Transparency and Predictability

Arms control provides a conduit for data sharing and verification where, otherwise, none would be available. The United Nations secretary-general captured this in a 1992 review of Cold War arms control: “Transparency was no substitute for reductions in arms, but when properly applied [arms control] could promote confidence among states.”¹⁰ By way of another example, arms control provides a forum for transparency and dispute resolution to prevent an escalation of tensions. One earlier example of this was the Limited Test Ban Treaty, which provided a forum for the United States and Soviet Union to address ambiguities in Soviet compliance because of venting from a nuclear test, in which case it was unclear if the test exceeded the threshold of the treaty.¹¹

Arms control also offers a structure for predictability and consistency in behavior, regardless of changes in political context or bilateral relations. Against the backdrop of volatility in both American and Russian politics since the end of the Cold War, arms control measures ensured information exchanges and communication under START. For example, even though U.S.-Russia relations arguably reached a low point with the 2008 Russian invasion of Georgia, both sides continued to participate in START verification and even pursued a START follow-on in October of

8. Thomas C. Schelling and Morton H. Halperin, *Strategy and Arms Control* (New York: Twentieth Century Fund, 1961), 3.

9. *Ibid.*, 6.

10. Joseph F. Pilat, “Verification and Transparency: Relics or Future Requirements?” in *Arms Control: Cooperative Security in a Changing Environment*, ed. Jeffrey A. Larsen (Boulder, Colo.: Lynne Rienner, 2002), 90.

11. Abram Chayes and Antonia Handler Chayes, *The New Sovereignty* (Cambridge, Mass.: Harvard University Press, 1995), 121.

the same year. The 2010 “reset” in U.S.-Russia relations may prove to be short-lived; however, New START verifications will continue at least until 2021.

Confidence Building

Through transparency, arms control is a confidence-building and security-building tool.¹² Verification activities, such as onsite inspections, instill confidence in a partner’s cooperation and the stability of a relationship. The arms control process also offers unique opportunities for confidence building between individuals, with long-term benefits. In the Senate’s hearings on New START, the assistant secretary of state for verification, compliance, and implementation, Rose Gottemoeller, explained that negotiations were facilitated by the firsthand experiences of weapons inspectors and negotiators who were already familiar with each other based on previous interactions during the original START negotiations and inspections.¹³ Similarly, Colonel Vyacheslav Lebedev cited on-the-ground verification activities as creating “a relatively new atmosphere of trust” because they afforded inspectors the opportunity not only to examine nuclear forces but also to meet and build personal relationships.¹⁴ This is equally true of the relationships between heads of state.

Nonproliferation and Disarmament

Arms control is a means of building confidence in the nuclear weapon states’ commitment to Article VI of the NPT. The conclusion and signing of New START in April 2010 provided the United States and Russia with evidence of their commitment to progress on disarmament going into the May 2010 NPT Review Conference. This is important not only as a quantitative demonstration of arms reductions, but also as a normative one. While the link between nonproliferation and arms control may often appear weak to analysts in the United States, non-nuclear weapons states see this link as essential to the credibility of the NPT as a whole, along with the broader arms control regime. And finally, arms control contributes to the broader international treaty regime based on norms of nonuse and nonproliferation. This normative aspect should not be taken lightly.

The Feasibility of Arms Control

Given these benefits, the question remains as to how feasible it is to continue arms control given the challenges of sustaining and expanding it. To address these challenges, it is important to temper expectations regarding the reach of future arms control agreements and the immediacy of their effect on nonproliferation and disarmament. Rather, it is helpful to recognize the importance of small steps and continually building credibility and momentum for a regime that continues to serve U.S. interests in helping to stem proliferation and promote international cooperation.

Challenges

With the conclusion of New START, there are no more “low-hanging fruit” in arms control. Henry Kissinger and others argued persuasively that New START was the last conceivable agreement not

12. Nye, “Arms Control,” 45.

13. Rose Gottemoeller, “Testimony before the U.S. Senate Foreign Relations Committee,” June 15, 2010.

14. Colonel Vyacheslav Lebedev, as quoted by Kevin Drew, *Fairchild Daily Republic*, July 2, 1988.

to incorporate tactical nuclear weapons or additional states.¹⁵ Despite the Obama administration's overtures, the likelihood of the CTBT entering into force appears slight in the near future. There are no other obvious initiatives on the table for who or what comes next, and the United States and other key states appear consumed by more pressing economic issues and political infighting. Arms control is no longer rooted in the usual suspects of the United States and Russia, but will be the business of bringing together historical enemies such as India and Pakistan, and incorporating notoriously opaque regimes.

However, perhaps the greatest challenge to the future of arms control is that of sustaining political will. Even analysts who believe that arms control serves a security purpose observe a crisis due to its uncertain future, which can be partially attributed to fluctuations in U.S. political attitudes toward arms control, as demonstrated by the fates of the CTBT and the Anti-Ballistic Missile Treaty. However, political will depends on politics, and, unfortunately, substantive issues related to policy often seem to play a small role. As demonstrated by the New START experience, arms control is often subjected to domestic political pressures. The substantive debate over New START was limited to a select few in Washington. Arms control is also highly, if not primarily, dependent on the international political context, such as the state of bilateral relations. While some of these general political factors, such as the domestic election cycle, cannot be changed, others are subject to external influences. This is how arms control is both an end and a means—its political benefits pave the way for improving relations and creating an environment that will become more conducive to reaching an agreement over time.

