

China's Strategic Forces in the 21st Century: The PLA's Changing Nuclear Doctrine and Force Posture

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Introduction

When it comes to its development and deployment of nuclear weapons—China first tested a weapon in 1964—China maintains a narrative in which it holds the moral high ground. According to the Chinese Communist Party line, China detests nuclear weapons, which are inhumane. But because the U.S. and the Soviet Union were both building large nuclear arsenals during the Cold War and because (China thought) they used those weapons to coerce non-nuclear states, China had no choice but to pursue those weapons itself. China, the narrative goes, would prefer to see nuclear weapons abolished rather than maintain its own arsenal, but reality requires that China arm itself.

Whatever legitimacy this narrative may have once had, it has become less credible. Given China's complicity in the Pakistani and Iranian nuclear programs—for example, China delivered fissile material to A.Q. Khan—it appears that China sees a use for these weapons other than simple self-defense. Though China appears to have halted its proliferation activities, those activities suggest a more casual attitude towards nuclear weapons than one of abhorrence. Indeed, actions speak louder than words. That Beijing proliferated nuclear technology, materials, and know-how—and to relatively unstable regimes that may be less cautious about using nuclear weapons—is worrying.

Considered in this context, China's movement towards an increased reliance on nuclear weapons and shifts in its nuclear doctrine are both unsurprising and of potentially great concern. While China has been growing its nuclear arsenal and fielding new ballistic missiles and ballistic missile submarines, Chinese strategists have been engaged in doctrinal debates over how those weapons should be used. As a younger generation of military thinkers has come to the fore, the long-held tenets of China's nuclear doctrine as originally set forth under Mao—namely, the “no first use” policy and minimum deterrence—are increasingly coming under scrutiny. Indeed, some strategists argue that the People's Republic should cast these policies aside and adopt a new nuclear doctrine that will grant strategic forces a more prominent role in the country's defense.

External and internal factors are driving changes in China's nuclear policy and force structure and will continue to do so in the future. Concerns over what the Chinese see as a U.S. threat lead some to call for a greater reliance on nuclear weapons for deterring Washington. Should South Korea or Japan ever “go nuclear”—and there are growing worries that they might—that would similarly impact China's nuclear force posture and doctrine. Internally, economic and demographic challenges will make it more difficult for China to maintain a large standing army in the coming decades and may very well lead Beijing to increasingly rely on nuclear forces for its national defense.

Still, the extent of Beijing's reliance on nuclear weapons in the future is difficult to predict. Old thinking dies hard, and the People's Liberation Army would likely prefer to rely on conventional means to defend China. Yet even conventional deterrence can complicate nuclear deterrence relationships. To wit, China's growing medium-range ballistic missile threat to America's Pacific bases will force the U.S. to rely on long-range assets for conventional deterrence. Beijing will find this destabilizing and may rely on its nuclear arsenal to deter America's use of long-range weaponry.

In short, changes in China's nuclear weapons force planning, posture, and doctrine are likely to complicate both the Sino-American deterrence relationship and the U.S. military's ability to operate in the Asia-Pacific region. American military and political leaders must watch these developments closely as they consider changes to America's own strategic force posture in the years ahead.

China's Strategic Weapons Modernization in Brief

The People's Liberation Army's (PLA) strategic weapons modernization program has been aimed at ensuring China's second strike capability. While China has not designed a new warhead since the early 1990s, it has slowly grown its warhead arsenal and it has modernized its ballistic missile force. In short, China has been replacing liquid-fueled, silo-based missiles with solid-fueled, road-mobile DF-31s and DF-31As.

Moreover, China has built two new nuclear-powered ballistic missile submarines (SSBNs) (operational status unknown) and has at least two more on the way. These Type 094 *Jin*-class submarines will be armed with JL-2 submarine-launched ballistic missiles (SLBMs), a sea-based variant of the DF-31 that is still in development. SSBNs serve to deter a nuclear attack on the mainland, to deter foreign intervention in a "regional war," and to ensure a second strike capability. Some analysts estimate that China will be able to keep one SSBN on patrol at all times in the 2010-2015 timeframe.¹ If the People's Liberation Army Navy (PLAN) develops longer-range SLBMs in the future (the JL-2's range is projected to be 8,000km), its SSBNs will be able to operate from littoral bastions where they may be safer from anti-submarine warfare operations.

