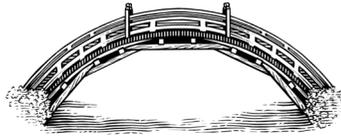


**ADVANCE  
RELEASE**

ROUNDTABLE

Approaching Critical Mass: Asia's Multipolar Nuclear Future



*Christopher P. Twomey*

*Rajesh Basrur*

*Benjamin Schreer*

*Noboru Yamaguchi*

*Kang Choi*

*P.K. Singh*

*Aaron L. Friedberg*

## Introduction: Dangerous Dynamism in Asia's Nuclear Future

*Christopher P. Twomey*

One of the defining elements of the post-Cold War era has been the diffusion of power away from the two superpowers. This has occurred across a wide variety of measures, including nuclear weaponry. In particular, since the end of the Cold War, proliferation across states and increasing arsenal capabilities within some of them have characterized Asia's international security affairs. Given the importance of nuclear weapons to the development and conduct of the Cold War, we should expect these changes in the post-Cold War era to be similarly important.

These changes have been the subject of significant scholarly analysis already. Dubbed the "second nuclear age" by eminent strategists Colin Gray and Paul Bracken, this epoch seems to pose new dangers and challenges.<sup>1</sup> Important debates have developed about the degree to which the most engaged dyad—India and Pakistan—is more dangerous than the dyads in the Cold War, to which nuclear weapons provided apparent stability.<sup>2</sup> Other studies have examined a broader range of countries facing this new environment.<sup>3</sup> A burgeoning quantitative literature surveys both Cold War and post-Cold War crises and dyads to evaluate a wide range of hypotheses about stability and coercive leverage.<sup>4</sup>

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**NOTE** ~ The views expressed are those of the author alone.

<sup>1</sup> Colin S. Gray, *The Second Nuclear Age* (Boulder: Lynne Rienner Publishers, 1999); and Paul Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age* (New York: HarperCollins, 1999).

<sup>2</sup> See, for example, S. Paul Kapur, "Ten Years of Instability in a Nuclear South Asia," *International Security* 33, no. 2 (2008): 71–94; Vipin Narang, "Posturing for Peace: Pakistan's Nuclear Postures and South Asian Stability," *International Security* 34, no. 3 (2009): 38–78; Zafar Khan, "The Arrival of Tactical Nuclear Weapons in South Asia: Deterrent Stability or Instability?" *Comparative Strategy* 32, no. 5 (2013): 402–17; and Michael D. Cohen, "How Nuclear South Asia Is Like Cold War Europe," *Nonproliferation Review* 20, no. 3 (2013): 433–51.

<sup>3</sup> Muthiah Alagappa, ed., *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia* (Stanford: Stanford University Press, 2008).

<sup>4</sup> For more on stability and coercive leverage, see Erik Gartzke, Jeffrey M. Kaplow, and Rupal N. Mehta, "Nuclear Deterrence and the Structure of Nuclear Forces" (paper presented at the International Studies Association Annual Convention and the Midwest Political Science Association Annual Meeting, 2013); Matthew Kroenig, "Nuclear Superiority or the Balance of Resolve? Explaining Nuclear Crisis Outcomes," *International Organization* 67, no. 1 (2013): 141–71; and Mark S. Bell and Nicholas L. Miller, "Questioning the Effect of Nuclear Weapons on Conflict," *Journal of Conflict Resolution* (2013).

To further these discussions, the National Bureau of Asian Research (NBR) has initiated a broad-based research program entitled “Approaching Critical Mass: Asia’s the Multipolar Nuclear Future.” With funding from the Carnegie Corporation and MacArthur Foundation, the project began with the publication of *Strategic Asia 2013–14: Asia in the Second Nuclear Age* in 2013.<sup>5</sup> Building on this and other work, NBR in 2014 convened a conference jointly with the S. Rajaratnam School of International Studies in Singapore to further explore several important themes.

Several key themes emerge from the essays in this roundtable. First and foremost, it is important to find the right geometric analogy to describe contemporary nuclear dynamics in Asia. Two promising candidates are nuclear triangles and nuclear hierarchies. While, as the essay by Rajesh Basrur reminds us, it is true that bipolar dynamics were not the only form of interaction during the Cold War, competition with the Soviet Union was the dominant driver for the United States for nearly the entire period. Today, for several countries, at least two other nuclear states play an important constitutive role in shaping nuclear policy. Thus, in Asia the United States worries about both Chinese and North Korean nuclear developments. The nature of the nuclear capabilities of those two states is dramatically different, and so is the nature of the strategic competition between the United States and each of them. This at least raises the possibility that steps taken to address one potential competitor are suboptimal with regard to the other. Similarly, P.K. Singh’s essay cogently makes the point that Indian strategic dynamics must be situated in a broader regional context that includes both Pakistan and China. Other interactive triangles may include the United States, China, and India or the United States, Russia, and China. Triangles might vary in terms of the degree to which they are tightly coupled (or not), in the symmetry across the different legs of the triangle, and likely in other dimensions. Further development of this concept is likely to be useful.

Additionally, the essays raise the issue of nuclear hierarchies. While different arsenal sizes existed among different actors during the Cold War, today there is a greater degree of interaction among states with such different sized nuclear forces. Arsenals run from barely existent (North Korea) to midsized (China, India, and Pakistan) to large (United States). Although analogues to each existed in the Cold War (South Africa, France,

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<sup>5</sup> Ashley J. Tellis, Abraham M. Denmark, and Travis Tanner, eds., *Strategic Asia 2013–14: Asia in the Second Nuclear Age* (Seattle: National Bureau of Asian Research, 2013).

and the Soviet Union, respectively), there was limited strategic interaction across those categories. Today, there is much more.

Further, it is worthwhile to consider the traditional approaches to hierarchies and ask whether such a descriptive moniker is accepted by the players in the system. Can coercive leverage be exerted across the levels? Do nations feel pressured to move up within the hierarchy? The limited pace of any strategic arms racing (another common theme among the essays) suggests not.

Beyond geometry, a second major theme to emerge from these papers is the complexity of managing extended deterrence in Asia's second nuclear age. As highlighted by Noboru Yamaguchi's and Benjamin Schreer's contributions, changes in China's capabilities are driving regional responses in terms of both internal and external balancing. Kang Choi's essay raises a similar point with regard to the implications of North Korea's nuclear development. These challenges are at once less and more dangerous than those presented by the security environment in the Cold War. During the Cold War, the intensity of the security dilemma in Central Europe was high, even in purely conventional terms. That is not the case now in Asia, neither across China's first island chain nor across the Korean demilitarized zone. Yet that said, U.S. interests in Asia today are more susceptible to being doubted than U.S. interests in Europe were during the Cold War.<sup>6</sup>

A third theme further complicates both core and extended deterrence: the source of the risk of violence. In the current Asian security environment, the threat of large-scale conflict erupting suddenly is relatively low. Instead, the dominant concern—expressed across all of the essays in this roundtable—is inadvertent escalation that begins with a lower-level crisis. In Japan, these are “gray zone” crises; in South Korea, they are “provocations.” India is concerned about a state-sponsored terrorist incident that escalates into military conflict, while China worries about U.S. allies overplaying their hands in territorial disputes over small islands or reefs. Nuclear weapons are far removed from these scenarios, to be sure. But this shift in the locus of conflict has implications for how we think about the utility of nuclear weapons, and the ensuing essays each grapple with this problem.

There thus remains much work to be done in developing an understanding of just how the proliferation and deployment trends in Asia will affect its strategic future. The shifting balance of power within the region suggests that continued attention to these issues is warranted. The following essays begin to escort us down that path. ♦

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<sup>6</sup> Of course, even those interests were questioned at times; that said, cultural ties and deeply integrated alliances provided a glue to supplement what was perceived to be a global threat from the Soviet Union.

## Nuclear Stability and Polarity in Post-Cold War Asia

*Rajesh Basrur*

Contrary to the widespread notion that the “second nuclear age” is hugely different, and for the worse, from the first nuclear age, the reality is more complex. The post-Cold War period is indeed different from the preceding one, but the differences have not been properly grasped. While there are certainly dangers associated with the current age, we need not be distracted by many of the so-called risks—such as arms racing, brinkmanship, and irrationality—identified by strategic experts.

The nature of the “second nuclear age” has been widely misunderstood. The apparently sharp divide between the Cold War era and the present age is illusory. There has been no great transformation from nuclear bipolarity to multipolarity; on the contrary, strong similarities persist. Nor is the view accurate that the relative stability of yesteryear has been replaced by a high degree of uncertainty and instability. In important ways, the current nuclear-strategic landscape is more stable than before. Yet in other ways that are also important, it is less stable. It would be wise to jettison our penchant for simple contrasts and recognize today’s complexities if we are to attend properly to the nuclear problems of our time.

### *How Different Is the Post-Cold War Era?*

Analysts often identify four chief differences between the two periods, of which only two are accurate. The first difference is that the center of gravity in nuclear politics has shifted from the Euro-Atlantic region to the Asia-Pacific. This is correct: Europe is no longer a focal point of contention, and two important European players during the Cold War, Britain and France, do not figure as prominently in contemporary nuclear politics. Russia, which has a partly Asian identity, remains a key player, however.

Second, whereas the Cold War was dominated by a single rivalry with global dimensions (between the United States and the Soviet Union), there is no relationship of comparable magnitude today. This too is correct: China

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promises to be a challenger to U.S. dominance but is still a regional power and shows no sign of being a serious global competitor for strategic primacy.

The third reputed difference is that the Cold War era was “bipolar,” whereas the post–Cold War period is “multipolar.” This is incorrect. If we take 1989 as the year when the Cold War began to wind down with the dismantling of Communist rule in Central and Eastern Europe, then the number of nuclear-armed states before and after remains the same. Before 1989, there were nine nuclear powers: the United States, the Soviet Union, the United Kingdom, France, China, Israel, South Africa, India, and Pakistan.<sup>1</sup> After 1989, South Africa denuclearized, and the only new state that developed nuclear weapons capabilities was North Korea. It may be objected that the U.S. and Soviet arsenals were so far removed from the rest in magnitude that the term multipolarity does not really apply. But then, the difference between the big two and the rest remains enormous even today. More importantly, conventional notions of balance do not apply to nuclear weapons given that very small arsenals have regularly deterred very large ones.<sup>2</sup> Moreover, strategic politics among the nuclear-armed states in the pre-1989 period was often multipolar: for example, the United States, the Soviet Union, and China were hostile toward each other in the 1960s, and the United States and China were antagonistic toward the Soviet Union in the 1970s and the 1980s. There were also strategic dyads centered on South Asia, with India and the Soviet Union loosely aligned against China and Pakistan.

Fourth, the Cold War is often held to have been a stable geopolitical environment, whereas the Asian multipolar environment is said to be unstable and likely to become more so. This is also incorrect. In fact, the first quarter-century of the Cold War (1949–74), beginning with the appearance of the first nuclear weapons dyad, was just as unstable, if not more prone to crisis, than the comparable period after the Cold War (1989–2014). The first period was characterized by four major confrontations between nuclear powers: the Berlin Crisis in 1961, the Cuban Missile Crisis in 1962, the Sino-Soviet border conflict in 1969, and periodic low-level Sino-U.S. armed

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<sup>1</sup> Pakistan carried out a series of nuclear tests in 1998 but is known to have achieved nuclear weapons capability by 1983. See, for example, Rai Muhammad Saleh Azam, “When Mountains Move—The Story of Chagai” *Defence Journal*, June 2000 ≈ <http://www.defencejournal.com/2000/june/chagai.htm>; and Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb* (Stanford: Stanford University Press, 2012), 184–85.

<sup>2</sup> Rajesh Basrur, “Nuclear Deterrence: The Wohlstetter-Blackett Debate Revisited,” S. Rajaratnam School of International Studies (RSIS), RSIS Working Paper, no. 271, April 15, 2014 ≈ <http://www.rsis.edu.sg/wp-content/uploads/rsis-pubs/WP271.pdf>.

clashes during the Vietnam War. The post–Cold War era has also witnessed four such face-offs: two between India and Pakistan (1999 and 2001–2) and two between the United States and North Korea (1994 and 2006). One only has to compare the alert nuclear postures adopted by the belligerents in Berlin and Cuba with the restrained undeployed postures manifested in Kargil in 1999 and Kashmir in 2001–2 to see which period was more unstable and dangerous.

### *Types of Nuclear Weapons Relationships*

Before addressing the question of stability directly, it is important to classify the different kinds of nuclear-strategic relationships that have existed during and after the Cold War and their associated tendency for stability or instability. Five basic types of adversarial relationships can be identified among nuclear powers.