In fact, although the Washington policy community appears to be undecided on the utility and feasibility of arms control, the American public largely supports it. Schell argues that with the end of the Cold War, nuclear weapons “disappeared from public consciousness.” This is probably true to some degree, but evidence suggests that, if given the choice, the public prefers a world with arms control to one without it. According to a 2010 CNN poll, 73.8 percent of Americans support arms control.¹⁶ Roberts explains why:

[A] collapse of arms control would likely prove politically unsettling to Americans. It would signal to many the abrupt termination and abject failure of the nation's historic mission to create an international system based on the rule of law and political consensus, and the drift toward a dog-eat-dog world. . . . At the very least, there would likely be a domestic political price to be paid by those who permitted this to come to pass.¹⁷

Of course, public opinion does not necessarily translate into policy, particularly in the face of apathy. But if there is general public support for arms control and the pursuit of arms control remains desirable, what are possible courses of action?

15. Henry Kissinger, “Testimony before the U.S. Senate Foreign Relations Committee,” May 25, 2010.

16. As cited by James Acton, *Deterrence during Disarmament: Deep Nuclear Reductions and International Security*, Adelphi Paper (London: International Institute for Strategic Studies, 2011), 98, <http://www.iiss.org/publications/adelphi-papers/adelphis-2011/deterrence-during-disarmament-deep-nuclear-reductions-and-international-security/>.

17. Roberts, “Road Ahead,” 229.

Small Steps

Roberts suggests three “big forks” in the road ahead: continued strategic reductions, a stronger global treaty regime, and restored compliance among noncompliant states.¹⁸ In the long term, these are worthy and desirable objectives. The more immediate future of arms control, however, may be one of small steps rather than giant leaps. Sweeping treaties and dramatic reductions are not necessarily on this path. For example, the (initially unilateral) Presidential Initiatives during the late Cold War manifested opportunities to reap the benefits of arms control without a broad ratification debate or political undermining. Cooperation with nuclear newcomers, such as India and Pakistan, will not follow the United States–Russia model but will nevertheless help develop what Kerry Kartchner calls “mutually understood diplomatic vocabulary.”¹⁹ Arms control of the future will not necessarily resemble arms control of the past. It will require testing the waters and slow gains. Such small steps can be made in three directions: increasing transparency, and expanding both horizontally to include more states and vertically to manage more capabilities.

Arms control has proven itself to require maturation and iteration. Small steps can include informal confidence-building measures and modest (in that they are not comprehensive) agreements that focus on transparency to pave the way for deeper follow-on efforts.²⁰ For example, the CTBT was preceded by the Limited Test Ban Treaty, the Threshold Test Ban Treaty, and the Peaceful Nuclear Explosions Treaty. The CTBT was facilitated not only by these precursor treaties but also by the ever-increasing norm against nuclear testing. One is again reminded that arms control is a political *process*. The key is to initiate the process with dialogue.

For the United States and Russia, discussion on missile defense cooperation is not only a necessary precursor to continuing with strategic force reductions but also serves as a confidence-building measure while relations between the two countries evolve. For other nuclear weapon states, the P5 dialogues are a vital first step toward more substantive measures.²¹ Eventually, for example, China, the United Kingdom, and France could pursue transparency measures similar to those being observed by the United States and Russia under New START.²² Also, France, Russia, and the United States could consider conducting exercises with non–nuclear weapon states, as the United Kingdom has done with Norway.²³ Other opportunities for incorporating these states include using them as facilitators in negotiations and inviting them to participate in onsite inspections (as long as this does not violate the NPT). By no means are these suggestions exhaustive or easy; they are simply meant to initiate thinking on different approaches to more inclusive and functional arms control.

18. *Ibid.*, 221.

19. Kerry M. Kartchner, “The Future of the Offense-Defense Relationship,” in *Arms Control*, ed. Larsen, 275.

20. James Acton, *Low Numbers: A Practical Path to Deep Nuclear Reductions* (Washington, D.C.: Carnegie Endowment for International Peace, 2011), 56.

21. The P5 dialogues involve the United States, Russia, China, England, France, Germany, and the United Kingdom.

22. *Ibid.*

23. China is intentionally omitted from this list. Given its lack of transparency and arms control institutions, this may indeed be too much change too fast for leaders in Beijing.

Conclusion

Arms control is not a panacea. It will not stop Iran's nuclear program dead in its tracks, nor will it solve all the security problems that gave rise to nuclear weapons in the first place. But this does not render arms control useless. Over the past two decades, nuclear arms control has contributed to increased transparency, facilitated personal relationships, strengthened nonnuclear norms, and promoted international security through the rule of law. To be sure, numerous challenges remain, but to assert that arms control faces a "crisis" is rather curious, given its role as a normative practice and its enduring utility to increase transparency and cooperation. If there is any crisis in arms control, it is due to political pessimism and a lack of vision and creativity.



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