Nuclear Doctrine for the 21st Century

Having established itself as a nuclear power in the mid-1960s, China adopted a "no first use" policy—strategic weapons would only be used in retaliatory counterattacks. China also promised never to use nuclear weapons against non-nuclear states.

In addition, Beijing has long maintained a doctrine of minimum deterrence. This posture required that China maintain a small force of intercontinental ballistic missiles (ICBMs), only a few of which needed to survive a nuclear attack. Following such an attack, surviving ICBMs would be launched at counter-value targets in the attacking nation. For

¹ Robert G. Loewenthal, "Cold War Insights into China's New Ballistic-Missile Submarine Fleet," in Andrew S. Erickson, Lyle J. Goldstein, William S. Murray, and Andrew R. Wilson, ed., *China's Future Nuclear Submarine Force* (Annapolis, MD: Naval Institute Press, 2007), 299.

minimum deterrence to be effective, Beijing needed to ensure a survivable second strike capability, which would permit China to strike, and do unacceptable damage to, just a handful of enemy cities. All that was needed was a small, survivable arsenal, which is essentially what China has maintained.

Though *officially* China appears to adhere to a doctrine of minimum deterrence, there is evidence to suggest that in recent decades China has moved or is moving to a limited deterrence nuclear doctrine.

In 1995, Alastair Iain Johnston argued that in post-Cold War China, there had been “more comprehensive and consistent doctrinal arguments in favor of developing a limited flexible response capability.”²

In the late 1980s and early 90s, the PLA launched a series of research programs aimed at strengthening the intellectual underpinnings of its nuclear doctrine. According to Johnston, these programs arrived at a consensus on “limited deterrence.”

In limited deterrence, nuclear weapons play a critical role in the deterrence of both conventional and nuclear wars as well as in escalation control (intrawar deterrence) if deterrence fails. In other words, nuclear weapons have a wider utility than proponents of minimum deterrence would suggest.³

Johnston’s analysis portends a significant change for two reasons. First, in order to use nuclear weapons to deter a *conventional* attack, one must be prepared to use nuclear weapons *in response to* a conventional attack—in other words, “no first use” goes out the window.

There are strategists within the Chinese military community that are thinking along these lines. General Zhang Wannian, former chief of the PLA General Staff Department, thinks it is important to deter both nuclear and conventional attacks. Writing for the US Army War College, Larry Wortzel paraphrased Zhang’s argument: “the conduct of ‘bloody actual combat’ (during conventional war), in itself, is a deterrent measure, and the more destructive the actual combat in which a nation engages, the greater the likelihood of effective deterrence.”⁴ In other words, in order, for example, to deter the U.S. from intervening in a Taiwan Strait conflict, Beijing must convince Washington that it will sustain unbearably high casualties. Zhang does not explicitly argue that nuclear weapons could serve this purpose. But a younger generation of strategists, which is rethinking China’s nuclear weapons policy, may very well contend that Zhang’s logic should be followed to its logical end.

² Alastair Iain Johnston, “China’s New ‘Old Thinking’: The Concept of Limited Deterrence,” *International Security*, 20:3 (Winter 1995/96), 5.

³ Johnston, 12

⁴ Larry M. Wortzel, *China’s Nuclear Forces: Operations, Training, Doctrine, Command, Control, and Campaign Planning*, Army War College Strategic Studies Institute (2007), 6.

Secondly, if one is to use nuclear weapons for intrawar deterrence—or escalation control—one must foresee an operational use for those weapons. If China has adopted a doctrine of limited deterrence, then, this implies that China uses its nuclear weapons not only to deter nuclear attack on itself but, if necessary, to fight and win a nuclear war—or, if not win, to at least deny victory to an adversary.

