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Asia's Complex Strategic Environment: Nuclear Multipolarity and Other Dangers

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KEYWORDS: ASIA; NUCLEAR WEAPONS; SECURITY; BALANCE OF POWER

EXECUTIVE SUMMARY

This article evaluates the implications of nuclear multipolarity and strategic complexity in Asia.

MAIN ARGUMENT

Ongoing changes in traditional state-to-state nuclear dynamics are reshaping international security in Asia. Today, Asia is a multipolar nuclear environment in which long-range nuclear weapons are joined by other systems with strategic effect, and in which countries hold different views about the role and utility of nuclear weapons. This article discusses the implications of these shifts from the Cold War to the present for several guises of stability, on the one hand, and for competition and conflict, on the other. Though each of these considerations leads to dangerous outcomes in isolation, their combined effect is even more deleterious. The implications of this analysis are deeply pessimistic, both for peace in general and for U.S. national security interests in particular.

POLICY IMPLICATIONS

- Asia is likely to see vigorous competition in the strategic arena, ranging from increased offensive nuclear weapons to the development of advanced conventional offensive munitions and missile defenses. These technologies will likely continue to spread.
- Competition between Asian states is likely to lead to increased reliance on nuclear threats, bluster, and statecraft. This will erode any “nuclear taboo” and will increase the chance of nuclear weapons detonation.
- Arms control is unlikely to substantially mitigate any of these concerns in the current environment.
- Given the pessimistic factors outlined above, increased understanding across states of how each sees the utility of nuclear weapons will be extremely beneficial.
- Missile defenses systems make, on balance, a positive contribution to regional security; nevertheless, their negative implications should be addressed through judicious use of transparency about nontechnical aspects of the systems.
- Expansive national security goals such as regime change should be abandoned, given the potential for catastrophic nuclear escalation.

The Cold War continues to constrain thinking about nuclear issues. In the first 20 years of the Cold War, a dynamic nuclear environment posed great risks of truly catastrophic war. Yet by the end of the 50 years of bipolar rivalry, many argued that nuclear weapons had stabilized Soviet-U.S. relations. Traditional deterrence theory, with its emphasis on calculating rationality, seemed to contribute to Americans' understanding of world events. Certainly the latter years of the rivalry saw the rise of arms control efforts within and beyond the nuclear arena that facilitated the end of the Cold War. Throughout that period, the two primary nuclear powers developed sophisticated national security apparatuses with an increasingly deep understanding of the efficacies and dangers of nuclear weapons. Few of these factors speak to the nuclear environment in Asia today.

It is increasingly clear that the second nuclear age is upon us.¹ Much work on this epochal shift focuses both on the role of asymmetry in nuclear balances and on the role of nonstate actors.² Indeed, some analysts characterize this situation in pejorative terms: an advanced set of nuclear “haves” declaring less developed latecomers to be the primary source of danger in the nuclear order smacks of hypocrisy and Orientalism.³

This article argues that these elements of the second nuclear age, while important, are complemented by three ongoing changes in traditional state-to-state nuclear dynamics that are even more important: the nuclear environment is multipolar, long-range nuclear weapons are joined by other systems with strategic effect, and many countries hold different views about the role and utility of nuclear weapons. These three changes are manifest most clearly in Asia since the Cold War. While each change leads to dangerous outcomes in isolation, their combined effects are even more deleterious. Consideration of these three factors challenges the more positive conclusions that currently dominate analysis of Asian nuclear affairs.⁴ The implications of

¹ Colin S. Gray, *The Second Nuclear Age* (Boulder: Lynne Rienner Publishers, 1999); and Paul Bracken, “The Second Nuclear Age,” *Foreign Affairs* 79, no. 1 (January/February 2000): 146–56.

² For a good summary, see Jeffrey W. Knopf, “The Fourth Wave in Deterrence Research,” *Contemporary Security Policy* 31, no. 1 (April 2010): 1–33.

³ Hugh Gusterson, “The Second Nuclear Age,” in *Anthropology and Science: Epistemologies in Practice*, ed. Jeanette Edwards, Penny Harvey, and Peter Wade (Oxford: Berg, 2007). That said, there has always been a degree of hypocrisy in the nuclear order. In fact, such hypocrisy is foundational to the Nuclear Non-Proliferation Treaty (NPT) regime. See, for example, William Walker, “Nuclear Enlightenment and Counter-Enlightenment,” *International Affairs* 83, no. 3 (May 2007): 431–53.

⁴ The best study is the comprehensive volume edited by Muthiah Alagappa. See Muthiah Alagappa, ed., *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia* (Stanford: Stanford University Press, 2008). For a forceful defense of optimistic conclusions regarding the region, see Muthiah Alagappa, “Reinforcing National Security and Regional Stability: The Implications of Nuclear Weapons and Strategies,” in Alagappa, *The Long Shadow*, 508–44.

this analysis are thus deeply pessimistic, both for peace in general and for U.S. national security interests in particular.

This article proceeds as follows:

- ≈ pp. 54–56 lay out the baseline for a comparison of the present environment in Asia with the Cold War
- ≈ pp. 56–67 characterize the nature of the “three dimensions of complexity” in Asia empirically: nuclear multipolarity, multidimensionality, and the different utilities of nuclear weapons in various countries
- ≈ pp. 67–75 assess the analytic implications of these issues, first in isolation and then the more problematic interactions across the three areas
- ≈ pp. 75–78 draw conclusions and implications

THE DANGEROUS BASELINE OF THE COLD WAR

In contrasting the contemporary dangers in Asia with those of the Cold War, it is important not to understate the grave risks that were confronted in that period. Though these risks were navigated successfully, past performance would have been no guarantee of future outcomes had the Cold War continued, nor if similar situations had characterized other periods and dyads.

Through at least the Cuban Missile Crisis, there was great flux in attitudes toward nuclear weapons. One study of a cross-national set of senior leaders highlights this: “All the statesmen treated in this book displayed ambivalence with regard to nuclear weapons and nuclear war. At one time or another, each spoke or wrote of nuclear weapons as weapons that might actually be used, and yet, at some other time, spoke of nuclear war as impossible or unthinkable.”⁵ Beyond the question of basic utility, the range of roles conceived for weapons, if they were used, varied widely in those early years of experience with the bomb.

In part because of this, and in part because of the intense rivalry between the Soviet Union and the United States, crises in Berlin, Korea, and Cuba all raised the prospect of large-scale nuclear conflict.⁶ The rapid growth of the superpowers’ arsenals through the 1960s increased the scale of devastation

⁵ Ernest May, “Introduction,” in *Cold War Statesmen Confront the Bomb: Nuclear Diplomacy since 1945*, ed. John Lewis Gaddis et al. (New York: Oxford University Press, 1999), 5.

⁶ On early Cold War crises, see Melvyn P. Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford: Stanford University Press, 1992); Matt Jones, *After Hiroshima: The United States, Race and Nuclear Weapons in Asia, 1945–1965* (Cambridge: Cambridge University Press, 2010); and John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (New York: Oxford University Press, 1997). For the mid-Cold War crises, see Richard Ned Lebow and Janice Gross Stein, *We All Lost the Cold War* (Princeton: Princeton University Press, 1993).

that any conflict would wreck as well as engendered its own set of dangers. Simple mistakes might easily have caused catastrophic consequences. Indeed, a cottage industry of research on accidents and mishaps involving weapons and their support systems showed the pervasive nature of such dangers.⁷

Thus, this article does not contrast Asia's present with a Panglossian stable and secure Cold War. The point of this analysis is to note that, as bad as the Cold War was, the fundamental dangers it posed are only the baseline from which today's Asia adds several layers of exacerbating factors.