*Simple nuclear dyads.* Simple nuclear dyads are strongly adversarial, characterized by the absence of significant nonstrategic interaction (especially economic ties), intense bilateral competition (sometimes including proxy wars), crisis instability, and occasional arms racing (present only in the U.S.-Soviet and India-Pakistan cases). Examples of these dyads include the United States and Soviet Union (1949–89), the United States and China (1964–70), the Soviet Union and China (1964–89), India and Pakistan (1989 to the present), and the United States and North Korea (1994 to the present). All these relationships exhibited a high proneness to crisis during their early phase, followed by the onset of relative stability.<sup>3</sup>

*Complex nuclear dyads.* Complex nuclear dyads are quasi-adversarial and are characterized by the presence of significant nonstrategic interaction (especially economic ties), a degree of mutual distrust and strategic hedging, avoidance of alliance-like entanglements, consequent (relative) crisis stability, and restraint with respect to arms racing. This type of dyad is a post–Cold War phenomenon. Examples, all contemporary, include the United States and Russia, the United States and China, and India and China. The probability of crisis is low within these dyads but cannot be ruled out.

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<sup>3</sup> In a sense, U.S.–North Korean relations have been dogged by periodic tensions, but the actual risk of war has been usually much less than that presented in the media. See, for example, Zachary Keck, “No, North Korea Did NOT Threaten War over Seth Rogen Movie,” *Diplomat*, June 28, 2014 ~ <http://thediplomat.com/2014/06/no-north-korea-did-not-threaten-war-over-seth-rogan-movie>. For diverse representations of North Korea in the Western literature, see Hazel Smith, “Bad, Mad, Sad, or Rational Actor? Why the Securitization Paradigm Makes for Poor Policy Analysis of North Korea,” *International Affairs*, 76, no. 3 (2000), 593–617.

*Alliances.* Alliances are features mainly of the Cold War period when the North Atlantic Treaty Organization (NATO) and the Warsaw Pact confronted each other in what is often viewed (inaccurately) as a bipolar system.<sup>4</sup> While after 1990 the old alliances have remained in diminished form, no new ones have been created, which is not surprising in an increasingly interdependent world. The decline of alliances is a source of strategic stability in the current age, since there are fewer strategic entanglements that might drag nuclear powers into conflict.

*Loose alignments.* Loose alignments have existed in both periods, with “strategic partnership” being the current nomenclature for such relationships. They involve strategic consultation, arms transfers, military exercises, and the absence of tight security commitments. Examples from the Cold War include the alignment of the United States and China against the Soviet Union and of the Soviet Union and India against China and Pakistan. Post-Cold War examples include the alignment of China and Pakistan against India and of the United States and India against China.<sup>5</sup> Although these relationships are unlikely to affect crisis stability directly, given that they do not involve alliance-like commitments (which are scrupulously avoided), they do raise tensions generally and have the potential to negatively affect arms race stability through arms transfers and consequent arms racing.

*State-nonstate dyads.* State-nonstate dyads are the sharply adversarial relationships between states and nonstate actors, such as terrorist groups, that are potentially capable of acquiring and utilizing nuclear or radiological weapons. Nonstate actors are unlikely to obtain the level of capacity that would produce instability from arms racing. But crisis instability is very likely if a terrorist group does acquire nuclear capability: unlike states, such groups would almost certainly be inclined to use this capability or at least threaten to use it.

### *Stability Issues*

It is often argued that the post-Cold War era is less stable than the Cold War period. Some of these arguments, however, turn out to be untenable upon closer examination.

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<sup>4</sup> During the Cold War, there were nuclear-capable players (namely, China, India, and South Africa) that for long periods were not part of either alliance system, though they may have leaned toward one side or the other.

<sup>5</sup> Note that while India and China officially have a strategic partnership that incorporates joint military exercises, it is mostly symbolic in nature.

*Polarity.* It is frequently claimed that the Cold War period was bipolar and therefore more predictable and conducive to management than the multipolar world today.<sup>6</sup> This is wrong on two counts. First, as noted above, the two periods have been similar in the number of poles or nuclear powers. Even small nuclear powers have been able to exercise a high degree of strategic autonomy, which is why China, with its minimal arsenal, was a pole during the Cold War. Second, and more importantly, there is no evidence that nuclear multipolarity is inherently unstable. All the major crises that have occurred through both periods have been bilateral.

*Second-strike capability.* New nuclear powers, it is regularly argued, do not possess secure second-strike capabilities and are therefore constantly beset by the problem of crisis instability, given that incentives always exist in such settings for an early first strike. In fact, “weak” nuclear powers regularly deter “strong” ones. Deterrence has been exercised by both large and small arsenals—for example, the mutual deterrence exercised by the large U.S. and relatively small Soviet arsenals during the 1961 Berlin Crisis. It has also been exercised in both unequal and equal distributions of capability—the Berlin Crisis and the Cuban Missile Crisis are once again examples of the former scenario and the India-Pakistan crisis of 2001–2 of the latter. The putative absence of secure second-strike capability has not produced early first strikes, though these have been contemplated. For example, the United States did not strike China in the early 1960s or North Korea in the mid-1990s; and the Soviet Union did not strike China in 1969.

*Rationality.* It is frequently said that new nuclear powers may not possess the “mature” and “rational” qualities that brought a measure of stability to the Cold War, and may be inclined to take undue risks. In fact, decision-makers in all nuclear-powered states have regularly worried that their adversaries may not be rational. Some Americans feared this about the Soviet Union, Americans and Russians worried likewise about China, and

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<sup>6</sup> John J. Mearsheimer, “Why We Will Soon Miss the Cold War,” *Atlantic Monthly*, August 1990 ~ <https://www.theatlantic.com/past/politics/foreign/mearsh.htm>; Brad Roberts, “Nuclear Multipolarity and Stability,” Institute of Defence Analyses, Document D-2539, November 2000; and Christopher P. Twomey, “Asia’s Complex Strategic Environment: Nuclear Multipolarity and Other Dangers,” *Asia Policy*, no. 11 (2011): 51–78.

Indians have periodically expressed the same sentiment about Pakistan.<sup>7</sup> Moreover, high rhetoric and risk-taking have always been part of hostile relationships between nuclear-armed states, as is evident from history. It is harder to refute the opposite argument: that the chief antagonists of the Cold War exhibited less-than-rational thinking in producing some 63,000 nuclear warheads by 1986, whereas the new powers have been relatively circumspect in adopting low-profile postures and have not exhibited the pace of arms racing that was characteristic of the Cold War.

A more balanced comparison of the two periods reveals that in several ways the post-Cold War era is more stable than the preceding period, though there is room for caution in each respect. First, there is no massive, high-voltage arms racing today. The only arms race currently visible is between India and Pakistan, which is at a comparatively low level and likely to remain so because neither side has the financial capacity to build a large arsenal. The nuclear force modernizations under way in China, India, and Pakistan are primarily consolidations. However, optimism on this score should not be undiluted. The ubiquitous and untenable notion that the bottom line for deterrence is the capability for “assured retaliation” tends to facilitate competitive open-ended acquisitions. Second, the younger nuclear powers do not practice Cold War-type deployments with hair-trigger alerts. On the contrary, China, India, Israel, Pakistan, and North Korea employ a more restrained recessed deployment posture.<sup>8</sup> There is no guarantee, however, that this will not change, which points to a need for reassurance and confidence building on all sides.

Third, three major nuclear dyads today—the United States and Russia, the United States and China, and India and China—are complex ones in that they are characterized by high levels of economic cooperation and therefore possess a built-in resistance to strategic instability. Nevertheless,

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<sup>7</sup> Oliver Barrett, “Getting Un-stuck from Red Dawn,” Foreign Policy Association, web log, April 14, 2014 ~ <http://foreignpolicyblogs.com/2014/04/04/getting-un-stuck-from-red-dawn/>; Gordon Chang, *Friends and Enemies: The United States, China, and the Soviet Union, 1948–1972* (Stanford: Stanford University Press, 1990), 243; and Mohammed B. Alam, “India’s Nuclear Doctrine: Context and Constraints,” University of Heidelberg, South Asia Institute, Heidelberg Papers in South Asian and Comparative Politics, Working Paper, no. 11, October 2002 ~ <http://archiv.ub.uni-heidelberg.de/volltextserver/4122/1/hpsacp11.pdf>. See also Tom Vaughan, “Asian Fury: Gender, Orientalism and the Indo-Pakistani Nuclear ‘Threat’ in US Foreign Policy Discourse, 1998–2009,” University of Bristol, School of Sociology, Politics and International Studies, Working Paper, no. 09-13 ~ <http://www.bristol.ac.uk/spais/research/workingpapers/wpspaisfiles/vaughan-09-13.pdf>.

<sup>8</sup> Typical Cold War-type deployments (China excepted) involved a high state of readiness so that the time taken from a decision to fire nuclear weapons and the actual implementation of the decision was minimal. In contrast, China, India, and Pakistan are widely known to have adopted a recessed or non-deployed posture wherein a nuclear weapon is normally kept separate from its launch vehicle.

the possibility of normal accidents and unanticipated escalation remains. The incident in December 2013 when U.S. and Chinese warships nearly collided in the South China Sea is a warning against complacency.

And fourth, compellence threats in the post-Cold War era have not been overtly nuclear. Crises between India and Pakistan have involved at most indirect signaling in the form of missile tests. Neither side has resorted to visible deployment, let alone a hair-trigger posture. On the other hand, North Korea has been prone to use verbal metaphors that could be interpreted as direct nuclear threats.

In several important respects, however, the current period is less stable than the Cold War epoch. To begin with, the United States, in trying to dampen the chances of nuclear conflict, may unwittingly facilitate it. The 1999 and 2001–2 crises between India and Pakistan were at least partly initiated to invite U.S. intervention favoring one side. In the first event, Pakistan sought U.S. support to bring India to the negotiating table on Kashmir; in the second, New Delhi pressured Washington to coerce Islamabad into ceasing support for terrorists based on Pakistani soil. Whether such tactics work is open to debate, but Washington's readiness to intervene for stability can be manipulated for destabilizing purposes.

The development of missile defense technology has brought a modicum of arms race instability among nuclear powers that see themselves as disadvantaged by the phenomenon. Russia and China are uncomfortable with U.S. missile defense, while Pakistan worries about India's initial efforts to develop a missile defense system.

New conventional arms technologies such as precision-guided munitions and drones can also engender fresh insecurities and provide incentives for states to build stronger nuclear arsenals. In particular, the U.S. Conventional Prompt Global Strike program has the potential to generate arms race instability. At a lower level of technology, India's acquisition of advanced conventional capabilities is likely to produce the same effect on Pakistan. Besides, these conventional weapons may be considered more "usable," which could encourage the initiation of combat during a severe crisis. Notably, these technologies are almost entirely unregulated.

The growth of disruptive cybertechnology that combines stealth and surprise with attribution problems is another emerging threat to crisis stability. Dangerous potential effects include false warnings of attack and the real and potential breakdown of command and control systems. While command and control failures have not yet produced calamitous consequences, they have certainly occurred with disturbing regularity.

In 1983 a Senate Armed Services Committee investigation revealed that there were as many as 151 false alarms in the U.S. command and control system during a six-month period.<sup>9</sup>

A final respect in which the current era is less stable than the Cold War period pertains to the rise of terrorism. The phenomenal growth of terrorism not only raises the direct threat of nuclear or radiological terrorist attacks, should terrorists gain access to nuclear weapons, but also carries the potential to provoke crises between nuclear-armed states. The India-Pakistan crisis of 2001–2, for example, was the direct result of a terrorist attack on the Indian Parliament in December 2001.

### *Conclusion: Addressing Instabilities*

The discussion above highlights the stable and unstable elements of the current age. While this essay does not attempt to solve the problems identified in the present, it does highlight the following instabilities that must be addressed.

Simple nuclear dyads need to be stabilized because they are prone to both crisis instability and arms race instability. In the India-Pakistan case, for instance, major obstacles to crisis stability include possible escalation from a border confrontation and the potential for terrorists based in Pakistan to trigger conflict. The chief obstacle to preventing arms racing is the unfounded belief that a secure second-strike capability is the *sine qua non* of stable deterrence. In the U.S.-North Korea case, it would be a good idea to go beyond the failed effort to roll back Pyongyang's nuclear capability and begin a process of stabilization through confidence building.

In complex nuclear dyads, the problem is less serious but still cannot be ignored. Because the probability of things going wrong will always exist, nuclear-armed states need to build trust through improved communication, greater transparency, and regular mechanisms of consultation on matters of conflicting interest. The relationship between China and India is a case in point. The China-India Border Defense Cooperation Agreement is a positive sign, although it is obviously limited in its potential because the Line of Actual Control, which divides the two countries' forces, remains open to interpretation. Pending a border settlement, an accord on the Line of Actual Control would be a major stabilizing move. As things stand, arms

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<sup>9</sup> Michael Vannoni, Kent Beringer, and Lawrence Trost, "Verifying Missile Proliferation in Northeast Asia," Sandia National Laboratories, Report, April 2003, 8. ~ <http://prod.sandia.gov/techlib/access-control.cgi/2003/031148.pdf>.

race stability does not appear deeply problematic, though technological innovations and their disruptive potential need to be addressed. India and China and the United States and China need to engage in nuclear confidence building in order to strengthen the present level of stability.