In this regard, Major General Yang Huan—former Deputy Commander of the Second Artillery—refers to using nuclear weapons in “*actual fighting*” (my emphasis).⁵ Similarly, Major General Wu Jianguo, formerly of China’s Antichemical Warfare Academy, argues that if deterrence fails, a country will “strive to win a victory through *actual combat*” (my emphasis). According to Wu, “the immense effect of nuclear weaponry is that it can serve as a deterrent force and, at the same time, as a means of *actual combat*”⁶ (my emphasis).

Again, the idea that nuclear weapons would be used for “actual combat” suggests something other than a role as a minimum deterrent. Indeed, Johnston argues that many Chinese strategists have rejected the anti-Clausewitzian nature of nuclear weapons. They are not only useful as a deterrent, but can actually be used to achieve political ends in wartime. The horrifying nature of nuclear weapons, these strategists argue, does not mean that their use negates Clausewitz’s central tenet—namely, that war is simply politics by other means. As Clausewitz himself wrote, “war is an act of force, and there is no logical limit to the application of that force.”⁷

In trying to get a handle on China’s nuclear doctrine, it is also important to look at the PLA’s nuclear arsenal and weapons deployment. Consider the Second Artillery’s nuclear-capable medium-range ballistic missiles (MRBMs). Some of these are located in southern and central China within striking range of India (and Southeast Asia). Others, however, are deployed to east and northeast China, within range of South Korea and Japan, both non-nuclear states. Of course, these countries are home to large U.S. military bases, which would likely play a role in any Sino-American conflict. If China is prepared to launch nuclear-tipped missiles at these targets, this would suggest something other than a minimum deterrence posture, which relies on counter-value rather than counter-force targeting.

Even more telling would be the existence of tactical nuclear weapons. Whether or not such weapons exist has been fiercely debated. Though China has conducted a couple of low-yield nuclear tests and has conducted military exercises in which a tactical nuclear weapon was “used,” this is not proof positive that the PLA fields such weapons. The U.S. intelligence community has at times asserted that China does have tactical weapons, and at other times suggested that the opposite is true. In 1989, two PLA officers in the General Staff Department chemical defense department wrote: “At present, although we

⁵ Huan Yang, “China’s Strategic Nuclear Weapons,” in Michael Pillsbury, ed., *Chinese Views of Future Warfare* (University Press of the Pacific, Honolulu: 2002), 134.

⁶ Jianguo Wu, “Nuclear Shadows on High-Tech Warfare,” in Michael Pillsbury, ed., *Chinese Views of Future Warfare* (University Press of the Pacific, Honolulu: 2002), 144.

⁷ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 77.

have not yet equipped ourselves with theater and tactical nuclear weapons, this is not the same as saying in the future we will not arm ourselves. Moreover, our air force's nuclear bombs and the Second Artillery's nuclear missiles can also be used against the rear of the enemy's theater."⁸ Whether China has tactical weapons in its arsenal is an open question. But if we learn that China does, or if China has considered the tactical use of strategic assets (as suggested in the quote above), this would also suggest a shift towards limited deterrence.

"No First Use"

Concurrent to this possible shift to "limited deterrence" are increasing calls for the abandonment of the PRC's "no first use" policy. "No first use" (NFU) is still state policy, though official statements attesting to that fact have grown increasingly ambiguous. The following is from China's 2006 Defense White Paper:

China remains firmly committed to the policy of no first use of nuclear weapons at any time and under any circumstances. It unconditionally undertakes not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones..."

It is no mistake that China is only "firmly committed" to NFU while it "unconditionally" promises not to use or threaten to use nuclear weapons against non-nuclear states. The difference is subtle, but it is there nonetheless.⁹

The 2008 Defense White Paper is even more ambiguous: "The Second Artillery Force *sticks* to China's policy of no first use of nuclear weapons..." (my emphasis). This is not particularly reassuring and may indicate a relaxation of China's commitment to NFU.

It is not only official statements that bring the NFU policy into question, but also writings and speeches by current and former Chinese military officers. There is an ongoing debate about how to respond to a conventional attack on strategic assets and how to respond to warning of imminent strategic attack.