Nuclear "Optimists" and the Long Peace?

While the Cold War legacy emphasizes the risks of crisis instability, eventually nuclear weapons also brought a degree of clarity to the strategic rivalry in Europe. Because of the dangers of a crisis escalating to the nuclear level, both sides at times exercised more restraint than they might have otherwise.⁸ One multinational study emphasizes this "positive" contribution to the Cold War:

The question...is whether evidence regarding ten key statesmen of the first decade or two of that era seems to match ...the more conventional reasoning captured in the phrase "nuclear revolution"—that dread of nuclear war, not of war *per se*, transformed the calculus that had governed interstate or international relations ever since states and nations came into being...[T]hese Cold War statesmen appeared to think that nuclear weapons were revolutionary in character. They invoked the awful power of these weapons as a reason either for caution on their own part or for expecting caution on the part of others.⁹

Similarly, China's development of a nuclear arsenal in the 1960s was not perceived as entirely negative; rather, "most American analysts saw the acquisition of nuclear status as inducing a great caution in the Chinese leadership."¹⁰

⁷ Scott Douglas Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton: Princeton University Press, 1993). For a recent combing of declassified literature by two retired airmen who specialized in handling nuclear warheads, see Michael H. Maggelet and James C. Oskins, *Broken Arrow: The Declassified History of U.S. Nuclear Weapons Accidents*, vols. I and II (Raleigh: Lulu.com, 2008).

⁸ For the most famous advocacy of this argument, see John Lewis Gaddis, *The Long Peace: Inquiries into the History of the Cold War* (New York: Oxford University Press, 1987).

⁹ May, "Introduction," 3–4.

¹⁰ Jones, *After Hiroshima*, 462. This positive attribute was coupled with other negative aspects, of course: "There was however a widespread belief that Chinese stature would be raised quite dramatically by its entrance into the occidental nuclear club. This might then both increase its attractiveness to revolutionary groups and generate political problems, as China's neighbors came to feel intimidated and even coerced by the new strategic environment."

The central purpose of this article is not to resolve the debate between “nuclear optimists” and “nuclear pessimists.”¹¹ Instead, this article shows that the optimist case is less positive in the contemporary Asian context than it was in the Cold War, while the pessimist case ignores some important elements applicable to Asia today. The optimist-pessimist debate, which is exemplified by the debate between Kenneth Waltz and Scott Sagan, is one in which the two lines of reasoning do not directly contradict each other; rather, the negatives of proliferation must be weighed against the positives. This article points out that both positions understate the dangers now confronting Asia. New changes in the strategic realm undermine the applicability of the so-called optimistic lessons drawn from nuclear affairs in the Cold War.

THREE DIMENSIONS OF COMPLEXITY

Three distinct changes characterize Asia today: the nuclear environment is multipolar, strategic competition is multidimensional, and countries hold diverging views about the utility of nuclear weapons. This section outlines these causes of nuclear complexity through a descriptive discussion of ongoing empirical change. The effects of these changes, both individual and joint, will be discussed later in the article.

Nuclear Multipolarity in Asia

During the Cold War, the two superpowers dominated the nuclear arena. French and British arsenals, whatever their rhetoric might have implied, primarily served to enhance the credibility of U.S. extended nuclear deterrence by lowering the nuclear threshold in any conventional Soviet invasion.¹² China’s arsenal played a different role but was often viewed as a “lesser-included case” (and therefore was encompassed within any strategy to deter the Soviet Union) by the United States prior to normalization in the 1970s and tacit alignment in the 1980s.¹³ Only in the 1980s did China begin

¹¹ That said, key sources on the South Asian rivalry explicitly engage this debate. See Scott Douglas Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*, 2nd ed. (New York: W.W. Norton & Company, 2003); Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca: Cornell University Press, 1989); and Alagappa, *The Long Shadow*.

¹² Good sources still primarily emphasizing the Cold War legacies of these forces can be found in John C. Hopkins and Weixing Hu, *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China* (New Brunswick: Transaction Publishers, 1995).

¹³ On the evolution of this relationship, see James Mann, *About Face: A History of America’s Curious Relationship with China, from Nixon to Clinton* (New York: Alfred A. Knopf, 1998).

to have anything approaching a deliverable force against distant strategic targets, and even then China's nuclear ratio with the Soviet Union was extremely lopsided.

Asia today is clearly not characterized by nuclear bipolarity between a privileged two states and the vastly asymmetric holdings of others. As Muthiah Alagappa notes, "there is no comparable overarching global security dynamic in the present period."¹⁴ **Table 1** highlights the flattening and broadening of the distribution of nuclear capabilities over the past dozen years. A series of strategic arms control agreements has structured reductions in arsenals for Russia and the United States. An economic impetus for the former overlaid a shift in threat perceptions for both that greatly reduced the potential contributions of nuclear weapons to security for the two Cold War adversaries. These trends will continue as the New START Treaty, the recently ratified successor to the Cold War agreements, is phased in over five years. There is also an expressed desire by the United States to draw down nuclear forces beyond those levels, although domestic politics will complicate the process of achieving that goal.¹⁵ Elsewhere in the region, the nascent program in North Korea increasingly looks like a permanent fixture of the Asian security environment. The largest changes, of course, have come in South Asia. Following the 1998 nuclear tests by both India and Pakistan, each of the two states has moved to develop a more advanced civilian energy program that will also provide added potential for arsenal expansion. Finally, China is engaged in a substantial modernization program of its historically backward and modest arsenal. The recent growth in warhead numbers in China is significant. In sum, these changes do not lead to parity among the key players but have attenuated the skewed distribution of past decades.¹⁶

The numbers listed in Table 1, particularly for countries other than the United States, are highly suspect, and all depend critically on different definitions of what makes a warhead "operational." Nevertheless, three conclusions are clear even from these rough estimates.

First, the number of nuclear powers has doubled (if a bit of ambiguity is tolerated about what exactly that means).

¹⁴ Muthiah Alagappa, "Nuclear Weapons and National Security: Far-Reaching Influence and Deterrence Dominance," in Alagappa, *The Long Shadow*, 495.

¹⁵ For discussions of both the future direction and the political challenges beyond New START, see George Perkovich, "The Obama Nuclear Agenda One Year after Prague," Carnegie Endowment for International Peace, Policy Outlook, March 31, 2010; and Joachim Krause and Benjamin Schreier, "Salvaging Global Zero," *RUSI Journal* 155, no. 3 (June/July 2010): 42–46.

¹⁶ For an optimistic view about the future proliferation across the region, focusing on the domestic determinants of security identities, see Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007).

TABLE 1

Nuclear Weapons in Asia

Country	Warheads (1997)	Warheads (2010)	Delivery systems
Russia	10,240	4,600	Missile, bomber, and submarine
United States	8,425	2,468	Missile, bomber, and submarine
China	170 (400?)*	~193	Missile, bomber (?), and submarine (in development)
Pakistan	None?	70–90	Missile and fighter
India	None?	60–80	Missile and fighter
North Korea	None	Several?	Missile (?)

Source: The data for the present number of warheads is drawn from Bulletin of Scientists, “Nuclear Notebooks,” 2009 and 2010. Data for the 1997 arsenal is from the Natural Resources Defense Council (NRDC), “Nuclear Notebook,” 1998.

Note: The table refers to estimates of operational warheads and thus excludes stockpiles. Bombers in the U.S., Chinese, and Russian forces refer to heavy, long-range bombers; fighters in the Pakistani and Indian forces refer to shorter-range tactical strike aircraft. Asterisk indicates that the Chinese figure of 400 for 1998 from the NRDC Nuclear Notebook includes significant tactical warheads and bomber-delivered warheads. More recent estimates have concluded that these estimates are inaccurate; thus, an estimate of 170 might be more appropriate for comparison. That said, the author knows of no source that directly suggests China has reduced its overall arsenal size.