Loose alignments are crisis stable, but they do carry the potential for producing (or exacerbating) arms race instability. This risk needs to be attended to both at the nuclear and conventional levels. A broad-based multilateral dialogue bringing together the Asian nuclear powers could add to bilateral dialogues in all three types of relationships discussed so far. A disarmament-cum-arms control process that brings in all the major players early could have a stabilizing effect.<sup>10</sup> The process could profitably address some of the major challenges identified above: missile defense, advanced conventional weapons, and cyberthreats.

Although rules to reduce the risk of proliferation to nonstate actors are being developed, more needs to be done to contain the risks associated with state assistance to terrorist groups that can generate nuclear crises. This is especially true with regard to radiological weapons. It should not be forgotten that civilian nuclear facilities, such as nuclear plants and storage sites for radioactive materials, are potential bombs with enormous destructive potential.

If the instabilities characteristic of the current age are to be appropriately addressed, we need above all to arrive at a more nuanced understanding of its realities than has hitherto been the case. A preoccupation with sharp changes in polarity and stability is a diversion—neat, but neither accurate nor profitable. We need instead to recognize that some things have not changed all that much, while others have. Simple nuclear dyads remain, but there are also complex ones. Old types of instability persist, but new ones have appeared. And unworkable ideas of sufficiency are giving way—ever so slowly—to new, if not always consistent, ones. It is clarity about the nature and limits of change that will serve us best in the quest for a safer world. ♦

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<sup>10</sup> Ron Huisken, “Re-thinking the Political Strategy for Disarmament,” RSIS, Policy Report, March 2014  [http://www.rsis.edu.sg/publications/policy\\_report/Policy%20Report%20-%202014-03-27%20-%20Re-thinking%20the%20Political%20Strategy.pdf](http://www.rsis.edu.sg/publications/policy_report/Policy%20Report%20-%202014-03-27%20-%20Re-thinking%20the%20Political%20Strategy.pdf).

## China's Development of a More Secure Nuclear Second-Strike Capability: Implications for Chinese Behavior and U.S. Extended Deterrence

*Benjamin Schreer*

The People's Republic of China (PRC) is in the midst of improving its nuclear arsenal, both quantitatively and qualitatively. Since the details of this nuclear modernization process remain clouded in secrecy, estimates of the numbers of China's nuclear warheads vary significantly. Pessimists believe that Beijing could possess well over 1,000 warheads, most of which are assumed to be hidden in a complex system of underground tunnels.<sup>1</sup> In contrast, this essay agrees with conservative assessments that the total size of China's nuclear arsenal is approximately 250 warheads, delivered by land-based ballistic missiles, aircraft, and an emerging ballistic submarine fleet. The U.S. intelligence community expects that the number of these nuclear warheads capable of threatening the U.S. homeland will more than double to over 100 by the mid-2020s.<sup>2</sup>

China is on a long-term path of replacing its old liquid-fuel, moveable DF-3A intermediate-range ballistic missiles (IRBM) with solid-fuel, road-mobile DF-21 medium-range ballistic missiles (MRBM). The People's Liberation Army (PLA) Navy's Jin-class nuclear-powered ballistic missile submarine (SSBN) was also expected to conduct its first patrol by the end of 2014 while armed with the JL-2 submarine-launched ballistic missile. The PLA Navy is estimated to have three Jin-class boats, which could increase to four to five SSBNs by 2020. China is also reportedly developing a next-generation SSBN, called the Type 096. It is therefore gradually making progress toward a credible sea-based nuclear deterrent.<sup>3</sup>

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<sup>1</sup> Phillip A. Karber, "Strategic Implications of China's Underground Great Wall," Georgetown University Asian Arms Control Project, September 11, 2011 ∞ [http://www.fas.org/nuke/guide/china/Karber\\_UndergroundFacilities-Full\\_2011\\_reduced.pdf](http://www.fas.org/nuke/guide/china/Karber_UndergroundFacilities-Full_2011_reduced.pdf).

<sup>2</sup> Hans M. Kristensen and Robert S. Norris, "Chinese Nuclear Forces, 2013," *Bulletin of Atomic Scientists* 69, no. 6 (2013): 79–85.

<sup>3</sup> U.S.-China Economic and Security Review Commission, *2014 Annual Report to Congress* (Washington, D.C., November 2014), 300–302.

Therefore, as one scholar wrote in the pages of this journal, “after decades of reliance on a small and potentially strategic deterrent, China is finally achieving the ‘lean and effective’ nuclear force” that its leaders believe to be essential to protect the nation’s security interests.<sup>4</sup> The PRC’s incremental development of this more secure second-strike nuclear capability began more than two decades ago. The rapid advances in U.S. conventional precision-strike capabilities observed in military operations during the 1990s and the first decade of the 2000s was a key driver behind those efforts.

However, while Beijing’s reasons for wanting to enhance mutual nuclear vulnerability with the United States are clear, the implications for China’s strategic behavior, U.S.-Sino crisis stability, and Asian security in general are less certain. Optimists argue that China’s development of a more secure second-strike capability that enhances mutual vulnerability will strengthen U.S.-Sino crisis stability. One proponent of this view is Robert Ross, who argues that such a capability would minimize the risk of the United States launching a disarming first strike, while leaving intact Washington’s ability to respond with its dominant conventional forces to any attempt by Beijing to alter the regional status quo.<sup>5</sup> Yet given the changing strategic context underlying the U.S.-Sino relationship, there are reasons to caution against such a positive reading.

### *The Changing Strategic Context and U.S.-China Strategic Stability*

China’s nuclear modernization occurs in the midst of Asia-Pacific power shifts. Beijing is increasingly willing to contest U.S. leadership in the region, which has long been based on the United States’ unrivaled military power. To do so, China is not only modernizing its nuclear forces but also significantly upgrading its conventional capabilities. By investing in anti-access/area-denial capabilities, China is raising the costs for a third-party intervention (for example, by the United States) in a dispute in its “near seas”—that is, the Yellow Sea, the Philippine Sea, and the South China Sea. The goal of this strategy seems to be to displace the United States as the dominant power in the western Pacific.<sup>6</sup>

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<sup>4</sup> Michael S. Chase, “China’s Transition to a More Credible Nuclear Deterrent: Implications and Challenges for the United States,” *Asia Policy*, no. 16 (2013): 70.

<sup>5</sup> Robert S. Ross, “Navigating the Taiwan Strait: Deterrence, Escalation Dominance, and U.S.-China Relations,” *International Security* 27, no. 2 (2002): 48–85. See also *ibid.*

<sup>6</sup> Ronald O’Rourke, “China Naval Modernization: Implications for U.S. Naval Capabilities—Background and Issues for Congress,” Congressional Research Service, CRS Report for Congress, RL 33153, April 10, 2014 ~ <http://www.fas.org/sgp/crs/row/RL33153.pdf>.

In this context, the assumption that the United States' conventional superiority will guarantee U.S.-Sino strategic stability in contemporary Asia could be problematic. To be sure, in absolute terms U.S. conventional forces will still outweigh China's by a wide margin for years to come. However, as China is increasing the costs of U.S. intervention in its near seas, U.S. allies and partners in Asia worry that the balance of resolve might tip in favor of China. That is, greater confidence in its conventional and nuclear deterrent vis-à-vis the United States could lead Beijing to display even more coercive behavior against its neighbors in maritime territorial disputes. Although a good case can be made that mutual nuclear vulnerability is more stabilizing for the U.S.-Sino relationship than a purely conventional military balance,<sup>7</sup> a more secure Chinese second-strike capability does not automatically lead to greater crisis stability.

First, there are significant challenges in regard to the emergence of a nascent Chinese nuclear triad (nuclear weapons launched from land-, air-, and sea-based platforms). A particular worry is the imminent introduction of the new SSBNs into the Chinese fleet. Command-and-control arrangements for nuclear submarines are notoriously difficult, particularly during times of crisis. There are, for example, questions within the analytical community about the ability of commanding officers of Chinese nuclear submarines to make informed decisions in such circumstances, not least given the limited degree of autonomous decision-making assigned to People's Liberation Army officers. Since this is the first time a sea-based nuclear deterrent will be part of China's strategic architecture, it is not entirely clear how effective the command and control of such forces would be during a severe U.S.-Sino crisis.

Second, growing confidence in a more secure nuclear second-strike capability could embolden Chinese leaders to behave more assertively in maritime territorial disputes with neighboring countries—with potentially serious consequences. A growing number of U.S. analysts are calling for the United States to raise the costs of China's maritime assertiveness, particularly in the South China Sea.<sup>8</sup> Thus, the possibility of a U.S.-Sino crisis cannot be discounted. China's strategic leaders display a strong confidence in the so-called stability-instability paradox—that is, the existence of clear firebreaks that would prevent a conventional conflict from escalating into a

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<sup>7</sup> See, for example, Avery Goldstein, "First Things First: The Pressing Danger of Crisis Instability in U.S.-China Relations," *International Security* 37, no. 4 (2013): 84.

<sup>8</sup> Laura Schwartz, "Competing Claims in the South China Sea: Potential Paths Forward and Implications for the United States," National Bureau of Asian Research, Roundtable Report, February 2014; and Ashley J. Tellis, "Balancing Without Containment: A U.S. Strategy for Confronting China's Rise," *Washington Quarterly* 36, no. 4 (2013): 109–24.

nuclear confrontation.<sup>9</sup> However, because these leaders could also assume that the “balance of interest” is on their side in regional territorial disputes and that the United States would not risk a conventional conflict—or, even if it did, that any conflict could be kept at the conventional level—they could feel emboldened to take greater risks during a crisis.

Such thinking could prove disastrously wrong. Should the United States choose to intervene, which would possibly involve a significant loss of face for the Chinese leadership, Beijing could quickly face a “use them or lose them” nuclear dilemma. China’s nuclear infrastructure (such as command-and-control systems and potentially some missile bases) is closely linked to its conventional military capabilities. The latter would certainly be subject to U.S. precision strikes as a means to control escalation and coerce China to return to the *status quo ante*. Yet attacks against the country’s conventional forces could be interpreted by Chinese leaders as a disarming U.S. strike. As Thomas Christensen has pointed out, recent Chinese writings on nuclear policy argue that under certain circumstances conventional military strikes could pose an existential threat to China, in which case its traditional no-first-use policy could quickly be reconsidered or amended.<sup>10</sup> China’s trust in the stability-instability paradox might therefore be unwarranted, and strategists in Beijing should spend more time considering the risks of a conventional crisis with the United States escalating to the nuclear level. They also should consider that a secure nuclear second-strike capability might not necessarily provide China with a greater coercive capacity vis-à-vis the United States in regional contingencies.<sup>11</sup> Should Chinese leaders, for example, assume that the threat of nuclear escalation will be sufficient to deter Washington from intervening in a future conflict over the Taiwan Strait, they could well be mistaken, given the strategic importance of Taiwan for the United States.<sup>12</sup>

It is too early to conclude whether China’s more secure second-strike capability will enhance or diminish U.S.-Sino crisis stability. What is clear is that both sides need to intensify their strategic dialogue on how to manage the risks associated with China’s nuclear modernization. As Brad Roberts has argued, this is critical to narrow the persisting “major perception

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<sup>9</sup> Goldstein, “First Things First,” 65–66.

<sup>10</sup> Thomas J. Christensen, “The Meaning of the Nuclear Evolution: China’s Strategic Modernization and U.S.-China Security Relations,” *Journal of Strategic Studies* 35, no. 4 (2012): 454.

<sup>11</sup> *Ibid.*; and Goldstein, “First Things First.”

<sup>12</sup> Nancy Bernkopf Tucker and Bonnie Glaser, “Should the United States Abandon Taiwan?” *Washington Quarterly* 34, no. 4 (2011): 23–37.

gaps” between U.S. and Chinese strategists with regard to their respective nuclear and conventional postures and minimize the potential negative impact on nuclear crisis stability.<sup>13</sup> In sum, simply assuming that a greater level of mutual nuclear vulnerability equals greater stability in U.S.-Sino strategic relations is insufficient. China’s growing nuclear arsenal poses key questions, which in many ways mirror Cold War debates about U.S.-Soviet nuclear relations. Although it is beyond the scope of this essay to address them, these questions include the following:

- What are the requirements of “strategic stability” in U.S.-Sino relations?
- What is the basis of the nuclear relationship? Is it a new type of mutual assured destruction?
- How robust are the firebreaks between conventional and nuclear operations, and what are the implications for effective signaling during a crisis?
- Do Chinese leaders believe that a more secure second-strike capability provides them with political leverage in a crisis of lower intensity?
- What are emerging concepts of Chinese nuclear warfighting, including command-and-control arrangements?