In either of these situations, retired General Pan Zhenqiang writes,

China will feel [itself] in a dilemma to make the decision to use its nuclear retaliatory force to counter-attack. For one thing, from an operational point of view, China's no-first-use pledge seems to have greatly bound its hands to maintain flexibility in seeking the optimum options. For another, China will find lack of multiple means to differentiate its responses to different scenarios.¹⁰

⁸ Johnston, 35

⁹ Wortzel, 15-16.

¹⁰ Zhenqiang Pan, "On China's No First Use of Nuclear Weapons," Pugwash Conferences on Science and World Affairs, <http://www.pugwash.org/reports/nw/zhenqiang.htm> (accessed December 15, 2010).

In the case that China receives warning of an imminent attack on its strategic forces, is it really in Beijing's interests to wait to launch its own missiles?

General Pan here is also commenting on minimum deterrence. Imagine that the U.S. was to use tactical nuclear weapons in a conflict over Taiwan. As it currently stands, China would respond by launching strategic attacks on U.S. cities, which would force the U.S. to retaliate. In this case, deterrence failed in the first instance, and China had no recourse to attempt escalation control. According to Pan and others, increasing numbers of Chinese thinkers believe this problem requires a change in China's nuclear doctrine.

A shift in China's warfighting doctrine also calls into question China's continued commitment to NFU and minimum deterrence. For the first few decades of the PRC's existence, the PLA maintained a doctrine of "people's war." The PLA would make use of China's greatest resources—its large population and strategic depth—to defeat a superior enemy on Chinese territory. The PLA now plans to fight "localized wars under conditions of informatization" instead. China will fight short, high-tech wars on its periphery. The PLA no longer expects or is prepared to fight wars deep in Chinese territory, and given Chinese government assertions that its nuclear capability "is solely for self-defense with a view to maintaining independence, sovereignty and territorial integrity,"¹¹ it is quite possible that China would be tempted to use nuclear weapons to prevent an adversary from controlling territory on the Chinese mainland.

In PLA doctrine, "active defense" is an old idea but one with an evolving meaning—some Chinese thinkers believe it provides rationale for preemption. According to the PLA's *Science of Campaigns*, "the essence of [active defense] is to take the initiative and to annihilate the enemy."¹² According to China's 2008 Defense White Paper, "strategically, [the PLA] adheres to the principle of...striking and getting the better of the enemy only after the enemy has started an attack." "Attack," however, seems to be defined broadly by the PLA. See, for example, the *Science of Military Strategy*, an authoritative text used by the PLA's Academy of Military Science:

Striking only after the enemy has struck does not mean waiting for the enemy's strike passively...It doesn't mean to give up the 'advantageous chances' in campaign or tactical operations, for the 'first shot' on the plane of politics must be differentiated from the 'first shot on that of tactics...If any country or organization violates the other country's sovereignty and territorial integrity, the other side will have the right to 'fire the first shot' on the plane of tactics.¹³

Indeed, China has a history of defining military offensives as strategic defenses. This is not to say that China can be expected to engage in preemptive attacks—whether

¹¹ "Communication of 1 August 1996 Received from the Permanent Mission of the People's Republic of China to the International Atomic Energy Agency," International Atomic Energy Agency, <http://www.iaea.org/Publications/Documents/Infcircs/1996/inf522.shtml> (accessed December 15, 2010).

¹² Quoted in Office of the Secretary of Defense, "Annual Report to Congress: Military Power of the People's Republic of China 2009," Department of Defense, http://www.defense.gov/pubs/pdfs/China_Military_Power_Report_2009.pdf (accessed December 15, 2010).

¹³ Ibid.

conventional or nuclear. Rather, it is to point out that the intellectual framework exists upon which to make the argument that using nuclear weapons first in a conflict can be justifiable. Apparently, increasing numbers of Chinese military thinkers are making that argument.

Primary Determinates of China's Nuclear Force Posture and Policy

There are a number of items driving China's nuclear modernization. Perhaps first and foremost among these is the United States. From China's point of view, the United States is *the* number one threat. There is a perception that the U.S. wants to contain China and keep it from becoming a great power. The United States, moreover, is the only country that can challenge all of Beijing's three core interests: regime survival, sovereignty and territorial integrity, and continued economic growth.