Second, the disparity between the arsenals of the superpowers and those of the rest of the region has narrowed: the ratio between Russian and Chinese nuclear arsenal sizes has dropped from 50:1 to 20:1; the disparity between the U.S. and Chinese arsenals has dropped from 40:1 to 10:1; and China holds a 4:1 advantage over the South Asian countries. Although these ratios remain lopsided, given that nuclear weapons do not create power through a linear assessment of force ratios, this narrowing of ratios is significant. Some political effects are gained from “minimal deterrence” postures—for example, the existence of more small-but-secure nuclear arsenals will increase the number of countries that can rely on them for existential threats. However, for most of the relevant countries—North Korea, Pakistan, and India—the security of their nuclear forces from attack by several potential adversaries is questionable. Furthermore, this flattening of force ratios increases the potential for biased analysis to emerge. When a ratio is characterized by massive disparity, the two sides are likely to share an understanding of its broad

parameters, even if national bias affects analysis at the margins. Less lopsided balances are harder for each side to evaluate without bias. When China had a dozen or two warheads that could reach the United States and faced tens of thousands of U.S. weapons, the only credible use for Beijing's weapons would have been as an ultimate retaliatory response. As the gaps narrow, however, China is likely to find new options for engaging in nuclear swagger.¹⁷

Third, the trend lines suggest a further flattening of arms distribution; it is unlikely for domestic budgetary reasons that either the United States or Russia will avoid further cuts in nuclear weapons. Yet all the other powers in Table 1 are increasing their arsenals. Continued rapid growth in the arsenals of all the nuclear-armed countries is possible; North Korea is likely the only country significantly constrained by quantity of fissile material.¹⁸ Trends have effects over time, of course, but even today, they convey political and perceptual power beyond the existing stockpiles. Concerns in the United States about the potential for China to race to parity emphasize this reality, and related questions from U.S. allies in the region have spawned extensive and unprecedented efforts to bolster extended deterrence with South Korea and Japan.

Additionally, it is important to highlight that Asian states are modernizing weapon delivery systems across the board. Some modernizations will likely stabilize power dyads, but most will not (as discussed in the next section). China has begun to develop a secure second-strike force. The People's Liberation Army (PLA) already has fielded long-range solid fueled missiles that can be launched in minutes rather than hours. These DF-31A systems are also deployed on mobile launchers, further enhancing their immunity from a potential first strike to disarm them by Russia, the United States, or, potentially, India.¹⁹ The PLA Navy is also in the process of deploying new ballistic missile-launching submarines (China's "boomers" are the Type-94 Jin-class boats).²⁰ At some point, these will be equipped with a modern missile, the JL-2, which has long been in development.²¹

¹⁷ There is clearly an element of this in the PLA Second Artillery Force, *Science of Second Artillery Campaigns* (Beijing: PLA Press, 2004).

¹⁸ Jeffrey Lewis argues that a technical ceiling based on fissile material stockpiles does exist for China, although this level is much higher than current estimates of China's arsenal. See Jeffrey G. Lewis, *The Minimum Means of Reprisal: China's Search for Security in the Nuclear Age* (Cambridge: MIT Press, 2006).

¹⁹ Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China: Annual Report to Congress* (Washington, D.C., August 16, 2010).

²⁰ Office of Naval Intelligence, *China's Navy 2007* (Washington, D.C., 2007).

²¹ See the shift in language in the 2010 Pentagon report emphasizing challenges in the development of the JL-2 system. Office of the Secretary of Defense, *Military and Security Developments*.

India and Pakistan are both improving their delivery systems, in the former case against multiple targets. For some time India has possessed various short-range systems in the Prithvi missile family that are capable of hitting Pakistani targets. More recently, New Delhi has successfully tested the longer-range Agni-III, capable of hitting Beijing and Shanghai, three times over the past three years, following an earlier failure in 2006. This missile system is a mobile, solid-fueled system, one that had long been under development. In August 2010, the Indian minister of defense A.K. Antony stated that the “Agni-III with a range of 3000 km is ready for induction” into the Indian military.²² Pakistan’s Shaheen-II, capable of reaching all of India as well as much of the Middle East, completed its first successful test launch in 2004. Its shorter-range predecessor, the Shaheen-I, is undergoing guidance improvements to increase its accuracy and was most recently tested in 2010.²³

North Korea, beginning from the lowest base, has also improved its capabilities. In 1998, 2006, and again in 2009, Pyongyang tested its longest-range system, the Taepodong family (TD-1 in the first test, TD-2 in the subsequent tests), which is assessed to be capable of reaching Alaska. While none of the tests suggested that the system is operational at the moment, North Korean scientists acquired important knowledge about multiple-stage, long-range systems. Furthermore, the 2009 test seemed more promising than the previous attempts. Beyond the long-range programs, there are also developments primarily relevant to regional actors: in July 2006 and again at several points in the summer of 2009, Pyongyang launched multiple missiles from short-range systems that could be used to threaten South Korea, Japan, or hypothetically China.²⁴

Thus, across the region proliferation of weapons and delivery systems has accelerated in the post-Cold War era. Without even considering potential future players in the strategic competition—Japan, South Korea, Vietnam, Taiwan, and Indonesia, to name a few serious candidates²⁵—the basic situation is vastly changed from two decades ago.

²² “Agni-III Ready for Induction: Antony,” *Times of India*, August 9, 2010.

²³ “Pakistan Successfully Test-Fires Two Ballistic Missiles,” Associated Press, May 8, 2010; and “Pakistan Tests Long-Range Missile,” *BBC News*, March 9, 2004.

²⁴ See Daniel A. Pinkston, *The North Korean Ballistic Missile Program* (Carlisle: Strategic Studies Institute, 2008).

²⁵ For discussion of several of these cases, see Llewelyn Hughes, “Why Japan Will Not Go Nuclear (Yet): International and Domestic Constraints on the Nuclearization of Japan,” *International Security* 31, no. 4 (Spring 2007): 67–96; and Michael S. Malley and Tanya Ogilvie-White, “Nuclear Capabilities in Southeast Asia: Building a Preventive Proliferation Firewall,” *Nonproliferation Review* 16, no. 1 (2009): 25–45. On space capabilities and potential delivery system capabilities developed therein, see James Clay Moltz, *Asia’s Space Race: National Motivations, Regional Dynamics, and Global Implications* (New York: Columbia University Press, forthcoming 2011).

The Multidimensionality of Strategic Competition in Asia

Defining strategic weapons is tricky. Atomic and nuclear weapons were originally recognized as having a strategic effect; that is, they could directly serve strategic rather than tactical or operational aims. Over time, a distinction emerged between strategic nuclear weapons—to be used against an opponent’s homeland—and tactical weapons that might be used on the battlefield. Yet deterrence theorists, policymakers, and arms control proponents remained disproportionately focused on strategic nuclear weapons.²⁶ Even after the advent of precision-guided munitions in the Vietnam War and the conceptual development of AirLand Battle in the 1980s—a framework emphasizing deep strikes by conventional forces on the rear areas of the battlefield—conventional weapons did not play a strategic role.²⁷

Today, such a narrow focus is unwarranted. Not only do long-range nuclear weapons have strategic effect, but advanced conventional weapons might as well. Furthermore, in the strategic geography of Asia, distinguishing between non-strategic and strategic nuclear weapons is problematic (a concern similar to that raised by German critics during the Cold War). Missile defenses opposing nuclear weapons clearly have the ability to mitigate the latter’s strategic effect. Biological and chemical weapons have also complicated strategic analysis, leading to the awkward term “weapons of mass destruction.” The more recent and more cumbersome term “weapons of mass effect” conveys an even broader range of capabilities. Space and cyber attacks can directly target objects valued by an opponent without first achieving a battlefield victory.²⁸ Thus, in addition to the modernization and proliferation of offensive systems in Asia, a range of other systems must be considered in assessing today’s strategic environment.