Contrary to political preferences in many Western countries, including the United States, nuclear weapons will continue to play a significant role in international relations. Indeed, in the future they will probably become more, not less, important in Asia as the region undergoes significant power shifts.<sup>14</sup> That is why such questions should be discussed not only by a relatively small circle of U.S., Chinese, and international experts but by the broader strategic community.

### *Implications for U.S. Extended Deterrence Commitments*

China’s nuclear modernization could exacerbate existing challenges for U.S. extended nuclear deterrence. Some regional strategists argue that its more secure second-strike capability could decrease the credibility

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<sup>13</sup> Brad Roberts, “An Update on U.S. Nuclear Policy and Priorities” (paper prepared for the Eighth China-U.S. Dialogue on Strategic Nuclear Dynamics, CFISS-Pacific Forum CSIS Workshop, Beijing, November 4–5, 2013) ≈ [http://csis.org/files/attachments/131104\\_Session3\\_BRoberts.pdf](http://csis.org/files/attachments/131104_Session3_BRoberts.pdf).

<sup>14</sup> Paul Bracken, *The Second Nuclear Age: Strategy, Danger, and the New Power Politics* (New York: Henry Holt, 2013).

of U.S. commitments in Asia.<sup>15</sup> In some ways, the current debate among the United States' Asian allies is not so much about the specific details of extended nuclear deterrence as it is about the future of U.S. leadership in the region. They wonder whether Washington is willing and able to resist Chinese attempts to change the territorial status quo in the western Pacific through low-level coercion, and what role, if any, nuclear weapons could play? Just as during the Cold War, nuclear weapons are still intended to deter only extreme aggression. However, the likelihood in Asia's current strategic theater of such contingencies—for instance, a Chinese nuclear attack against U.S. bases in Guam or Japan—seems very remote.

Furthermore, U.S. allies such as Japan and South Korea worry that in the face of a more secure second-strike capability the United States, by default rather than by design, might be forced to accept mutual nuclear vulnerability as a reality in its relationship with China—despite the fact that the U.S. nuclear arsenal remains far superior and regardless of Washington's official denial that it accepts mutual nuclear vulnerability as a basis for U.S.-China strategic stability.<sup>16</sup>

Even a tacit acceptance of such a condition could undermine the credibility of the U.S. nuclear umbrella for its Asia-Pacific allies. It has not escaped their attention that Washington in recent years has de-emphasized the role of nuclear weapons, including in the Asia-Pacific theater. As a result, uncertainty over the credibility of U.S. extended deterrence has led to renewed debates in Japan, South Korea, and even Taiwan over the potential need for an independent nuclear deterrent. Although these discussions are far from translating into policy changes yet, they demonstrate that the respective strategic communities do not perceive increased U.S. efforts in the areas of theater ballistic missile defense (BMD) or conventional prompt global strike as sufficiently reassuring. Limited U.S. BMD systems in the Asia-Pacific are targeted against the North Korean ballistic missile threat and are insufficient to defend against China's growing capabilities. BMD is also perceived in China as potentially destabilizing. Meanwhile, the details and effects of conventional prompt global strike for allies' security and

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<sup>15</sup> See, for example, Rory Medcalf et al., "Debate: Is Extended Nuclear Deterrence Dead?" Lowy Institute, Interpreter, web log, January–March 2011  <http://www.lowyinterpreter.org/?d=D%20-%20Is%20extended%20nuclear%20deterrence%20dead?>.

<sup>16</sup> On the contentious issue of "mutual nuclear vulnerability," see Christopher J. Castelli, "Draft Report Urges Accepting Mutual Nuclear Vulnerability with China," InsideDefense.com, July 25, 2012; and Thomas Fingar and Fan Jishe, "Ties that Bind: Strategic Stability in the U.S.-China Relationship," *Washington Quarterly* 36, no. 4 (2013): 125–38.

regional stability are still unclear.<sup>17</sup> Moreover, the United States' greater reliance on the threat of precision strikes against China from a safe distance could lead to fears of "decoupling" among the Asian allies. That is, allies might worry that U.S. strategic interests might no longer be inextricably linked to their own.

In sum, Washington needs to intensify efforts to explain to its Asian allies how the United States intends to react to China's more secure nuclear second-strike capability and how it aims to maintain the credibility of its extended deterrence guarantees. As one example, the Obama administration has announced plans to modernize the nuclear triad, including a new class of SSBNs.<sup>18</sup> SSBNs are well-suited for the Asia-Pacific, and the United States could consider forward deploying more to places such as Guam as a means of deterrence and assurance. In the future, the United States could also rotate its new class of long-range strategic bombers through Australia to send a signal to the region, and China specifically, that the future role of the U.S. nuclear posture in Asia goes beyond deterring a Chinese nuclear strike against Hawaii and the continental United States. However, because such developments will take place under the conditions of a secure Chinese second-strike capability, it is imperative for Washington to first reverse the strategic narrative that U.S. nuclear weapons are of diminished relevance in the Asia-Pacific region. ◆

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<sup>17</sup> James M. Acton, "Silver Bullet? Asking the Right Questions about Conventional Prompt Global Strike," Carnegie Endowment for International Peace, 2013.

<sup>18</sup> Congressional Budget Office, "Projected Costs of U.S. Nuclear Forces, 2014 to 2023," December 2013.

## The Utility of Nuclear and Conventional Forces in the Second Nuclear Age: A Japanese Military Perspective

*Noboru Yamaguchi*

In the recent debate on Japan's security policy, the proliferation of WMD and their delivery means, such as missiles, has been one of the central issues. This issue is particularly critical to Japan, given North Korea's acceleration of its nuclear weapons program alongside its long-range missile project. Japan's new National Security Strategy (NSS) and National Defense Program Guidelines (NDPG) focus on both nuclear proliferation and the emerging nuclear threat posed by North Korea. At the same time, tension between Japan and China in the East China Sea has been increasing, while tensions between China and countries in the South China Sea have similarly been on the rise.

This essay will present a Japanese perspective on the nuclear dimension of regional security by, first, explaining Japan's nuclear-related policies; second, discussing the roles of nuclear forces in Japan's security policy; and, third, exploring Japan's security strategy for managing a possible stability-instability paradox in the region, with particular emphasis on the East China Sea.

### *Japan's Non-Nuclear Policy and Nuclear Forces*

One of the most important aspects of Japan's security policy since World War II is its non-nuclear policy based on the "three non-nuclear principles," referring to the principles of not possessing nuclear weapons, not producing them, and not permitting their entry into Japan.<sup>1</sup> Not only does Japan adhere to these three principles as fundamental elements of its national policy, but Japan's Atomic Energy Basic Law also prohibits the country from manufacturing or possessing nuclear weapons. Furthermore, Japan ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in June 1976 and put itself under strict obligation not to produce or acquire nuclear weapons as a non-nuclear weapons state.

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<sup>1</sup> This policy is explained in Japan's annual defense white paper. See Ministry of Defense (Japan), *Defense of Japan 2013* (Tokyo, 2013), [http://www.mod.go.jp/e/publ/w\\_paper](http://www.mod.go.jp/e/publ/w_paper).

Japan's possession of nuclear weapons, however, is not necessarily restrained by its constitution. While designed to make the nation as peaceful as possible, the constitution does not exclude outright Japan's pursuit of nuclear options. The government's basic interpretation is that Article 9.2 of the constitution does not prohibit the possession of force that is within the minimum range necessary for self-defense.<sup>2</sup> Therefore, if the weapon in question, whether conventional or nuclear, is within these bounds, it is not constitutionally banned. If thus confined to the minimum necessary level for self-defense, the possession of nuclear weapons is considered constitutional for Japan. Here it should be noted that the minimum necessary level applies to the limit of individual self-defense and does not include collective self-defense in the government's interpretation of the constitution.

### *The Role of Nuclear Forces in Japan's Security Strategy*

Japan has continuously relied on the United States to deter nuclear threats against itself and has maintained that "the extended deterrence of the United States with nuclear deterrence at its core is indispensable."<sup>3</sup> At the same time, conventional elements of deterrence have become more important in recent years with dramatic improvements in technologies such as ballistic missile defense and precision-guided weapons. U.S. reliance on conventional elements of deterrence has increased alongside the reduction in the size of the U.S. nuclear arsenal. Furthermore, as Japan improves its ballistic missile defense and other capabilities for deterrence by denial, it no longer needs to depend solely on nuclear forces to maintain credible nuclear deterrence. Although Japan currently has no intention of acquiring nuclear weapons, it is worth exploring why Japan would not be better off possessing its own nuclear option. This section of the essay aims to clarify the utility of nuclear weapons for Japan from a military point of view based on Robert Art's analysis of the different roles of force: deterrent, defensive, compellent, and swaggering use.

*Deterrent use of nuclear weapons.* According to Art, the deterrent use of force is "the deployment of military power so as to be able to prevent an adversary from doing something that one does not want him to do and that he might otherwise be tempted to do by threatening him with unacceptable

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<sup>2</sup> The government has repeated this argument on many occasions. For example, the director general of the cabinet legal office expressed this as the government's position in answering a question in the Diet on April 5, 1972.

<sup>3</sup> Government of Japan, *National Security Strategy*, provisional translation (Tokyo, December 17, 2013), 16  
 ~> [http://www.kantei.go.jp/foreign/96\\_abe/documents/2013/\\_\\_\\_icsFiles/afidfile/2013/12/17/NSS.pdf](http://www.kantei.go.jp/foreign/96_abe/documents/2013/___icsFiles/afidfile/2013/12/17/NSS.pdf).

punishment if he does it.”<sup>4</sup> In the bipolar world of the Cold War, deterrence relied on the threat of mutually assured destruction defined as the capability to “deter a deliberate nuclear attack...by maintaining at all times a clear and unmistakable ability to inflict an unacceptable degree of damage upon any aggressor, or combination of aggressors—even after absorbing a surprise first strike.”<sup>5</sup> In the case of U.S. allies, such as the United Kingdom and France, possession of their own nuclear capabilities reinforced the extended deterrence provided by the United States. For example, British prime minister Harold McMillan noted in 1958 that “[t]he independent contribution...gives us a better position with respect to the United States.”<sup>6</sup>

While U.S. nuclear deterrence, supported by the nuclear capabilities of U.S. allies, functioned well against the Soviet Union, this form of deterrence raises serious challenges for Japan. First, Japan may be drawn into a “balance of terror” situation in a bipolar context, such as a conflict with North Korea. In this scenario, because Japan’s industry, population, and infrastructure are highly concentrated and vulnerable, and as Japan has become prosperous through international trade, while being highly dependent on the peace and stability of various areas throughout the world, mutual deterrence based on a balance of what the opponents lose may not work. Second, Japan may be constrained in its ability to reinforce U.S. extended deterrence with its own nuclear force. The issues raised by this challenge are more complicated and depend on how the United States would perceive Japan if it were to go nuclear.

*Defensive use of nuclear weapons.* The defensive use of force is “the deployment of military power so as to be able to do two things—to ward off an attack and to minimize damage to oneself if attacked.” On this account, “a state can deploy its forces in place prior to an attack, use them after an attack has occurred to repel it, or strike first if it believes that an attack upon it is imminent or inevitable.”<sup>7</sup> In the case of Japan, a preemptive first strike against a potential opponent is hard to conceive of under any circumstances, even for defensive purposes. Furthermore, it is

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<sup>4</sup> Robert J. Art, “The Four Functions of Force,” in *International Politics: Enduring Concepts and Contemporary Issues*, ed. Robert J. Art and Robert Jervis (Harper Collins Publishers: New York, 1992), 132–39.

<sup>5</sup> Alan C. Enthoven and K. Wayne Smith, *How Much is Enough? Shaping the Defense Program 1961–1969* (New York: Harper & Row, 1971), 207.

<sup>6</sup> Andrew J. Pierre, “Britain’s Defense Dilemmas,” in *The “Atlantic Community” Reappraised, Proceedings of the Academy of Political Science 29, no. 2* (New York: Academy of Political Science, Columbia University, 1968).

<sup>7</sup> Art, “The Four Functions of Force,” 133.

highly doubtful, both militarily and politically, that Japan would initiate a nuclear or non-nuclear attack on an opponent. Nuclear weapons with a smaller yield have been considered as battlefield assets, particularly in supporting conventional warfare or in compensating for conventional inferiority.<sup>8</sup> In the case of China today, the tactical/theater nuclear forces of the People's Liberation Army (PLA) can be deployed or employed to reinforce conventional forces where China has a shortage of personnel strength, firepower, or advanced weapons. By contrast, because the United States and its allies have traditionally enjoyed conventional superiority in the Pacific theater, with the U.S. Navy supported by allied navies such as Japan's Maritime Self-Defense Force (JMSDF), they have not had to rely on tactical nuclear weapons. In short, states with conventional superiority do not need to rely on the use of tactical nuclear weapons. In addition, as information and communication technology advances, smart conventional weapons can be used for pinpoint attacks. As a result, there is now less need to depend on the larger yield of nuclear weapons to destroy key targets in order to compensate for the inaccuracy of conventional weapons.