How so? With regard to regime survival, it is no secret that the U.S. would like to see political liberalization in China. Indeed, this has long been used as a justification for trading with the PRC—economic liberalization would one day lead to democracy. Having watched America effect regime change in Afghanistan and Iraq and support democratization in the former Soviet Union and in Eastern Europe, China is suspicious of any U.S. attempt to “interfere” with its internal affairs.

Similarly, Beijing is concerned with any perceived impingement of its sovereignty and territorial integrity. There are historical reasons for this concern, as the CIA supported separatists in Tibet during the Cold War. In the present day, the U.S. provides a home for Rebiya Kadeer, Xinjiang's leading activist, and awards medals to the Dalai Lama. Most worrisome for China, the U.S. is the only country with a Taiwan Relations Act and thus the only country that is obligated to ensure that Taiwan can defend itself. Many Chinese believe the U.S. would intervene in any conflict over Taiwan's ultimate disposition, and that, to Beijing, is a serious threat.

Finally, Washington can threaten China's continued economic prosperity as well. The U.S. is China's largest trading partner and the U.S. dominates the sea lines of communication. Should Sino-U.S. tensions spike or conflict break out, the U.S. is able to not only cut off its own trade with Beijing, but can also impede the flow of oil and other natural resources to China.

A number of U.S. military and nuclear policy developments in particular have driven PLA discussions on China's own nuclear force. First among these was the Bush administration's decision to exit the anti-ballistic missile treaty and develop ballistic missile defenses (BMD). China fears that an effective American BMD system will undermine its deterrent. This leads to greater urgency in China's nuclear development program—strategists believe that more penetrative weapons are needed, and in greater numbers. And some thinkers, again, question the “no first use” policy. They wonder if it is in China's best interests to maintain a policy in which it will absorb an American strategic attack, and then launch whatever weapons remain against an effective missile

defense system. If a conflict is to go nuclear, these people would argue, China should launch its weapons first in the hope of over-saturating America's missile defenses.

China's leaders were also worried by an apparent shift in U.S. nuclear policy, as evidenced in the 2002 Nuclear Posture Review. The NPR named China as a target for U.S. nuclear weapons and listed a Taiwan Strait crisis as an example of a conflict that could go nuclear.¹⁴ Though this was not new policy for the United States, its public airing was ill-received by the Chinese.

Perhaps more worrisome for China though, were some specific policy recommendations within the NPR. The inclusion in a "New Triad" of "offensive strike systems (both nuclear and non-nuclear)" once again raised the question in the PLA of how it should respond to a conventional attack upon its strategic assets. The NPR's proposal that the U.S. develop "improved earth penetrating weapons (EPWs)" (or nuclear bunker busters), "warheads that reduce collateral damage," and enhanced satellite constellations "to locate successfully and maintain track on mobile targets" raised fears (1) that the U.S. was more likely to use nuclear weapons and (2) that China's second strike capability would be threatened and thus its deterrent capabilities undermined.¹⁵

General Pan Zhenqiang asks readers to put themselves in China's shoes:

Imagine the military pressure from the US that Beijing may well be confronted with: A numerically reduced but upgraded precision-guided offensive nuclear capability; a robust missile defense system; some offensive capability in space...and a more aggressive preemptive nuclear doctrine. All these are backed up by powerful conventional capabilities and the potential resurging capabilities of a nuclear infrastructure that had been rebuilt even after drastic reductions to the size of the arsenal.¹⁶

Whether this all comes to pass remains to be seen. But from the vantage point of a Chinese war planner, there is every reason to continue modernizing the PLA's nuclear arsenal and debating China's future nuclear doctrine—and perhaps with much greater urgency.

Regional Deterrence

If China develops adequate strategic forces to respond to the U.S. strategic threat, it will also have sufficient forces to deal with Russian and South Asian contingencies.

¹⁴ "Nuclear Posture Review [Excerpts]," GlobalSecurity.org, <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm> (accessed December 15, 2010).

¹⁵ Ibid.