Most significant and prevalent among these are the effective defensive systems deployed throughout the region. It is important to differentiate between large area defenses that intercept the missile in the exo-atmospheric mid-course phase from point defenses that intercept closer to the intended

²⁶ For a good overview of this evolution during the Cold War, see Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd ed. (New York: Palgrave Macmillan, 2003).

²⁷ William W. Momyer, *Airpower in Three Wars: World War II, Korea and Vietnam* (Washington, D.C.: U.S. Government Printing Office, 1985).

²⁸ On space security, see James Clay Moltz, *The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests* (Stanford: Stanford University Press, 2008).

target.²⁹ Both categories of systems have enjoyed rapid development and deployment throughout the region.

The United States and Japan deploy the most successful area defense program, the Aegis SM-3 missile, which is capable of intercepting targets mid-course. To date, the current variant has succeeded in thirteen out of fifteen U.S. tests and is effective at ranges up to a thousand miles. Although the two countries are engaged in joint research to substantially increase the interceptor's capabilities,³⁰ the existing system already enables Japan to protect its home islands against a North Korean threat with only one or two Kongo-class ships "on station." Japan's current fleet of six ships allows for adequate coverage and continual time on station if Tokyo chooses.³¹ China also recently tested an indigenous mid-course interceptor that would boast a large theater- or nation-sized defensive footprint, potentially paralleling the United States' own national missile defense system.³²

Shorter-range systems are widely deployed throughout the region. The United States, Japan, and Taiwan deploy advanced point defense systems in the Patriot PAC-3 system. (South Korea has imported earlier Patriot models from Germany.) These provide a narrower footprint of defensive coverage but have dramatically increased in capability over the past twenty years. India has begun technical consultations with the United States regarding purchasing Patriot or other systems and continues to develop indigenous systems as well.³³ Russia fields an advanced Patriot-like system, the S-300 family of mobile missile defense batteries, which also has been purchased by China.

In the near future, viable boost phase interceptors are likely to be fielded (SM-3, block IIB), and airborne lasers will continue to be tested. These will provide additional defensive capabilities, particularly facilitating additional "shoot-look-shoot" tactics that will dramatically increase the effectiveness of

²⁹ A third category, also capable of defending large areas, contains those systems that intercept a missile while it is still in its ascent phase. These remain nascent technologies at present, although promising in the longer term.

³⁰ Ronald O'Rourke, "Sea-Based Ballistic Missile Defense—Background and Issues for Congress," Congressional Research Service, CRS Report for Congress, RL33745, July 20, 2009.

³¹ See data contained in Dean Wilkening, "European Ballistic Missile Defense Options" (paper presented at the Tenth RUSI Missile Defence Conference of the Royal United Services Institute, London, May 27–29, 2009).

³² Russell Hsiao, "Aims and Motives of China's Recent Missile Defense Test," Jamestown Foundation, China Brief, January 21, 2010.

³³ The short-range system has been tested successfully and the exo-atmospheric system is undergoing development with potential initial operational capability in 2012. See "PAD/AAD (India), Self-propelled Surface-to-Air Missiles," Jane's Information Group, Jane's Land Based Air Defense, July 26, 2010 ~ <http://www.janes.com/articles/Janes-Land-Based-Air-Defence/PAD-AAD-India.html>.

defenses. Japan and the United States are likely to be the earliest adaptors of such technologies, but these too are likely to spread.

Conventional offensive capabilities are also entering the strategic competition in ways that make it more difficult to differentiate between conventional and nuclear conflict than was the case during the Cold War. The advent of precision-guided munitions (PGM) in the 1970s laid the foundation for mature short-range systems in the 1990s. Today, the range of such munitions is increasing; stand-off air strike, penetrating aircraft (stealthy or conventional), or long-range missiles can deliver them. The United States, China, and Taiwan all now have missiles with conventional, long-range precision attack capabilities.³⁴ The United States is actively pursuing a conventional prompt global strike capability to give the military the ability to attack targets anywhere on Earth within little over an hour.³⁵ To do so, the United States may expand its ballistic missile force to include a conventional role for either the land-based Minuteman III or the submarine-launched Trident. China has deployed a significant conventional arsenal near the Taiwan Strait that provides political coercive options that transcend traditional conventional campaigns.³⁶ Beyond that, the PLA possesses intermediate-range systems that can target Japan and U.S. bases in Guam. In the near term it might also have the ability to target U.S. carriers, which would escalate any conflict dramatically.

Both missile defenses and accurate, powerful conventional weapons complicate matters because each can serve roles that previously only nuclear weapons could handle. Both capabilities could be used to destroy an opponent's offensive nuclear arsenal, whereas previously this was only achievable by a first strike with nuclear weapons. PGMs can also be used to destroy command, control, communications, and intelligence (C3I) systems in rear areas. This, too, was generally a mission for nuclear weapons in the Cold War. (Although conventional weapons were used in wars in Korea, Vietnam, and the Middle East to modest effect, against a great power, capable air defenses would have rendered such attacks very costly.) Unquestionably, such systems are a less escalatory option than using nuclear weapons to achieve the same goal. At the same time, that benefit comes with a cost: the clarity of the nuclear threshold

³⁴ The United States has the most options, with the Tomahawk being the most prominent. China fields both the DH-10 cruise missile and the DF-21 (among other shorter-range systems). Taiwan's Hsiung Feng IIE has recently entered service. All possess precision targeting.

³⁵ Bruce M. Sugden, "Speed Kills: Analyzing the Deployment of Conventional Ballistic Missiles," *International Security* 34, no. 1 (2009): 113–46.

³⁶ Christopher P. Twomey, "Limits of Coercion: Compellence, Deterrence, and Cross-Strait Political Military Affairs" (forthcoming, 2011).

is obscured. Thresholds serve an important purpose in war, limiting escalation in some cases.³⁷ Without a clear and mutually understood threshold, the question of when a war has gone nuclear will be more complex: certainly, after a nuclear warhead has exploded through atomic fission, but would a conventional attack on a nuclear missile count?³⁸ If a North Korean missile is intercepted over the Pacific, does the United States assume that the missile was armed with a nuclear warhead?

Beyond these concerns, in many cases conventional systems rely on command and control systems that also perform a role in nuclear operations. U.S. satellites that replaced the Defense Support Program (DSP) early warning constellation from the Cold War now provide preliminary telemetry to missile defense systems. Chinese long-range over-the-horizon radars used to find U.S. carriers for attack by conventional ballistic missiles might also provide early warning capabilities. China's Second Artillery Force is responsible for both conventional and nuclear-armed missiles. The separation of command and control links between the two sides of the force is unclear.

The point here is not to naively call for restraint in any such crisis but rather to highlight that new interactions between conventional and nuclear forces are now likely to pervade the battlefield in any high intensity war in Asia. The nature of these interactions will be discussed further in the section on implications.

Divergence on the Utility of Nuclear Weapons

A final source of complexity in Asian strategic affairs is the wide range of views held regarding the role that nuclear weapons can and should serve in national security policy. The issue is not whether nuclear weapons are useful³⁹ but rather how the countries that have chosen to develop such expensive weapons perceive their utility. What role do nations in the region see their nuclear arsenals serving in the context of national security? There is quite a bit of divergence on this issue.