*Compellent use of nuclear weapons.* The compellent use of force is "the deployment of military power so as to be able either to stop an adversary from doing something that he has already undertaken or to get him to do something that he has not yet undertaken."<sup>9</sup> The nuclear attacks against Nagasaki and Hiroshima were demonstrations of this, as the United States was able to compel Japan to surrender. Although the compellent use of nuclear weapons is hard to conceive of today, conventional smart weapons may be used in some cases in order to convey a strong message to potential opponents, such as leaders of rogue states.

*Use of nuclear weapons for swaggering.* According to Art, the use of force for swaggering is "the most egoistic":

It aims to enhance the national pride of a people or to satisfy the personal ambitions of its ruler. A state or statesman swaggers in order to look and feel more powerful and important, to be taken seriously by others in the councils of international decision making, and to enhance the nation's image in the eyes of others. If its image is enhanced, the nation's defense, deterrent, and compellent capabilities may also be enhanced.<sup>10</sup>

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<sup>8</sup> Such arguments are found in the debates on NATO's tactical nuclear weapons. For example, see NATO, *NATO Handbook* (Brussels: NATO Information Service, 1975), 17.

<sup>9</sup> Art, "The Four Functions of Force," 134.

<sup>10</sup> *Ibid.*, 137.

Initially, one of the objectives of Chinese nuclear forces was to “demonstrate China’s international importance and reinforce Chinese national pride.”<sup>11</sup> France and Britain may have had similar motivations when they first developed their nuclear weapons. In Japan’s case, however, there is no need to go nuclear in order to play a leading role in the international community and to gain greater respect. Japan has already achieved international prestige and influence and does not need to enhance its standing by becoming a nuclear weapons state.

### *A Strategy to Cope with the Stability-Instability Paradox*

The preceding analysis shows that Japan is unlikely to gain much by acquiring nuclear weapons in terms of the deterrent, defensive, compellent, and swaggering use of such weapons. This section will discuss security problems caused by situations in which conflicts at lower levels are hard to prevent while mutual deterrence at higher levels, including the nuclear level, works well.

*The stability-instability paradox in the East China Sea.* Japan’s latest National Security Strategy, released in December 2013, states that there has been a shift in the global power balance: while today’s security environment provides “opportunities for security cooperation, it has also given rise to regional issues and tensions.” The NSS also states that “the Asia-Pacific region has become more prone to the so-called gray-zone situations; that is, situations that are neither pure peacetime nor contingencies over territorial sovereignty and interest.” It stresses that “these gray-zone situations could further develop into grave situations.”<sup>12</sup>

The concern over gray-zone situations expressed in the NSS is to some extent similar to worries caused by the stability-instability paradox. Specifically, if the United States and China maintain a form of strategic stability with their nuclear forces, the probability of lower-intensity confrontations between the two countries may increase, particularly in the East China Sea. For Japan, a nation that is not suited to go nuclear, this situation has a positive aspect as well as a negative one. The bad news is that nuclear deterrence would not extend to lower levels of confrontation. That is, the U.S. nuclear umbrella may have little effect on

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<sup>11</sup> Robert G. Sutter, “Chinese Nuclear Weapons and Arms Control Policies: Implications and Options for the United States,” Congressional Research Service, CRS Report for Congress, no. 94-422 S, March 25, 1994, 5–6.

<sup>12</sup> Government of Japan, *National Security Strategy*.

detering provocations by North Korea and China, as was demonstrated in cases such as the shelling of Yeonpyeong Island by North Korea or the harassment of the USNS *Impeccable* by Chinese paramilitary forces. The good news is that situations may arise where the possibility of nuclear escalation will not become a major concern, even though tension between the law-enforcement organizations of China and Japan may escalate into a military confrontation involving the naval or air forces of the two countries. In other words, while deterrence at the nuclear level will continue to work well, nuclear deterrence is unlikely to deter confrontation at a conventional military or paramilitary level.

*A crisis management mechanism in the East China Sea.* A more serious challenge is how to prevent tension from escalating from a law-enforcement level to a higher one. On the one hand, U.S. extended deterrence may have the effect of preventing Sino-Japanese military tension from ever escalating to a nuclear level. On the other hand, there is always the risk that a low-level skirmish between these two militaries in the East China Sea could have the grave consequence of two of the world largest economies—each with huge influence over international politics—plunging into a negative-sum game.

Chinese maritime law-enforcement organizations have been extremely active in recent years in the areas close to the Senkaku Islands (known as the Diaoyu Islands in China), and this activity has increased markedly since Japan's purchase of the islands in September 2012. The Japan Coast Guard is thus on high alert and encounters its Chinese counterpart almost every day. More generally, encounters between the PLA Navy and the JMSDF, as well as the U.S. Navy, have become more frequent throughout the East China Sea and western Pacific. This is simply because Chinese naval activities have expanded geographically and intensified with the rapid development of the PLA Navy in recent years. Meanwhile, the air components of the Chinese military and law enforcement have also become increasingly active as they too have rapidly modernized. Japan's Ministry of Defense announced that the Japan Air Self-Defense Force conducted over 567 missions to secure territorial air space in 2012.<sup>13</sup> This was the highest number since the Cold War, and over half of the missions were against Chinese aircraft. In the future, Chinese and Japanese military aircraft are likely to encounter each other more frequently across a wider geographic area. In light of these observations, it is urgent that the two countries further accelerate

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<sup>13</sup> Joint Staff Office of the Japan Ministry of Defense, *Heisei 24 Nendo no Kinkyu Hasshin Jisshi Jokyo ni tuite* [On JASDF Scramble Missions in JFY 2012] (Tokyo, April 17, 2013) ≈ [http://www.mod.go.jp/js/Press/press2013/press\\_pdf/p20130417\\_02.pdf](http://www.mod.go.jp/js/Press/press2013/press_pdf/p20130417_02.pdf).

cooperation on confidence-building measures to avoid serious incidents in the wider maritime and air spaces around the East China Sea. This issue has become increasingly important since China's declaration that its air defense identification zone overlaps with those of Japan and Korea. Because it is critical that the escalation of tension between China and Japan be controlled and halted at the lowest possible level, Japan should take every measure to quickly manage confrontations before they intensify.

### *Conclusion*

Japan is increasingly facing serious security challenges that range from worldwide proliferation of WMD through North Korea's nuclear and long-range missile programs and possible instability on the Korean Peninsula to rising tension with China in the East China Sea. Different measures may be required to confront the various challenges. For example, as long as North Korea's nuclear capability remains limited to a small number of weapons, measures such as ballistic missile defense will be necessary and could be effective in avoiding or at least limiting damages. Traditional deterrence based on nuclear and conventional offensive capabilities, however, does not seem to be perfectly effective in controlling North Korea's leadership. In order to preserve stability on the Korean Peninsula, international efforts to shape North Korea's future along with the conventional deterrence of the U.S.–South Korea alliance will be key. Meanwhile, China's growing arsenal of strategic nuclear weapons should be dealt with through both arms control efforts between China and other nuclear weapons states, such as the United States, and traditional approaches to preserve strategic stability at the nuclear level. To maintain strategic stability, the international community should work together to prevent the current tensions in the East and South China Seas from escalating by confining them to the law-enforcement arena at best or, if that is not possible, to the lowest possible level of confrontation between military organizations short of an actual exchange of fire. ◆

## The North Korean Nuclear Problem: Twenty Years of Crisis

*Kang Choi*

The North Korean nuclear problem has gradually deteriorated in the past two decades and is becoming increasingly serious.<sup>1</sup> Over the course of this worsening crisis, the Democratic People's Republic of Korea (DPRK) has staged three nuclear tests and continues to develop its diverse medium- and long-range missile capabilities. North Korea now claims to be a nuclear weapons state and has formally announced its *byungjin* policy, which aims for the simultaneous pursuit of nuclear weapons and economic development.<sup>2</sup> Pyongyang is clearly determined to develop advanced nuclear capabilities and time is running short for the international community to respond. Despite this, diplomatic initiatives aimed at denuclearizing North Korea have thus far been ineffective. Policymakers have “bought the same horse” three times by attempting, and ultimately failing, to resolve the problem through the Geneva Agreed Framework (October 1994), the September 19th agreement (September 2005), and the “leap day” agreement (February 2012). Likewise, the six-party talks aimed at peaceful denuclearization of North Korea—involving Russia, China, the DPRK, the Republic of Korea (ROK), Japan, and the United States—have in essence stalled. Considering the rate at which North Korea's nuclear program is advancing, it is urgent that the international community adopt a more effective approach soon.

This essay explores why efforts to resolve the North Korean nuclear crisis have been unsuccessful and attempts to outline a more effective approach. The first section examines Pyongyang's inconsistent justifications for the program, as well as its perspectives and motivations regarding denuclearization. Next, the essay assesses the obstacles hindering the international community's efforts toward the denuclearization of North

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<sup>1</sup> For a timeline showing key developments, see “Timeline on North Korea's Nuclear Program,” *New York Times*, November 20, 2014 ~ [http://www.nytimes.com/interactive/2014/11/20/world/asia/northkorea-timeline.html/#time238\\_7122](http://www.nytimes.com/interactive/2014/11/20/world/asia/northkorea-timeline.html/#time238_7122).

<sup>2</sup> For a detailed analysis on North Korea's *byungjin* policy, also known as the parallel development policy, see Cheon Seong-Whun, “The Kim Jong-un Regime's “Byungjin” (Parallel Development) Policy of Economy and Nuclear Weapons and the ‘April 1st Nuclearization Law,’” Korean Institute for National Unification Online Series, no. CO 13-11, April 23, 2013 ~ [http://www.kinu.or.kr/upload/neoboard/DATA01/co13-11\(E\).pdf](http://www.kinu.or.kr/upload/neoboard/DATA01/co13-11(E).pdf).

Korea. Last, this essay argues that the nuclear problem is rooted in the nature of the North Korean regime and considers strategies necessary for resolving the crisis. The essay concludes by recommending a more enduring, holistic, and comprehensive approach focused on strengthening deterrence capabilities and gradually altering North Korea's current trajectory through increased engagement.

### *North Korea's Claims for Nuclearization and Understanding of Denuclearization*

North Korea's actions over time and inconsistent justifications for its nuclear program indicate an unwillingness to denuclearize. Commencing in the late 1950s, North Korea's nuclear program was ostensibly for research purposes and energy generation. Thus, the DPRK asked for compensation for terminating its program in the 1990s, and a coalition of countries agreed to the provision of light-water reactors and heavy-fuel oil under the 1994 Agreed Framework.<sup>3</sup> When North Korea's uranium enrichment program was discovered in 2002, Pyongyang denied the program's existence. However, it later acknowledged the continuation of the program and withdrew from the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 2003 to pursue its nuclear ambitions (the first and only signatory country to the NPT to do so). At the same time, North Korea has been developing its missile capabilities. Since the summer of 1998, outside observers have witnessed the country's development of medium- and long-range missiles such as the Musudan, Taepodong-1, and Taepodong-2 missiles.<sup>4</sup> As North Korea's nuclear weapons capabilities

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<sup>3</sup> According to some accounts, when the director-general of the International Atomic Energy Agency (IAEA), Hans Blix, visited North Korea in May 1994, DPRK officials "asked for help in acquiring new light-water reactors and supplying them with nuclear fuel in return for abandoning reprocessing." For a more detailed discussion on the negotiation process leading up to the 1994 Agreed Framework, see Leon V. Sigal, "The North Korean Nuclear Crisis: Understanding the Failure of the 'Crime-and-Punishment' Strategy," *Arms Control Today*, May 1997.

<sup>4</sup> In February 2014 the U.S. Department of Defense's annual report on North Korea's military and security development mentioned that the Hwasong-13 missile, recently displayed during a military parade, would be capable of reaching the continental United States if it were successfully developed. It also assessed that the Taepodong-2 missile launch test in December 2013 was a success. In July 2014, North Korea fired short-range ballistic missiles using transporter erector launchers into waters off its east coast from different locations in Hwanghae and Pyongan Provinces. For details on these developments, see Office of the Secretary of Defense, *Military and Security Developments Involving the Democratic People's Republic of Korea 2013* (Washington, D.C., February 4, 2014); "N. Korea Fires 4 Short-Range Projectiles," *Yonhap News*, July 30, 2014; and "North Korea Fires Short-Range Missile into Sea," *Wall Street Journal*, July 26, 2014. The Nuclear Threat Initiative website also offers an up-to-date summary of North Korea's missile development. See "Country Profiles: North Korea: Missile," Nuclear Threat Initiatives website ~ <http://www.nti.org/country-profiles/north-korea/delivery-systems/>.

have evolved, Pyongyang has increasingly argued that its nuclear program is intended to be a deterrent against a potential preemptive attack by the United States.