¹⁶ Zhenqiang Pan, "China's Nuclear Strategy in a Changing World Strategic Situation," in Barry Blechman, ed., *Unblocking the Road to Global Zero: Perspectives of Advanced Nuclear Nations: India | China* (The Stimson Center, Washington, DC: 2009), 44.

Even so, China is not nearly as worried about Russia as it once was. China no longer views Russia as a serious threat and no longer fears a Russian invasion into Manchuria. The most likely source of conflict between China and Russia is resource competition. China depends on pipelines from Kazakhstan and Tajikistan, countries traditionally within Russia's sphere of influence. There are also abundant resources in eastern Siberia (along with a relatively large and growing Chinese population), which Beijing might some day want to control. Still, Russia and China have developed closer relations since the Cold War's end, often cooperating on the UN Security Council and together providing leadership and direction for the Shanghai Cooperation Organization. These developments, supplemented by each country's deterrent force, are likely to ensure that any conflict that arises remains bloodless, at least in the foreseeable future.

The Sino-Indian nuclear relationship is, however, much more complicated. India is China's tenth largest trading partner and China is India's largest. From an economic perspective, it would appear that Asia's two giants have an interest in maintaining friendly, peaceful relations. Still, Beijing and Delhi have a long history of distrust and incompatible strategic interests. The most obvious areas of tension are the ongoing border disputes and China's close military relations with Pakistan—Beijing has provided assistance to Islamabad in its nuclear weapons and ballistic missile programs. Additionally, with its "look east" policy, Delhi aims to increase its reach into an area considered by China to be its own sphere of influence; the reverse is true for China's "string of pearls" strategy, through which it is increasing its presence in the Indian Ocean and leaving India feeling encircled.

Perhaps more than any other region in the Asia-Pacific, South Asia has great potential for an arms race and for explosive conflict. India has shown remarkable restraint in response to terror attacks emanating from Pakistan in recent years, though things could spiral downhill very quickly. And even though both India has strategic weapons, that has not kept China from provoking Delhi, especially in recent years. References to China's victory in the 1962 war have appeared much more frequently in official Chinese statements, some Chinese officials have laid claim to sovereignty over all of Arunachal Pradesh—or "Southern Tibet"—and PLA forces have crossed the line of actual control and destroyed Indian military bunkers and outposts.¹⁷

Tibet—now reportedly home to nuclear weapons targeted on India¹⁸—is also a flashpoint. India is home to the Dalai Lama and the Tibetan government-in-exile and to this day recognizes only Chinese suzerainty (rather than sovereignty) over Tibet. Some of Tibet's holiest sites are in Indian territory and the Chinese fear that the Dalai Lama may name a successor somewhere outside of China. According to India scholar Dan Twining, "some Indian strategists fear that China may act to preempt, or respond to, an announcement of

¹⁷ Dan Twining, "Could China and India go to war over Tibet?" The German Marshall Fund of the United States, http://www.gmfus.org/news_analysis/news_article_view?newsarticle.id=669 (accessed December 15, 2010); "After LAC incursions, China now violates International Border in Ladakh," The Times of India, <http://timesofindia.indiatimes.com/India/After-LAC-incursions-China-now-violates-Intl-Border-in-Ladakh/articleshow/4978371.cms> (accessed December 15, 2010).

¹⁸ Twining.

the Dalai Lama's chosen successor in India...by deploying the People's Liberation Army to occupy contested territory along the Sino-Indian border."¹⁹ Chinese officials often list Tibetan separatism as one of China's top three threats, so Beijing may have an itchy trigger finger (on its conventional forces) when it comes to ensuring security on the Tibetan plateau.

Though China certainly does not want a war with India at this time, it seems like Beijing does not necessarily fear one either—and that's a frightening thought, given the nuclear component of the relationship. And though both countries at the moment maintain NFU pledges and have relatively small arsenals, these arsenals are likely to grow. As China modernizes its nuclear force and potentially changes its nuclear doctrine to meet the needs of deterring America, India will need to respond to China's build-up, which will have a domino effect on Pakistan's nuclear forces as well. Similar logic applies to conventional build-ups. And while China must now consider its economic relationship with India when providing (conventional) arms to Pakistan, Beijing's strategic logic has not changed all that much since the days of the Cold War—India presents a threat to China's sovereignty and territorial integrity (and economy, given that it sits astride key shipping lanes). Arming Pakistan complicates India's strategic environment and forces Delhi to divide its attention.