³⁷ On the importance of thresholds, see the discussion of focal points in Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960), 57.

³⁸ During the Cold War, some scholars grappled with a similar issue. See Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1992).

³⁹ For one side in this debate, see Nina Tannenwald, "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use," *International Organization* 53, no. 3 (Summer 1999): 433–68; and T.V. Paul, *The Tradition of Non-Use of Nuclear Weapons* (Stanford: Stanford University Press, 2009). For an earlier and related view, see John Mueller, "The Essential Irrelevance of Nuclear Weapons," *International Security* 13, no. 2 (Fall 1988): 55–79. For an argument that nuclear weapons cast a "long shadow" over regional security affairs, see Alagappa, *The Long Shadow*.

It should be noted that views about nuclear weapons have varied over time and space. For instance, during the Cold War there was a range of views on precisely this question between the United States and Soviet Union. David Yost observes:

It is inaccurate to attribute “the development of strategic doctrines to ensure mutual vulnerability and restraint” to both the United States and the Soviet Union, especially if this is taken to imply a similarity in doctrine. It is certainly true that devising doctrines of “strategic stability” through mutual vulnerability was a major preoccupation of American strategic thinkers in the 1960s and 1970s. However, Soviet political and military leaders did not accept such doctrines as guidance for their own force development and strategic planning.⁴⁰

Furthermore, during the Cold War, U.S. planning differed for the use of weapons in Europe and Asia:

The [Eisenhower] administration had tried to present the specific actions suggested by the blunt term massive retaliation in a slightly different form from that offered in Europe, where since 1954 NATO’s shield forces had acted as a kind of tripwire which, in the event of a large-scale Soviet offensive, would trigger the retaliatory nuclear response that was designed to deter aggression in the first place. Over the chance of a revival of a Communist aggression in Korea, a direct move into Indochina, or any attempt to seize the offshore islands and Taiwan, the administration had been ready to assert it was prepared to use nuclear weapons, but that this would be in a selected and controlled manner and directed at military targets which were believed to be supporting the Communist forces engaged in the attack.⁴¹

Finally, the United States’ own position on the role of nuclear weapons has shifted over time.⁴² Nevertheless, as the Cold War carried on, this variation was reduced. While many “forms of deterrence...existed during the Cold War,” Muthiah Alagappa writes, “these however remained on the periphery because the Soviet-American confrontation dominated international security.”⁴³ For the United States, views refined for the European context began to permeate

⁴⁰ David S. Yost, “Analysing International Nuclear Order,” *International Affairs* 83, no. 3 (May 2007): 549–74.

⁴¹ Jones, *After Hiroshima*, 454.

⁴² For a charting of these shifts during the Cold War, see Lawrence Freedman, “The First Two Generations of Nuclear Strategists,” in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton: Princeton University Press, 1986). On more recent changes, see Jeffrey W. Knopf, “The Fourth Wave in Deterrence Research,” *Contemporary Security Policy* 31, no. 1 (April 2010): 1–33.

⁴³ Alagappa, “Nuclear Weapons and National Security,” 495. See also Muthiah Alagappa, “Exploring Roles, Strategies, and Implications: Historical and Conceptual Perspectives,” in Alagappa, *The Long Shadow*, 1–36.

strategy toward Asia.⁴⁴ However, the range of views in Asia today on the role of nuclear weapons is worse than the highpoints of variation along any of the above dimensions during the Cold War.

Several different purposes for nuclear weapons can be posited. Vipin Narang identifies “three distinct types of regional power nuclear postures: a catalytic posture, an assured retaliation posture, and an asymmetric escalation posture.”⁴⁵ Building on this, at one end, nuclear weapons can deter the use of nuclear weapons against cities in a fight for national annihilation. Beyond that, in the context of a limited nuclear war, they might deter escalation to more complete nuclear war. Additionally, some view nuclear weapons as being able to deter large-scale conventional attacks on a state. On something of a separable dimension, nuclear weapons are central to most attempts to exert extended deterrence. Extended deterrence attempts to prevent attacks on a security partner, whether such attacks might be conventional or nuclear.

For instance, a recent Russian statement not only makes clear Moscow’s doctrine of using nuclear weapons to deter major conventional wars short of global wars that involve Russia directly, but also hints at extended nuclear deterrence of conventional conflict involving others.⁴⁶ Earlier statements from senior Russian officials were even more assertive.⁴⁷ Given the country’s arsenal of some 5,400 operational tactical warheads (far dwarfing U.S. holdings of about 200), these statements would carry great weight even if they were not reflected in official Russian policy.⁴⁸

At the other end of the spectrum, North Korea sees some utility in possessing a rudimentary arsenal that is not “weaponized” in the sense that the United States would use the term (operational and capable of being ordered into service in hours or days). Not only does Pyongyang expect its arsenal to have some deterrent effect against conventional forces, but it also clearly tries to use its nuclear program for compellent power. This might be termed “existential coercive power.”

⁴⁴ See Jones, *After Hiroshima*.

⁴⁵ Vipin Narang, “Posturing for Peace? Pakistan’s Nuclear Postures and South Asian Stability,” *International Security* 34, no. 3 (Winter 2009/10): 38–78. For other typologies, see Alagappa, “Nuclear Weapons and National Security,” 483.

⁴⁶ Nikolai Sokov, “The New, 2010 Russian Military Doctrine: The Nuclear Angle,” James Martin Center for Nonproliferation Studies (CNS), CNS Feature Stories, February 2010 ~ http://cns.miis.edu/stories/100205_russian_nuclear_doctrine.htm.

⁴⁷ Luke Champlin and Volha Charnysh, “Russia Plans Changes to Military Doctrine,” *Arms Control Today*, December 2009.

⁴⁸ Kori Schake, “Tactical Nuclear Weapons: Time to Reaffirm NATO Solidarity,” *Central Europe Digest*, August 2, 2010.

Also related to the utility of nuclear weapons is the size and nature of the arsenal required for a state's given purposes. Again, here some variation is possible, ranging from a virtual arsenal (for example, Japan today and perhaps South Korea and Vietnam tomorrow), to the barest existing arsenal (North Korea), to a weaponized force (possibly Pakistan), to a secure second-strike capability (China), to a force able to engage at multiple levels of warfare (the United States and Russia). It is important not to neglect views on the utility of the least robust of these nuclear powers. States such as India and Pakistan before 1998, Israel for approximately the last three decades, North Korea over the past several years, and arguably Japan today have found value in possessing a vague yet not fully weaponized nuclear arsenal. In most cases, political dynamics have highlighted the costs of moving toward weaponization and deployed forces. However, these states, even those with serious security threats, were willing to tolerate such nuclear ambiguity.

Table 2 attempts to capture this range of views on the utility of weapons and pair those views with countries in the region. Readers can certainly call into question the coding of this table. Nevertheless, this author would argue that the overall conclusion holds true that there are substantial differences across the region. The point here is not to affirm any of these beliefs but rather to note the wide variation in Asia today. As is discussed below, this wide variation raises a number of problems.

IMPLICATIONS

Each element of complexity raises its own problems, which are summarized in this section. In general, most of these effects increase the challenges facing national security elites throughout the region, increase the prospect for dangerous security competition, heighten potential for miscalculation, and destabilize the region. Beyond that, the implications of these three individual elements will tend to interact, as discussed in a later section.