The key to understanding North Korea's changing stance on its nuclear program is comprehending how Pyongyang views the issue of denuclearization: when North Korea speaks of denuclearization, it means for the entire Korean Peninsula. In essence, its actions to this end would be conditional upon the United States no longer providing a nuclear umbrella over South Korea. Beyond this, North Korea has demanded a U.S. guarantee of its regime security by the cessation of combined military exercises between the United States and South Korea, the withdrawal of the United States Forces Korea (USFK), and the termination of the alliance between the United States and the Republic of Korea (ROK).<sup>5</sup> The North Korean leadership has argued that as long as the United States pursues a hostile and threatening policy toward the DPRK, North Korea must develop nuclear weapons capabilities for defensive purposes. Therefore, North Korea demands a peace treaty with the United States before any denuclearization deal could be in sight. In sum, North Korea's stance has evolved to position of a peace regime (consisting of a peace treaty or nonaggression treaty) first, then denuclearization.

Yet North Korea's recent declaration of the byungjin policy indicates that the government has little genuine interest in taking steps towards denuclearization. First, DPRK authorities have praised the nuclear program as one of the greatest achievements of Kim Il-sung and Kim Jong-il. Kim Jong-un, gaining his legitimacy from his family's legacy, cannot do away with these accomplishments without undermining his position as a member

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<sup>5</sup> For instance, in his speech to the UN General Assembly last year, Ambassador Sin Son-ho, North Korea's permanent representative to the United Nations, stated that to ease tension and establish lasting peace on the Korean Peninsula, the United States should abandon its hostile policy toward the DPRK and replace the armistice with a peace treaty. He argued that the prerequisite for denuclearization is the removal of U.S. nuclear threats against North Korea, meaning that the United States should abandon its nuclear deterrence policy for South Korea. For more information, see "Statement by H.E. Ambassador Sin Son Ho, Permanent Representative of the Democratic People's Republic of Korea to the United Nations" (General Debate of the First Committee of the 68th Session of UNGA, New York, October 2013) ~> [http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/14Oct\\_DPRK.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/14Oct_DPRK.pdf).

of the Kim family and defender of the *juche* (self-reliance) ideology.<sup>6</sup> Second, byungjin is Kim Jong-un's signature policy, in the same way that Kim Jong-il propagated the "military first" policy; thus, there is no possibility that the regime will disavow byungjin as long as Kim Jong-un stays in power. Indeed, under his leadership, North Korea now makes more assertive demands to be recognized as a nuclear weapons state.

Although North Korea proclaimed itself as a nuclear state in its revised 2012 constitution, formal international recognition would allow it to shift the focus of talks from denuclearization to nuclear arms control. Recognition and acceptance of North Korea as a nuclear power state by the international community would also benefit Kim by serving as a useful propaganda tool that could help him consolidate support among the more hardline factions in the regime.

### *Challenges: International Cooperation and the North Korean Regime*

The six-party talks have been undermined by their lack of coordination. There are three general reasons for this: (1) differences over approach, (2) different priorities among the various regional powers, and (3) the tendency to subordinate the North Korea problem to the U.S.-China relationship.

All the concerned parties agree that the North Korean nuclear program needs to be addressed peacefully and through dialogue. Nevertheless, the current approach is ineffective and the momentum for dialogue is practically nonexistent. The United States and other regional powers are currently adopting a position of strategic patience, waiting for North Korea to take concrete action toward denuclearization. The concerned parties cannot agree on whether to implement sanctions or adopt an approach of more flexible engagement. More generally, they cannot agree on whether peace talks should be a condition for denuclearization or the desired outcome of denuclearization. For example, China, as well as to

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<sup>6</sup> The *Rodong Sinmun* published an article in December 2011 that described North Korea's nuclear weapons program as one of Kim Jong-il's three revolutionary legacies. In a separate column by the same party organ in July 2014, Kim Il-sung, among many things, was praised for preparing the ground for the development of the DPRK army and the glory days of its songun revolution, which includes the nuclear program. For the original columns in Korean, see "Gim Jeong-il dongjiui hyeogmyeong-yusan" [Kim Jong-il's Revolutionary Heritage], *Rodong Sinmun*, December 28, 2011 ~ <http://www.kcna.co.jp/calendar/2011/12/12-28/2011-1228-009.html>; and "Widaehan Gim Il-seong daewonsunim-ui jeonseung-eobjeog-eul husonmandae bichnaeyeonagaja" [Let's Glorify the Exploits Performed by the Great Grand Marshal Kim Il-sung for the Victory in War for Ages], *Rodong Sinmun*, July 27, 2014 ~ <http://www.uriminzokkiri.com/index.php?ptype=gisa2&no=91066>.

a certain degree Russia, has always emphasized flexibility, engagement, and a peace treaty as a starting point for denuclearization.<sup>7</sup> On the other hand, the United States, South Korea, and Japan have emphasized denuclearization as a precondition for establishing peace on the Korean Peninsula.<sup>8</sup> These different preferences for how to approach the nuclear problem make it much more difficult to enforce any punitive measures against the North Korean regime.

This disagreement over approaches is due to differences in priorities among the key regional powers. The United States' primary preoccupation is preventing nuclear proliferation. China, which borders North Korea, is primarily focused on the stability of the DPRK regime. President Xi's state visit to Seoul in July 2014, for example, did not bring about any change in China's policy of seeking denuclearization of the peninsula rather than denuclearization of North Korea.<sup>9</sup> South Korea and Japan, on the other hand, prioritize the goal of denuclearization of North Korea to lessen the threat to their national security. Thus, whereas Japan and South Korea are highly concerned by the threat of a nuclear-armed North Korea, China will likely oppose or undermine any actions that could weaken the regime.

<sup>7</sup> At the 68th session of the UN General Assembly, Chinese foreign minister Wang Yi stated that "the right way to solve the nuclear issue on the [Korean] Peninsula" is to have negotiations between the related parties through dialogue. President Xi Jinping stressed the same argument when he met President Barack Obama at the 2014 Nuclear Security Summit. President Xi went on to urge the relevant parties to implement the September 19 Joint Statement signed in 2005, which affirmed that North Korea should abandon "all nuclear weapons and existing nuclear programs" and return to NPT and IAEA safeguards, while the United States and South Korea should accommodate North Korea's security concerns in return. For more details, see "China, U.S. Reaffirm Commitment to Promote New Type of Major-Country Ties," Xinhua, March 25, 2014 ~ <http://english.peopledaily.com.cn/90883/8577084.html>; and Wang Yi, "China at a New Starting Point" (statement at the General Debate of the 68th Session of the United Nations General Assembly, New York, September 27, 2013) ~ [http://www.fmprc.gov.cn/mfa\\_eng/wjb\\_663304/wjbz\\_663308/2461\\_663310/t1082330.shtml](http://www.fmprc.gov.cn/mfa_eng/wjb_663304/wjbz_663308/2461_663310/t1082330.shtml).

<sup>8</sup> After their trilateral meeting in Washington, D.C., in December 2010, South Korean foreign minister Kim Sung-hwan, U.S. secretary of state Hillary Clinton, and Japanese foreign minister Seiji Maehara reaffirmed that North Korea must "comply with its international obligations and take concrete steps to implement its denuclearization commitments under the September 2005 Joint Statement" before the six-party talks and other efforts to promote peace and stability on the peninsula would resume. For press conference remarks, see Hillary Rodham Clinton, "Remarks with Japanese Foreign Minister Seiji Maehara and South Korean Foreign Minister Kim Sung-hwan," U.S. Department of State, December 6, 2010 ~ <http://www.state.gov/secretary/20092013clinton/rm/2010/12/152443.htm>.

<sup>9</sup> The joint statement said that South Korea and China "reaffirm their firm opposition to the development of nuclear weapons on the Korean Peninsula." It is understood that the phrase was chosen because China does not want to directly point its finger at North Korea. Later on, South Korean president Park Geun-hye emphasized that South Korea and China have agreed to achieve "denuclearization of North Korea." For media coverage on the ROK-China summit meeting, see Jane Perlez, "China and South Korea Affirm Antinuclear Goals," *New York Times*, July 3, 2014 ~ [http://www.nytimes.com/2014/07/04/world/asia/presidents-of-china-and-south-korea-reaffirm-push-for-north-korean-denuclearization.html?\\_r=0](http://www.nytimes.com/2014/07/04/world/asia/presidents-of-china-and-south-korea-reaffirm-push-for-north-korean-denuclearization.html?_r=0). For a summary of President Xi's state visit to Seoul, see Wi Tack-whan and Yoon Sojung, "Korea, China Reaffirm 'Good Neighbor Relations,'" Korea.net, July 4, 2014 ~ <http://www.korea.net/NewsFocus/Policies/view?articleId=120405>.

Exacerbating this problem is the growing strategic distrust in the U.S.-China relationship, which is limiting coordination beyond a general agreement that both sides do not wish to see a nuclear-armed North Korea. The United States is emphasizing the importance of China's compliance with sanctions against the Kim regime. China, on the other hand, is beginning to see the U.S. strategy toward North Korea as a broader attempt to contain China. Each of these differences in priorities, perceptions, and approaches has rendered the current sanctions regime ineffective in making progress toward North Korean denuclearization.

While weakened international cooperation presents significant challenges, there is also a more fundamental element of the problem—the nature of the North Korean regime. After decades of isolation, disastrous mismanagement of the economy, and gross human rights abuses, nuclear weapons are a valuable tool for ensuring the regime's survivability. Domestically, the nuclear program can be trumpeted as an enormous domestic achievement. Externally, nuclear weapons provide a deterrent against any outside power that may seek to overthrow the regime. Therefore, as long as North Korea maintains authoritarian rule under the Kim family, North Korea will have a vital interest in continuing its nuclear weapons program.

Sudden regime change, however, is not a viable policy option for resolving the North Korean nuclear problem. The instability that might result from rapid regime change could be more deleterious for regional stability than the current status quo, and the regime that replaces the Kim regime could be even more radical, unpredictable, and hostile toward outside powers. Thus, gradual regime transformation must be pursued. This cannot occur in a vacuum but must be complemented by increased deterrence from all the concerned parties.

### *Dealing with the North Korea's Nuclear Challenge: Principles and Recommended Approaches*

Time is running short for resolving the North Korean nuclear problem, given that the completion of a uranium program will heighten the possibility of proliferation. Furthermore, North Korea will likely enhance both its nuclear and delivery capabilities. If North Korea obtains the ability to target the U.S. mainland, it would challenge and potentially invalidate the underlying assumption that the United States would be able to retaliate

as well as defend its Asian allies.<sup>10</sup> These problems are exacerbated by the fundamentally unstable and unpredictable nature of the Kim Jong-un regime. As the old guard is replaced by a younger generation, the type of relationship and structure between the Korean People's Army and the Korean Workers' Party is increasingly unclear.

To effectively address the North Korean nuclear challenge, policymakers need to recognize that resolving the problem will require a long-term outlook. As such, any strategy will require a comprehensive approach that also addresses regime transformation. Similarly, countries interested in resolving the North Korean problem must agree on objectives and establish a common approach. This requires that the other five countries in the six-party talks must reach a clear consensus on the objectives of negotiations and on the priorities of denuclearization and the establishment of a permanent peace regime through the unification of the Korean Peninsula. Once these fundamental objectives are shared, the states involved can adopt a comprehensive roadmap and plan of action.

The United States and the regional countries should also adopt an approach of comprehensive integrated denial that aims to block North Korea's pursuit of its byungjin policy by utilizing various tools in an integrated manner. To be effective, however, this policy must be consistent, durable, and proactive rather than reactive. This author recommends four general strategies: (1) strengthening the current extended nuclear deterrence posture to deny North Korea the utility of nuclear weapons, (2) adopting a smarter sanctions strategy to make North Korea pay a high price for possessing nuclear weapons, (3) adopting a conditional and targeted strategy of engagement (especially in terms of humanitarian measures) to bring about changes in North Korean society, and (4) maintaining a strong coalition among concerned parties to ensure the effectiveness of these strategies by denying North Korea any chance of exploiting differences over its nuclear ambitions.

First, the United States must strengthen its extended nuclear deterrence posture. This requires that policymakers tailor deterrence with full-spectrum dominance and escalation controllability. This might include

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<sup>10</sup> During his speech to a military rally in Pyongyang on July 27, 2014, Hwang Pyong-so, director of the North Korean military's General Political Bureau, threatened to strike targets on the U.S. mainland with nuclear warheads if the "U.S. imperialists" threaten North Korea's "sovereignty and survival." Although it is not the first time such rhetoric was made in public by a North Korean official, the level of threats recently made by North Korea is rapidly rising. See "North Korea Threatens Nuclear Strike on White House," Agence France-Presse, July 28, 2014, available from <http://www.defensenews.com/article/20140728/DEFREG03/307280014/North-Korea-Threatens-Nuclear-Strike-White-House>.

upgraded and integrated missile defense systems and enhanced strike capabilities. Such an approach would leave all options on the table, thereby allowing for considerable strategic ambiguity and, as a result, deterrence, dissuasion, and defense. By adopting a more robust deterrence posture vis-à-vis North Korea, the United States could convince North Korea that nuclear weapons have no political and military utility.