As China modernizes its conventional and strategic arsenals and develops its own missile defense system, it will pose a greater and more varied threat to India. In turn, India may believe it necessary to adjust its own nuclear doctrine. Moreover, given the apparent change in India's strategic thinking as it prepares for a potential two-front war against both Pakistan and China, Delhi may in the future rely more heavily on its strategic weapons if it fails to develop conventional forces sufficient to deal with both foes at once. All of this is to say that the nuclear balance in South Asia may soon enter a period of flux, with potentially destabilizing consequences for the region.

China also has concerns about Japan and South Korea. Since the end of World War II, China has had a constant fear of Japanese rearmament, conventional or otherwise. For Beijing, the thought of a nuclear-armed Japan is a terrifying prospect. While Japan is not now on the nuclear precipice, there are a number of trends that are beginning to make nuclear weapons an attractive option for Tokyo. Perhaps first among these is the emergence of a nuclear-armed and increasingly aggressive (see discussion below) North Korea, with no solution in sight for returning to a nuclear-free Korean peninsula. Pyongyang's unceasing belligerence directed at Tokyo—to include missile launches over the Japanese islands and the kidnapping of Japanese citizens—means that Tokyo must take the North Korean nuclear threat seriously. Any loss of confidence in the U.S. nuclear umbrella—as might result from significant cuts in the U.S. nuclear arsenal—could push Japan over the edge.

Another trend that may impact Japanese thinking on nuclear weapons is the rise of China. As China's military continues to grow, Japan will find it increasingly difficult to defend itself with conventional forces, especially if the United States draws down its own forces

¹⁹ Twining.

in the region. At the same time, suggestions that China may be increasing its reliance on nuclear weapons cannot be well-received in Tokyo. A China that is prepared to use nuclear weapons against U.S. forces in Japan (as discussed above) or a China that poses an overwhelming conventional threat to the islands will make nuclear forces a much more attractive option in Tokyo. Japan, whose citizens have so vehemently opposed the presence of nuclear weapons on their soil, may need to acquire such weapons to ensure it does not once again come under nuclear attack. Ironically, then, China's military modernization and changing nuclear doctrine may very well induce the very development Beijing so wishes to avoid.

China is concerned about South Korea as well. Though Seoul at present remains committed to a nuclear-free peninsula, it faces an existential threat from the north even direr than the threat Pyongyang poses to Japan. North Korea's possession of nuclear weapons, moreover, seems to have emboldened Kim Jong Il—a series of aggressive actions beginning in 2009 culminated in North Korea's March 2010 sinking of the *Cheonan*, a South Korean naval vessel, and November 2010 shelling of Yeonpyeong Island. Seoul may eventually conclude it needs its own nuclear weapons to reset the balance on the peninsula. As in Tokyo, any loss of confidence in U.S. extended deterrence may also encourage South Korea to develop such weapons. Moreover, historical enmities have resulted in a Seoul-Tokyo trust deficit; any move towards nuclearization by either would likely encourage the other to follow suit.

Over the longer term, there is a real if distant prospect of wider nuclear proliferation in East Asia. The resulting web of deterrence relationships would be complex and significantly different from those of the Cold War. As such, it is difficult to say how China might alter its nuclear forces or strategic weapons doctrine to confront such a new reality. The building of a PLA arsenal consisting of a variety of delivery systems, from tactical to theater-range missiles, and including greater numbers of SSBNs and bombers, would be a logical response to such a development.