The First-Order Effects of Proliferation

The simple quantitative increase in the number of nuclear arsenals has several effects. The most obvious effect is the increase in the number of potentially unstable dyads. Perhaps historically rare reasons restrained the intense rivalry of the Cold War, preventing it from degenerating into an intense nuclear war. Those factors, however, may not hold in other cases. For instance, there is strong evidence that some dyads in Asia do not share the

TABLE 2

Perceptions on the Utility of Nuclear Weapons in Asia

	Russia	United States	China	Pakistan	India	North Korea	Japan
Expected role							
Deter nuclear threat to cities	X	X	X	X	X	X	
Deter nuclear escalation	X	X	?				
Deter major conventional defeat	X		?	X		X	
Extended deterrence of nuclear threat		X					X
Extended deterrence of conventional threat		X					X
Compellent power		X				X	
Arsenal needs							
Existential				X	X	?	Virtual?
Robust second strike			X				
Advanced	X	X					

Source: For useful sources on the individual countries, see the country chapters in Alagappa, *The Long Shadow*; Narang, "Posturing for Peace?"; Kapur, "India and Pakistan's Unstable Peace"; Lewis, *The Minimum Means of Reprisal*; and Terence Roehrig, "North Korea's Nuclear Weapons Program: Motivations, Strategy, and Doctrine," in *Nuclear Strategy in the Second Nuclear Age*, ed. Toshi Yoshihara and James Holmes (Washington, D.C.: Georgetown University Press, 2011). It is from these sources that the above codings are generally drawn.

Note: As the United States foresees no major conventional threat to its homeland, it does not currently focus on the utility of nuclear weapons against such a threat outside the context of extended deterrence.

same characteristics as the U.S.-Soviet rivalry. Paul Kapur argues that the stability-instability paradox that may have held during the Cold War in Europe does not hold in South Asia today. Instead, Pakistan views instability at the nuclear level as beneficial to its bargaining leverage.⁴⁹ The Cold War did not center on territory claimed as sovereign homeland, whereas the Taiwan issue serves to complicate Sino-U.S. relations. The Sino-Russian border is long, and the two sides' strategic arsenals are located more closely to each other than the U.S. and Soviet arsenals were in the Cold War. Additionally, no Soviet leader was ever as novice to international politics as Kim Jong-un in North Korea is, and the domestic legitimacy of the Soviet Union was never under as much stress as that of the Communist Party in China or the North Korean regime today. These and dozens of other issues highlight potentially salient points of contrast with the Cold War.

Some scholars highlight the difficulties in attribution, not only in substate terrorism cases but also in multipolar rivalries.⁵⁰ Yet the attribution of state-led attacks, though technically challenging, seems less likely to be a concern in reality, given that most surprise attacks occur at times of heightened tension. Still, the difficulty in identifying attackers might complicate issues in some circumstances.

More problematic is the inherent instability of rivalries among three or more players, a point not systematically evaluated in the existing literature on Asia.⁵¹ Game theorists characterize a “truel” as a duel to the death between three actors. These theorists have reached several conclusions about the likely outcomes of such contests. First and foremost, in contrast to stylized duels, truels are highly vulnerable to the specific assumptions about the sequence of shooting, quality of weapons, size of arsenals, knowledge, and range of strategies chosen.⁵² This makes generalizing hard for mathematicians but has a very clear implication for policy analysts: the simplicity of a bilateral world is gone. Slight changes in weapons or strategy can have large effects on the perceived—and actual—balance.⁵³

⁴⁹ Samir Paul Kapur, “India and Pakistan’s Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe,” *International Security* 30, no. 2 (2005): 127–52;

⁵⁰ Stephen P. Rosen, “After Proliferation: What to Do If More States Go Nuclear,” *Foreign Affairs* 85, no. 5 (September/October 2006): 9.

⁵¹ By design, for instance, Alagappa’s volume focuses on country specific perspectives, and the bulk of the introductory and analytic work that frames those chapters focuses on dyads per se (albeit including some discussion of extended deterrence). Alagappa, *The Long Shadow*.

⁵² D.M. Kilgour and Steven J. Brams, “The Truel,” *Mathematics Magazine* 70, no. 5 (December 1997): 315–26.

⁵³ One other finding is that partnerships in the context of the three-way game are not robust.

One manifestation of this is heightened competition due to uncertainty about potential adversary coalitions. In a series of studies, Stephen Cimbala used straightforward modeling to emphasize that states in Asia will be pressured to choose risky alert statuses and force postures out of such defensive concerns.⁵⁴ More relaxed postures, such as launch after attack, could leave countries with greatly reduced arsenals. Of course, riding out a first strike is always dangerous. But in a multipolar context, states must be concerned about deterring, or retaliating against, multiple adversaries after an attack. The number of adversaries a state might face is also uncertain. In a crisis, the existence of multiple potential enemies will heighten a state's incentive to not absorb a first strike because doing so will reduce an arsenal that would need to deter not only its primary, current adversary but also any other adversaries who might be tempted to enter the conflict soon thereafter. Both these scenarios are worse than the bilateral rivalry in the Cold War and will tend to catalyze more dangerous force postures. Thus, even if the optimists are right about their characterization of the Cold War, these dynamics are new and negative in the post-Cold War environment.

Modernization across the board paints something of a mixed picture. The development of a secure second-strike capability for any nation would reduce dangerous mobilization spirals. Thus, such a capability is likely to be stabilizing in some contexts involving the United States and China. However, a second-strike capability gives China substantial advantages in competition with India, which previously might have been characterized by a two-sided minimal deterrent posture. Russia had hoped to balance conventional difficulties with nuclear preeminence in its relationship with China and others, but will be less able to do so the more secure and robust China's second-strike capability is. Furthermore, in other contexts the development of secure second-strike capabilities makes coercive strategies much riskier: consider, for example, the United States and North Korea or China and India.

In many cases modernization of delivery systems is progressing ahead of the associated command and control systems. Thus, surface-to-surface ballistic missiles (SSBM), when armed, might under certain conditions enhance the security of China's second-strike force. However, several factors suggest this will not be the case. First, China has not developed detailed procedures

⁵⁴ See, for example, Stephen J. Cimbala, "Nuclear Arms in Asia: Theory and Policy Issues," *Comparative Strategy* 26, no. 2 (March 2007): 127–40; Stephen J. Cimbala, "Anticipatory Attacks: Nuclear Crisis Stability in Future Asia," *Comparative Strategy* 27, no. 2 (March 2008): 113–32; and Stephen J. Cimbala, "North Korea and Nuclear Danger: Context and Policy Options," *Defense & Security Analysis* 25, no. 4 (December 2009): 393–412.

for the security (from unauthorized launch) and safety (from accidental launch) of its launch forces. On land the PLA has addressed these dangers through maintaining the separation of warhead and launch platform. Yet that approach will not be viable at sea, and so positive control of the warheads will need to rely on other approaches. The U.S. and Soviet experience was that this strategy is challenging. Second, based on hints from the U.S. Office of Naval Intelligence, the Jin-class submarine is not likely to be particularly quiet.⁵⁵ Rather than presenting the United States with an invisible retaliatory force, the submarine may instead be an easy target for early attack before it eludes any pursuing attack vessel or launches its missiles.

The First-Order Effects of Increased Complexity of Strategic Forces

The increasing complexity of the nature of strategic forces leads to a different set of concerns. First, it greatly complicates assessments of the strategic balance in any dyad. With missile defenses, a calculation of what constitutes an effective second strike for India against China must consider that some of India's likely depleted retaliatory forces may be intercepted. Even if China's system is expected to be only minimally capable, India should also recognize that its offensive forces will have already been worn down by a Chinese first strike. Precisely the same calculation has to be made by China with regard to the United States. Russia may not be overly concerned about Chinese missile defenses, but a larger-scale attack could achieve the same effect. Similarly, when assessing its ability to coerce South Korea and Japan, China now needs to consider these states' missile defense capabilities.⁵⁶ India's missile defense, if technically effective, would also raise the costs for China of any coercive strategies.