Second, a smart sanctions strategy must be developed to complement deterrence. This strategy would require more targeted sanctions, implemented in cooperation with other major parties, especially China. In this respect, there at least exists the potential for greater coordination between Japan, South Korea, and the United States. Introduction of smart and targeted sanctions will make life for North Korean elites more difficult, causing nuclear weapons to ultimately become a liability rather than an asset. In other words, the international community must make North Korea pay an unbearable cost for possessing a nuclear option.

Third, any engagement with the North Korean regime must be conditional. The door for dialogue must be kept open, but dialogue should not occur just for its own sake. Furthermore, it must be pursued through multiple channels, including reducing tension through military-to-military dialogues. Some forms of assistance can remain unconditional, such as the provision of humanitarian assistance. This soft and indirect approach would complement military-to-military exchanges. When focusing on exchange and cooperation projects between North and South Korea, both parties must focus on small, not big, programs, which are more likely to be mutually beneficial to both countries. Parallel to this, both sides should seek to implement education and training programs in technical areas. Other multilateral forums should also be utilized when engaging North Korea. Such engagement on humanitarian issues can gradually bring about changes in North Korea.

Last, as described above, any approach toward North Korea requires enduring cooperation among the coalition of concerned parties on the desired resolution of the North Korean nuclear problem. This necessitates that the coalition agree on the desirable end state for the Korean Peninsula and what the implications would be for Northeast Asia. Adopting a common goal would help the coalition identify tangible areas for improving cooperation.

*Conclusion*

North Korea's policies and rhetoric indicate that it has no interest in giving up its nuclear weapons. Additionally, the response from the concerned parties toward the North Korean nuclear program has been undermined because of differences over approach, varying priorities among regional powers, and the tendency to view the North Korea problem through the lens of the U.S.-China relationship. Therefore, the nuclear problem will not likely be resolved in a short period of time. Any solution will require addressing the North Korean problem as a whole—keeping in mind that the gradual transformation of the North Korean regime may be the only enduring solution to the nuclear problem. The current denial strategy must be pursued more actively by the parties involved, requiring a well-calculated mix of carrots and sticks. The starting point for this strategy is not only to develop robust and reliable deterrence. It is also essential to forge greater cooperation within the coalition of concerned parties. ◆

## The India-Pakistan Nuclear Dyad and Regional Nuclear Dynamics

*P.K. Singh*

Nuclear weapons in various stages—in established armories, latent capacity, or merely embryonic potential—are alive, well, and thriving in Asia. Ashley Tellis has very aptly written that “given the contested geopolitics of Asia, which is defined by several enduring rivalries, many unresolved territorial disputes, significant local power transitions, and now the continent-wide anxieties provoked by the rise of China, it is not surprising that nuclear weapons have retained their critical importance.”<sup>1</sup> To put the South Asian dimension of the nuclear environment in its correct perspective, it is critical to view the disputes, rivalries, and players involved in a historical and regional context. This essay begins with a brief historical overview of the regional dimension of India-Pakistan nuclear dynamics and then looks more specifically at the perspectives and nuclear policies of India and Pakistan, as well as on China’s nuclear policy vis-à-vis India. Finally, the essay concludes by asserting that the India-Pakistan nuclear dyad must be understood within the context of broader nuclear dynamics in the Asia-Pacific region.

### *The Regional Dimension of India-Pakistan Nuclear Dynamics*

Before 1947 the Indian subcontinent was surrounded by the buffer states of Afghanistan, Tibet, and Burma, and the external players in the region were Britain and Russia. Soon after independence, Pakistan fought a war with India and occupied a part of Jammu and Kashmir. Pakistan later joined the Southeast Asia Treaty Organization (SEATO) and the Central Treaty Organization (CENTO), bringing the United States and its alliances into the subcontinent in an effort to resist the influence of the Soviet Union. Tibet was taken over by China in the 1950s, introducing China as an important actor in the South Asian geopolitical and strategic environment.

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**NOTE** ~ The views expressed are the author’s own and do not necessarily reflect the views of the government of India or the United Service Institution of India.

<sup>1</sup> Ashley J. Tellis, “No Escape: Managing the Enduring Reality of Nuclear Weapons,” in *Strategic Asia 2013–14: Asia in the Second Nuclear Age*, ed. Ashley J. Tellis, Abraham M. Denmark, and Travis Tanner (Seattle: National Bureau of Asian Research, 2013), 14.

In the mid to late 1950s, China also occupied Aksai Chin, a part of Jammu and Kashmir, which in 1962 led to the Sino-Indian War. Two additional wars between India and Pakistan in 1965 and 1971 ultimately involved both the United States and Soviet Union. Then, in the late 1970s and 1980s, the Soviet invasion of Afghanistan met with an insurgency supported by the United States and China, among others.

Consequently, while the Cold War was raging, South Asia experienced four major wars. This count excludes the wars in Afghanistan; the breakup of Pakistan and creation of Bangladesh; the persistent involvement of the United States, the Soviet Union, and China on the subcontinent; and the nuclearization of China and its entry into the United Nations and the UN Security Council. Was all this due to the creation of the India-Pakistan dyad and the India-China dyad, or was it instead the product of the “great game” between the United States, Soviet Union, China, India, and Pakistan? Can we today forget this recent history and simply look at the subcontinent’s dynamics through the lens of the Cold War binary? The Cold War superpowers possessed a deep-rooted ideological rivalry, but they had no disputed territory between them and no enduring history of armed conflict against each other. Can Cold War binary dynamics therefore apply to the India-Pakistan-China nuclear trio, which do have territorial disputes and have fought wars? For the reasons stated above, it would be a misplaced logic to apply the Cold War binary dynamics to the India-Pakistan-China triad.

### *India*

India’s tryst with the atomic bomb is almost as old as the bomb itself. In 1944, Homi Bhabha submitted a report on nuclear energy, and a year later the Tata Institute of Fundamental Research was established. Early Indian leaders after independence understood the dual use of atomic energy. They established the Atomic Energy Act in April 1948 and later created the Bhabha Atomic Research Centre in 1954. In 1956, India’s Apsara was the first nuclear research reactor in Asia to be operationalized. At that stage, India could have opted to build its nuclear weapons program, but its leaders chose to profess nuclear disarmament, little realizing that the nuclear genie was already out of the bottle. The 1962 Sino-Indian War, followed by the Chinese nuclear test of 1964, worried both India and the United States. In 1964, U.S. leaders considered “the possibilities of providing nuclear weapons under U.S. custody” to friendly

Asian countries, including India, and also considered helping India with a peaceful nuclear explosion using a U.S. nuclear device.<sup>2</sup> Neither of these plans came to fruition. Ironically, the United States, having recently re-engaged with China, placed sanctions on India just ten years later, in 1974, when India conducted its first nuclear explosion.

Tellis has rightly described India as an emerging nuclear power with low dependence on nuclear weapons. He has further argued that India views its nuclear arsenal more as a way to avoid nuclear blackmail than as an instrument of active defense.<sup>3</sup> India's policy of maintaining a credible minimum nuclear deterrent is not country-specific but takes into account the evolving security environment, both regionally and globally. Therefore, the question of spelling out a minimum in precise numbers of weapons does not arise. India's nuclear weapons are for deterring a WMD attack on India or its troops, and there have never been discussions of substituting nuclear weapons for conventional forces. For a country that professes a "no first use" policy, however, survivability and credibility are essential. Maintaining a secure second-strike capability is thus crucial to stable deterrence. India's nuclear triad of nuclear-capable aircraft, mobile land-based missiles, and sea-based assets, as well as its pursuit of ballistic missile defense and multiple independently targetable reentry vehicle (MIRV) capabilities, needs to be seen in this perspective. India, like all other major nuclear weapons states, including the United States and China, will continuously upgrade and modernize its nuclear deterrent so as to be credible.

The evolution of India's nuclear posture takes into account both the regional and global nuclear dynamics. It has been influenced not just by Cold War rivalries but also by the interactions of other nuclear weapons states, specifically China and Pakistan, which constitute India's primary security concerns. The tensions between India and China are mainly due to China's expansionist designs. However, from an Indian perspective, Sino-Indian relations are particularly vexed because of the Chinese "strategic friendship" with Pakistan. Similarly, China will view the growing U.S.-India partnership with caution. Both relationships—between China and Pakistan and the United States and India—have the potential to increase regional mistrust.

In the nuclear domain, each country will decide on how transparent it wants to be, keeping in mind its national interests. Camille Grand has

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<sup>2</sup> George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999), 91.

<sup>3</sup> Tellis, "No Escape," 16–17.

very aptly stated that “during most of the nuclear era, secrecy and deception were perceived as essential strategies to protect technological secrets, to protect key assets from pre-emptive strikes and to facilitate the achievement of strategic superiority.”<sup>4</sup>

### *Pakistan*

Pakistan is a country where democracy has not been able to consolidate and grow, where the army plays an active (some would say dominant) role in domestic politics, religious fanaticism thrives, and the economy is in the doldrums. Add in Pakistan’s propensity for military adventurism, which includes nuclear brinkmanship, and it is a toxic mixture. It is difficult for many countries to understand the dynamics India faces in living with such a neighbor.

Pakistan has two major strategic assets: its nuclear weapons and state-sponsored terrorists. Both are controlled by the army, and more specifically by the Directorate for Inter-Services Intelligence (ISI). Although Pakistan’s nuclear weapons were initially described as a counter to India’s nuclear arsenal, lately—to justify its tactical nuclear weapons—the government also describes them as a counter to India’s conventional superiority. Christopher Clary has stated that “Pakistan remains one of the most likely sources of nuclear risk globally—through theft of Pakistani nuclear material, unauthorized use of weapons during conflict, or intentional use in war.”<sup>5</sup>

Thomas W. Graham makes an interesting point about Pakistan balancing India’s superior conventional forces with nuclear weapons:

Pakistani writings emphasize the need for nuclear weapons to balance India’s superior conventional forces. While this logic was compelling for the U.S. in a Cold War, it is a hollow concept in terms of justifying how many nuclear weapons Pakistan needs to build and deploy to deter only one country, India.... If Pakistan feels it must target India’s entire military, industrial and research complex, hold India’s major cities at risk, and be prepared to fight using nuclear weapons on the battlefield, it will require at least 300–500 nuclear weapons.<sup>6</sup>

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<sup>4</sup> Camille Grand, “Nuclear Weapon States and the Transparency Dilemma,” in *Transparency in Nuclear Warheads and Materials: The Political and Technical Dimensions*, ed. Nicholas Zarimpas (Stockholm: Stockholm International Peace Research Institute, 2003), 36.

<sup>5</sup> Christopher Clary, “The Future of Pakistan’s Nuclear Weapons Program,” in Tellis, Denmark, and Tanner, *Strategic Asia 2013–14*, 160.

<sup>6</sup> Thomas W. Graham, “Nuclear Weapons Stability or Anarchy in the 21st Century: China, India, and Pakistan,” Nonproliferation Policy Education Center, June 9, 2011 ~ <http://www.npolicy.org/article.php?aid=621&rid=6>.

Pakistan currently talks of using its tactical nuclear weapons to neutralize India's conventional superiority, and many have believed this argument. But the fact is that Pakistan was not deterred by India's conventional superiority in the past and waged wars against its neighbor in 1947, 1965, and 1971, as well as its misadventure in Kargil in 1999. Pakistan also continues to push terrorists across the Line of Control in Jammu and Kashmir and wage a proxy war there. It now appears that Pakistan has taken steps to raise the threshold against any military intervention and is moving away from the strategy of nuclear deterrence to one of nuclear warfighting. This may lead to nuclear brinkmanship and a nuclear crisis.

There are also possible linkages between Pakistan's ISI and terrorist organizations. After then president Pervez Musharraf declared Pakistan's support for the U.S.-led war on terrorism, he forced a number of senior and junior ISI officers to leave their positions because of ties to the Taliban and al Qaeda, and he also placed a smaller number of Pakistani nuclear scientists under house arrest. Many worry about the unknown jihadi supporters that "still exist inside the shadows of Pakistan's military intelligence agencies" and that we still do not know "how close those shadows fall to nuclear weapons storage sites."<sup>7</sup>

Feroz Hassan Khan has written that Pakistan will continue to rely on China, affecting the larger Asian power balance: "While the China factor in South Asian dynamics cannot be dismissed, its inclusion in the regional construct skews regional dynamics and dims the prospect of a secure nuclear future for the region."<sup>8</sup> Yet surprisingly we continue to focus on the India-Pakistan dyad and not the India-Pakistan-China triad. Over the long term, China has supported Pakistan's nuclear and missile programs. Not only did China transfer nuclear weapon designs, but it allegedly also helped Pakistan test a weapon in Lop Nor well before Pakistan's 1998 tests. Similarly, the Ghazhavi and Shaheen-1 missiles are of Chinese origin, and China has also supplied nuclear power plants at Chasma and Karachi. Analysts in the nuclear and strategic fields need to ask what assistance will follow next: MIRV technology or ballistic missile submarines.<sup>9</sup>

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<sup>7</sup> Scott D. Sagan, "Nuclear Dangers in South Asia," American Physical Society, Forum on Physics and Society, April 2004 ~ <http://www.aps.org/units/fps/newsletters/2004/april/article1.html>.