Taiwan, as often is the case, is in its own class. The island faces a much larger number of missiles (up to 1,150, according to the Pentagon), which are more limited in utility against other neighbors (Japan and South Korea are out of range; India and Russia have much more territory to disperse

⁵⁵ See the chart in Office of Naval Intelligence, *The People's Liberation Army Navy: A Modern Navy with Chinese Characteristics* (Suitland, August 2009), 22. <http://www.fas.org/irp/agency/oni/pla-navy.pdf>.

⁵⁶ While it is true that Japanese—as well as South Korean—systems could be easily saturated, two complications arise for Beijing. First, its holdings of intermediate-range ballistic missiles (IRBM) are limited, consisting of 80 DF-21 variants and a declining number of older CSS-2 liquid fueled missiles (declining from 15–20 today). Furthermore, such weapons also serve deterrent roles against India and U.S. regional bases. Thus, not all weapons can be used to saturate Northeast Asian missile defense systems. For missile arsenal quantities, see Office of the Secretary of Defense, *Military and Security Developments*, 66.

military targets across and their population centers are out of range). Thus, Taiwan would likely face the full scale of China's short-range M-9/11 missile capabilities. Still, Taiwan's advanced missile defenses do force Beijing to rely on a large offensive to achieve any given level of desired political effect. Small demonstrative attacks that are intercepted may well backfire on China, forcing Beijing to incur the political cost of being perceived as a violent aggressor without any associated benefit of signaling in blood to Taiwan's leaders the costs of a particular course of action. Still, it is certainly the case that Beijing's conventional coercive options against Taiwan are substantial.

There are, of course, potential responses to missile defense. At least part of China's response in these cases is likely to be a quantitative build-up that would increase the potential devastation should violence break out. For China and others, qualitative improvements, both penetration aids and maneuvering warheads, are also possible.⁵⁷ These may restore the "balance" in actual fact, but they are likely to create a gap in perceptions. For instance, both the defending nation and China would likely be overconfident in their own capabilities since the precise capabilities of these systems would remain highly classified on all sides.⁵⁸ This dynamic also exists between the United States and China (and perhaps North Korea). It is furthermore worth noting that nuclear optimists regarding the Cold War generally opposed missile defense as destabilizing such balances during the twentieth century. The same logic would make the contemporary era in Asia worse as well.

In other areas, non-strategic nuclear weapons developed by Russia to ensure that its depleted conventional forces can withstand an advanced foe could also serve strategic purposes against some Chinese targets. The same case could be made for Pakistan's non-strategic nuclear forces. In both cases, missile defense systems in China and India, respectively, would further complicate Russian and Pakistani calculations by requiring a larger nuclear offensive to achieve the same degradation of opposing conventional forces.

PGMs complicate the math of net assessments in some dyads even further. This is playing out in current U.S.-Russia arms control negotiations, and, indeed, may even stymie future progress in that relationship. PGMs have also complicated Sino-U.S. relations. Despite China's nascent move

⁵⁷ For an optimistic view on the efficacy of such weapons, see the recent report from two long-time missile defense critics: George N. Lewis and Theodore A. Postol, "A Flawed and Dangerous U.S. Missile Defense Plan," *Arms Control Today*, May 2010.

⁵⁸ On a related form of overconfidence, misperception, and associated deterrence failure, see Christopher P. Twomey, *The Military Lens: Doctrinal Differences and Deterrence Failure in Sino-American Relations* (Ithaca: Cornell University Press, 2010).

to mobile intercontinental ballistic missiles (ICBM),⁵⁹ Beijing increasingly envisages use of “strategic” PGMs both against lesser potential opponents, such as Japan and Taiwan, and also against the United States. As the technology for such systems spreads, it may serve strategic needs for Russia and India, in particular. Again, there is no analogue to this in the Cold War, thus undermining any grounds for optimism from the peaceful navigation of that conflict.

In all these areas uncertainties abound, and each side in any dyad will be predisposed to make conservative estimates, leading to wide perceptual gaps. These uncertainties will be exacerbated when they span categories of weapons systems because making such comparisons is cognitively more challenging than simply comparing numbers of deliverable warheads.⁶⁰ Such perceptual gaps are dangerous and can lead to overly expansionist foreign policy aims or insufficiently robust deterrence attempts.⁶¹

Arms control will be less likely to materially reduce threats in an environment of multidimensional strategic forces. In the Cold War the Anti-Ballistic Missile Treaty served as an important cornerstone of subsequent restrictions on offensive nuclear weapons. However, the quality of missile defenses has risen dramatically, so states will be loath to negotiate them away. The differentiation between strategic and non-strategic weapons was maintained in the U.S.-Russia New START treaty. Nonetheless, the U.S. side has made clear that subsequent negotiations, if they occur, will need to incorporate non-strategic systems. Similarly, regional players from India to Japan and South Korea view China’s non-strategic systems as quite strategic.⁶² To the United States, however, these same systems would present an operational threat, but not a strategic one, in any hypothetical conflict. Thus, differing threat perceptions makes common negotiating positions challenging.

⁵⁹ This has been a frequent topic in recent Track II dialogues between the two nations and clearly represents a genuine concern of China. For one discussion of the potential role of PGMs in a Sino-U.S. conflict, see Keir A. Lieber and Daryl G. Press, “The End of MAD? The Nuclear Dimension of U.S. Primacy,” *International Security* 30, no. 4 (Spring 2006): 7–44; and Keir A. Lieber and Daryl G. Press, “U.S. Nuclear Primacy and the Future of the Chinese Deterrent,” *China Security* 3, no. 5 (2007): 66–89.

⁶⁰ These complexities, particularly those other than missile defense, are not considered extensively in the existing literature on Asia. See Alagappa, *The Long Shadow*.

⁶¹ Robert Jervis, *Perception and Misperception in International Politics* (Princeton: Princeton University Press, 1976); and Twomey, *The Military Lens*.

⁶² While this is not a new problem in the post-Cold War era for China’s neighbors, it does complicate consideration of any arms control efforts that simply were not under consideration prior to the last decade.

The First-Order Effect of Divergent Beliefs of Utility

When two states understand the utility of nuclear weapons similarly, oblique threats are often sufficient. This helps to ensure nuclear weapons stay out of the center of any relationship.⁶³ However, when there are wildly different perspectives on the role of nuclear weapons, states will also disagree about what utility such weapons confer in a crisis-bargaining situation. One way for states to express this will be to engage in more explicit nuclear bluster. Again, such activities were common in the early Cold War but waned later. A return to such behavior is likely in Asia. Indeed, there is already evidence of exactly that in North Korean and Pakistani behavior.

This trend threatens to erode norms that denigrate the utility of nuclear weapons. Explicit in the literature on nuclear taboos are policy prescriptions for the United States to avoid nuclear threats and, in general, to reduce reliance on nuclear deterrence. As Nina Tannenwald notes, “changing the discourse could also change the taboo.”⁶⁴ Increased public nuclear bluster in times of crises pushes in exactly the opposite direction. Whatever one thinks of the durability of the nuclear taboo today, this will reduce its efficacy tomorrow.

The Interactive Effects of Multiple Changes

Beyond the direct effects of different individual elements of the three changes, those changes interact, greatly complicating the strategic environment.

The logic for restricting offensive and defensive systems in tandem for dyads that see stability stemming from mutual vulnerability is clear: if mutual vulnerability is an accepted goal of both sides, defensive weapons certainly can affect that objective.⁶⁵ However, that logic no longer applies to many dyads. Arms control or even confidence-building measures in Asia need to deal not only with the challenges of multiple players but also with the inherent interconnectedness of offensive and defensive systems. Advanced offensive conventional weapons may soon join this mix, as the United States’ global precision-strike systems could become capable of effectively attacking nuclear forces.

⁶³ Muthiah Alagappa, “Introduction: Investigating Nuclear Weapons in a New Era,” in Alagappa, *The Long Shadow*, 23.

⁶⁴ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (New York: Cambridge University Press, 2007), 386. See also the discussion of strains on the taboo in Paul, *The Tradition of Non-Use of Nuclear Weapons*, chap. 9.

⁶⁵ Yost, however, notes that the Soviet Union had other rationales in mind as well. See Yost, “Analysing International Nuclear Order,” 554.

Arms races are also affected by both the numeric and qualitative changes described here. Arms races can spiral. For example, India could build up its arsenal in response to Pakistan's modernization. China, in turn, might respond to India,⁶⁶ raising concerns for either Russia or the United States (or both). Alternatively, a U.S. missile defense system aimed at reducing threats from North Korea is provocative to China and has shaped the country's modernization plans.

Adding consideration of the final source of complexity, that of varying perceptions on the role of nuclear weapons, only worsens the picture. "Stability" in the nuclear balance during the Cold War had a few meanings, but to the United States such stability was the recognition that neither side had the means or intent to create the capability for a disarming first strike. This balance is impossible to achieve when different countries conceive of different roles for their nuclear arsenals. Because some nations such as Russia and Pakistan have more substantial expectations about the role of nuclear weapons, as discussed in the previous section, they will rely on more advanced and larger arsenals. This will pose threats to the more modestly geared forces. While the usual example offered here is the threat posed to China by U.S. forces, China threatens India in an analogous fashion.

Finding a stable balance of nuclear capabilities is hard with two actors. It is harder still with multiple players because of uncertainty about coalitions and the need to deter multiple actors. When there are different conceptions of the appropriate role of nuclear weapons, and therefore different implications for sizing and posture, these problems are greatly exacerbated.

CONCLUSION

A productive debate began in 1995 between Kenneth Waltz and Scott Sagan weighing the dangers of nuclear proliferation.⁶⁷ What this article argues is that even if we limit our analysis to essentially realist factors such as balancing power, first-strike advantages, and interstate coercion, among other factors, the outlook for avoiding nuclear conflict is deeply pessimistic. When coupled with the dangers surrounding misperception and command and control difficulties emphasized by Sagan, that pessimism is only deepened.

⁶⁶ The barest inkling of Chinese concern over Indian strategic forces is now apparent at various Track II meetings in which the author has participated.

⁶⁷ Sagan and Waltz, *The Spread of Nuclear Weapons*.

“Expect things to get worse” is not a policy prescription per se, but this view does have several implications. First, whatever the role of the nuclear taboo in recent times, it is likely to decline as the dynamics outlined above encourage greater nuclear posturing and a more intense nuclear environment. As noted by Paul J. Bracken, nuclear weapons can be used without being detonated; the story of early Cold War diplomacy is riddled with examples of nuclear threats being used to serve coercive purposes.⁶⁸ As states that have a more expansive view of the utility of nuclear weapons interact with those with a narrower view, such nuclear “use” will become more common, undermining one of the foundations of the nuclear taboo.

Second, in such a security environment the United States should recognize that far-reaching and expansive goals are likely to be costly. Regime change, rollback of an adversary’s gains, and even active promotion of human rights will all be riskier than in the past. There may be times when pursuit of such goals is warranted, but in general the high costs should be recognized.

Third, the implications for force posture are ambiguous and highly contingent on individual dyads. Clearly, different strategies can rely on different offensive weapons. Similarly, though missile defenses hold the potential—under some narrow circumstances—to reduce the destabilizing dynamics, even they exacerbate some of the problems listed above. While modest missile defense is not particularly destabilizing in a “mutually assured destruction” dyad with large arsenals on both sides (and indeed may encourage stability by reducing concerns over unauthorized launches that would lead to total war), for states with existential views about deterrence, any missile defense system may be threatening. On the other hand, increased sensor technology available to all players reduces one set of inadvertent dangers (although at a cost to some strategies).

Finally, multilateral arms control agreements will not reduce these threats in the near term. Potential costs in terms of instability in peace and war have clearly remained high in the second nuclear age in Asia, but, as pointed out above, the challenges facing traditional arms control have risen substantially.⁶⁹ Without a shared view of the role of nuclear weapons, cooperative steps to reduce their role will appear disproportionate to one side or the other. Of course, it is often the case that various parties view arms control agreements differently—for example, the value of the Nuclear

⁶⁸ Paul J. Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age* (New York: HarperCollins, 1999).

⁶⁹ This view is shared by Brad Roberts, “All the King’s Men? Refashioning Global Nuclear Order,” *International Affairs* 83, no. 3 (May 2007): 523–30.

Non-Proliferation Treaty (NPT) regime when it was initially constructed was different for the nuclear “haves” than for the “have-nots.”⁷⁰ But there must be recognized, overlapping interests and available compromises for all sides. Given the wide range of perspectives about the utility of nuclear weapons, even that understanding is absent.

Furthermore, traditionally U.S.-Soviet arms control was remarkably one-dimensional: quantitative reductions in offensive systems. Because of the diversification of systems with strategic effect in Asia, that approach is simply not viable. Different states will be threatened by different forces and will find maintaining a range of forces to be reassuring for their own defense. The scope of offensive strategic nuclear weapons, non-strategic nuclear weapons, missile defenses, and conventional precision-strike systems each perform different roles for different players. Reaching common agreements about the appropriate restrictions for each seems to be an impossible task. That concern has already arisen in U.S.-Russia negotiations, and the minor nonbinding reference toward broader issues (such as missile defense and conventional strike capabilities) almost provoked enough opposition to prevent Senate ratification of the New START Treaty in December 2010.

Add to this complication of multidimensionality the issue of multipolarity, and the challenges traditional arms control faces seem simply insurmountable. If two states—with somewhat similar experience with nuclear weapons—struggle to come to a common understanding of the role of other strategic systems, how much harder will it be for countries with different strategic cultures? When states face multiple potential adversaries, will they be willing to negotiate with only one? Chinese experts have alluded to exactly this concern, voicing reservations about restricting their arsenal in any negotiation with the United States and other NPT nuclear-weapons states while India remains outside this regime and is free to expand at will. Until there is a deeper understanding of the logic of different countries’ nuclear strategies and their interaction, such compromises will be hard to come by in Asia. Increased discussions by all parties regarding the role of nuclear weapons and the means by which nuclear weapons serve this role will be a critical positive step.

At the same time, the challenges posed by an increasingly multilateral and complex Asia are so high that it is imperative for the United States both to be restrained in its goals in the region and to recognize the paramount

⁷⁰ Illustrating this “haves” perspective vividly is Michael Rühle, “Enlightenment in the Second Nuclear Age,” *International Affairs* 83, no. 3 (May 2007): 511–22. Analysts from the Non-Aligned Movement, for instance, would express quite a different view.

importance of nonproliferation strategies, whether they come in multilateral or unilateral guises. It is important to note that the proliferation of technology—ranging from nuclear energy to more conventional weapons systems—lies at the heart of this deterioration of stability in the region, both in general and in the nuclear arena. Policymakers should utilize a broad set of tools and give high-level attention to what has at times been regarded as mundane regulatory structures in the sphere of export controls.

The risks from nuclear weapons are simply higher in the world described in this article. All statecraft balances costs and benefits. Goals that might have been achievable a decade ago will not be achievable a decade in the future because of these dynamics. It is important to recognize that shift. ♦