<sup>8</sup> Feroz Hassan Khan, "Pakistan's Nuclear Future," in *South Asia in 2020: Future Strategic Balances and Alliances*, ed. Michael R. Chambers (Carlisle: Strategic Studies Institute, 2002), 170.

<sup>9</sup> Duncan Lennox, ed., "Hatf 3 (Ghaznavi)," *Jane's Strategic Weapon Systems*, no. 48 (2008): 111-12; and S. Chandrashekar, Arvind Kumar, and Rajaram Nagappa, *An Assessment of Pakistan's Ballistic Missile Programme: Technical and Strategic Capability* (Bangalore: National Institute of Advanced Studies, 2006), 14 ~ <http://isssp.in/wp-content/uploads/2013/04/An-Assessment-of-Pakistans-Ballistic-Missile-Programme.pdf>.

Pakistan's history of nuclear proliferation, which was overlooked for decades by the West until AQ Khan's black-market network was exposed, is now too well documented to ignore. Today, Pakistan is known to have an overcapacity of nuclear fissile material production, which it uses for missile production. Will this not tempt it to proliferate through the clandestine export of nuclear-armed missiles to countries and possibly even to nonstate actors? This is a scary but plausible scenario.

### *China*

China considers itself to be increasingly a peer of the United States and knows that relations will be collaborative but also competitive and—if not managed effectively—even adversarial in certain circumstances. Therefore, China's nuclear doctrines, capabilities, and strategies will be primarily focused on deterring the United States. Although India's nuclear posture will not be the primary concern or driver of Chinese nuclear doctrine and capabilities development, the China-India dyad is still significant. India can be targeted from many missile bases in China, as well as by submarine-launched ballistic missiles and air bombers. The only plausible targets for nuclear-capable DF-21 missiles located at China's Delingha and Kunming bases are in India. China's large ballistic and cruise missile forces armed with conventional weapons give it a massive break-out potential in terms of nuclear-capable delivery systems, given that some Chinese missiles can carry both conventional and nuclear warheads.

Yet while China and India have their differences, there are also some similarities between the two states' postures on no first use, separating nuclear warheads from delivery systems, and establishing a minimum credible deterrence. Realizing this common ground, India has offered to talk with China on nuclear confidence-building measures, but China has not yet accepted.

### *Conclusion: The India-Pakistan Dyad and Broader Regional Nuclear Dynamics*

Will the emerging nuclear dynamics between the Asia-Pacific powers contribute to the reordering of the international system? It is unlikely that the India-Pakistan nuclear dyad will drive such developments. However, the intertwined and overlapping security relationships of the United States, Russia, China, India, and Pakistan are likely to do so, particularly as these states adapt their nuclear doctrines in response to changing strategic,

security, and technological challenges. At present there are no indications that India, Pakistan, and China are engaged in a nuclear arms race. Such a race, if one occurs, will not be driven by the weaker or smaller nuclear powers. The India-Pakistan nuclear dyad will be more influenced by broader regional and global factors than the other way around. The interlocking of the China-India-Pakistan, U.S.-China-India, and U.S.-Russia-China triads will have a greater impact on both South Asian and global nuclear dynamics than either the India-Pakistan or even the China-India nuclear dyad. For example, traditional hostility between India and Pakistan is far from being the only driver of the shift in Pakistan's nuclear strategy from minimum deterrence to seeking a second-strike capability. Additionally, the United States and China both have leverage with Pakistan to persuade it to change its destabilizing nuclear strategy. Pakistan is not solely India's problem, and no amount of persuasion or confidence-building measures from India alone will suffice to change Pakistan's posture.

Thus, these nuclear dyads do not exist in a vacuum. As Thomas W. Graham wrote,

There are no technical or institutional controls capable of preventing China, India and Pakistan from developing substantial nuclear forces over the next two decades. Thus, the primary driver will be the direction in which the world moves in terms of the perceived legitimate function of nuclear weapons. If the United States, China and other major powers are able to convince the world that the sole legitimate function of nuclear weapons is to deter the use of nuclear weapons, then it is plausible nuclear forces among China, India and Pakistan could stabilize around 150–200.<sup>10</sup>

Unfortunately, the holding on to over 1,000 nuclear weapons each by the United States and Russia belies this hope that deterrence is sufficient.

Framing the nuclear issues of South Asia as a product of the India-Pakistan dyad is therefore flawed and contestable on two counts. First, this characterization does not take into account the geopolitical realities of the subcontinent in the last six decades, including multiple conflicts and interventions from outside regional actors. Second, this argument is rooted in the bygone Cold War-era binary logic that has been overtaken by nuclear dynamics created by the complex and at times tenuous and unpredictable network of nuclear weapons and nuclear-capable states. Zia Mian and M.V. Ramana, in describing the U.S.-China-India-Pakistan equation, have stated, "It is the dynamics of this four-way interaction, with

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<sup>10</sup> Graham, "Nuclear Weapons Stability or Anarchy in the 21st Century."

its many overlapping contradictions, that will shape the future stability of South Asia, Asia more generally, and the emerging global order.”<sup>11</sup> Keeping the geopolitical and strategic realities of South Asia and the broader region in mind, I would venture to suggest that the dynamics of the five-way interaction between the United States, Russia, China, India, and Pakistan is what will shape the stability of the emerging global order. ◆

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<sup>11</sup> Zia Mian and M.V. Ramana, “Imbricated Regional Rivalries and Global Order: South Asia, China and the United States,” Nonproliferation Policy Education Center, July 2010, 1.

## The Evolving Nuclear Order: Implications for Proliferation, Arms Racing, and Stability

*Aaron L. Friedberg*

The 25 years since the end of the Cold War have seen several notable shifts in the global distribution of nuclear capabilities:

- The Soviet Union (now Russia) and the United States have slashed their arsenals by roughly 75% from 20,000–30,000 warheads to 7,000–8,000.<sup>1</sup>
- France and Britain have also made substantial cuts, reducing their nuclear forces from 500 weapons at their peak to roughly 300 and 200, respectively.
- Of the Cold War “big five” (the United States, Britain, France, Soviet Union, and China), only China has not reduced its stockpile, which is estimated at 250 warheads. Beijing has also made significant investments in modernizing its forces, developing new mobile intercontinental ballistic missiles as well as submarine-launched ballistic missiles.
- Three new countries (India, Pakistan, and North Korea) have joined the list of acknowledged nuclear weapons states, and one (South Africa) has been removed.
- Finally, in recent years a series of aspirants (Iraq, Libya, and Syria) have seen their nuclear ambitions foiled, while one (Iran) continues to press on toward the finish line.

What are the implications of these developments for the conduct of international relations, and, in particular, how are they likely to shape events in eastern Eurasia, a zone of strategic interaction that extends from the Korean Peninsula, down through the South Asian subcontinent, and into the Persian Gulf region? The essays in this roundtable have helped shed light on three aspects of this question: proliferation, arms racing, and stability.

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<sup>1</sup> All figures are from Robert S. Norris and Hans M. Kristensen, “Global Nuclear Inventories, 1945–2010,” *Bulletin of the Atomic Scientists* (July/August 2010): 77–83.

### *Proliferation*

Regarding the further spread of nuclear weapons, the next chapters of the story in the broader Middle East will depend a great deal on what happens in Iran. If Tehran succeeds in developing nuclear weapons, other states may feel compelled to follow suit, including Saudi Arabia and Turkey. If it does not, Israel may remain the region's only nuclear weapons state.

In East Asia, those states most likely to contemplate pursuing nuclear status are also anxious friends and allies of the United States. Japan, South Korea, and (albeit implicitly) Taiwan have until now been content to take shelter under the U.S. nuclear umbrella. But they could come to doubt the reliability of U.S. guarantees in the face of North Korea's new capabilities, China's nuclear modernization programs, or, especially in the case of Japan, both developments taken together.

While this once-taboo topic has been discussed more openly in both Japan and South Korea in recent years, neither country shows any overt signs of moving to acquire its own nuclear forces. Still, as Noboru Yamaguchi explains in his essay, there is nothing in Japan's "peace constitution" that absolutely precludes the possibility, should the nation's leaders deem it necessary for self-defense. Like South Korea and Taiwan, Japan has shown an interest in acquiring rocket and cruise missile technology that could someday serve as the basis for an independent deterrent force. For the moment, however, the potential for further proliferation in East Asia remains latent.

### *Arms Racing*

One of the main features of the Cold War competition between the United States and the Soviet Union was the interaction between their respective armaments efforts, including their offensive and defensive nuclear weapons programs. Although there are a number of competitive dyads emerging in Asia, and while the possibility exists for even more complex arrangements, the degree of interaction among the actors to date remains limited. As Benjamin Schreer describes, China's modernization of its long-range nuclear forces appears to be motivated in large part by a desire to reduce its vulnerability to a possible U.S. conventional precision strike. An increase in the number of weapons deployed, perhaps on multiple warhead delivery systems, could also reflect concern over the possible thickening of the U.S. national missile defenses. For the moment, however, there is no strong evidence to support the view that China aims eventually to

achieve nuclear parity with the United States. Nor are there any indications to suggest that Washington will respond to Beijing's limited buildup with measures designed to retain (or reacquire) a viable damage-limiting option against China.

According to P.K. Singh, India and Pakistan are following distinct paths in developing their nuclear capacities, with the former seeking a secure second-strike force to deter attack on its troops or territory and the latter attempting to acquire weapons that could be used to offset its inferiority in conventional ground and air forces. Singh asserts that the two states are not currently engaged in a nuclear arms race, but he notes the possibility that their programs could become more closely coupled, especially if China continues to provide nuclear assistance to Pakistan while its own forces expand beyond currently projected levels. This development, in particular, would likely have an impact on the United States, and perhaps on Russia as well, setting in motion a genuinely multisided rivalry, with Pakistan and India responding to one another; China interacting with the United States and Russia, as well as India; and Russia and the United States once again engaged in an active nuclear competition.

### *Stability*

Ultimately the most important question that must be asked about recent developments is whether they will increase or decrease the risk of war, including the possibility of nuclear war. As Rajesh Basrur makes clear, there are plausible theoretical arguments that can be made on either side of this question. On the one hand, it is possible that the mutual possession of nuclear weapons will impose extreme caution on states that might otherwise be prone to conflict. On the other hand, nuclear-armed nations may feel emboldened to engage in provocations or conventional aggression, even against other nuclear powers.

The empirical evidence regarding this issue is sparse and subject to varying interpretations. North Korea has behaved aggressively toward the South on several occasions since conducting its first nuclear tests, but it did so often in the past as well. For the most part, as Kang Choi's essay suggests, the North Korean regime seems to regard its small arsenal as the ultimate insurance policy rather than a useful new tool with which to fulfill its grandiose self-proclaimed ambitions.

Pakistan's leaders appear to believe that nuclear weapons reduce the risk of large-scale conventional retaliation and thus provide a backstop for their

continued support of terrorist groups operating against India. But Islamabad has not thrown caution to the winds, and, as Rajesh Basrur suggests, both Pakistan and India may at times be tempted to manipulate the risk of escalation to get the United States to exert pressure on their behalf.

Even when its own forces were smaller and less secure, Chinese strategists appear to have believed that they were sufficient to discourage the United States from ever using nuclear weapons against their country. Beijing's modernization programs may be intended simply to bolster that confidence in the face of growing U.S. precision-strike capabilities. Now that China is developing similar conventional capabilities of its own, however, it has options for the use of force that it previously lacked and that it may be more likely to exercise if it believes it can deter the United States from nuclear escalation. This is a possibility about which U.S. and Japanese strategists have begun to worry and to which they will likely devote more attention in the years ahead.

Is the world approaching "critical mass," a point at which the number and size of nuclear arsenals and the dangers associated with them will grow with explosive speed? The evidence presented here suggests that the answer is mixed. While superpower stockpiles have dwindled, the roster of nuclear weapons states has grown, and further horizontal proliferation is a distinct possibility in both Asia and the Middle East. At least for the moment, the plans and programs of the nuclear powers remain loosely coupled, but this too could change quickly, resulting in a truly multisided arms competition that is more complex and potentially more difficult to control than the Cold War arms race. The acquisition of nuclear weapons (in the case of India, Pakistan, and North Korea) and the development of more secure arsenals (in the case of China) have not resulted in radically increased recklessness. But there are indications that states equipped with such capabilities may assess that they provide a backstop for greater assertiveness. Such beliefs could raise the risk of conventional conflict and bring the world much closer to critical mass than it appears to be at present. ♦