Demographics and the PLA

It is not only external factors that are driving China's nuclear modernization, but internal factors as well. Demographics in particular may be having a significant impact. A number of demographic trends are interacting to create an unfavorable environment for the PLA. The population of people aged 65 and over is growing rapidly, both absolutely and relative to younger age brackets. Yet as of 2003, the pension system covered only 16% of retirees.²⁰ The labor force (aged 15-64) will top out around 2015 and then begin to shrink; meanwhile, the populations of people aged 0-14 and 15-24 are already shrinking.²¹

These trends will have a number of consequences for the Chinese military. First of all, the 4-2-1 population structure (four grandparents, two parents, one child) in combination

²⁰ Nicholas Eberstadt. "Strategic Demography: China Some Initial Findings and Implications." PowerPoint presentation. American Enterprise Institute for Public Policy Research. October 2009.

²¹ "World Population Prospects: The 2008 Revision," United Nations, <http://esa.un.org/unpp>.

with the under-funded pension system will make PLA volunteers harder to come by and retention more difficult, as only-children will feel pressure to adequately care for their elders. Moreover, having been doted upon their entire lives, only-children may be less willing to engage in risky training, less likely to bond with their units, and more likely to claim illnesses—in short, it may be difficult to make good soldiers out of spoiled children.

Additionally, the under-funded pension system along with the lack of children to care for their parents and grandparents will likely increase budgetary pressure and force more difficult “guns versus butter” decisions. 23 percent of the Chinese population will be elderly in 2050, at which point the official dependency ratio (the number of elders per 100 individuals 15-64 years of age) will be 38.²² Considering, however, China’s real retirement age (not 65, but 45 for women and 55 for men), the World Bank estimates that the dependence ratio is already 26 and will reach 79 by 2050.²³ Estimates of the current pension system debt obligations range from two to seven trillion yuan, or 25-85 percent of GDP; these obligations will only rise as the population ages, and will become more onerous as the labor force shrinks relative to the elderly population.²⁴ In order to ensure continued domestic stability, the government may need to siphon resources from the military in favor of social spending programs.

Finally, the shrinking populations of people aged 0-14 and 15-24 means that the PLA’s recruitment pool is shrinking as well. While future high unemployment or underemployment may make the PLA an attractive option for some job-seekers, they are unlikely to be ideal conscripts and volunteers. Indeed, educated and skilled workers—which the PLA will increasingly value as it moves to a modern, high-tech force²⁵—will prefer civilian sector employment.

What are the implications of these trends for China’s nuclear weapons policy? First, China may respond to its demographic crunch much in the way Russia has. Faced with a shrinking population, Russia in 1993 abandoned its NFU policy and in 1999 adopted a new nuclear doctrine, which stated that nuclear weapons would be used to deter limited conventional wars.²⁶ In other words, Russia increased its reliance on nuclear weapons for self-defense at least in part to compensate for a demographic environment non-conducive to the maintenance of a large standing military.

Second, China may come to rely more heavily on its nuclear arsenal in order to deal with the increasing budgetary pressures. With a coming pension crisis, which is likely to cost

²² [Ibid.](#)

²³ Tamara Trinh, Maria L. Manzeni, ed., “China’s Pension System: Caught Between Mounting Legacies and Unfavourable Demographics,” *Deutsche Bank Research*, February 17, 2006.

²⁴ Keith Crane, Roger Cliff, Evan Medeiros, James Mulvenon, and William Overholt, *Modernizing China’s Military: Opportunities and Constraints*, The RAND Corporation, 2005.

²⁵ Kristen Gunness and Fred Vellucci. “Reforming the Officer Corps: Keeping the College Grads In, the Peasants Out, and the Incompetent Down.” *The “People” in the PLA: Recruitment, Training, and Education in China’s Military*. Ed. Roy Kamphausen, Andrew Scobell, & Travis Tanner. U.S. Army War College Strategic Studies Institute and National Bureau of Asian Research. September 2008. 193.

²⁶ Nikolai Sokov, “Russia’s Nuclear Doctrine,” The Nuclear Threat Initiative, http://www.nti.org/e_research/e3_55a.html (accessed December 15, 2010).

billions of dollars—not to mention the fact that increasing numbers of economists are forecasting a near-term end to China’s high economic growth rates—the People’s Republic may have to make some difficult “guns versus butter” decisions. Over the long-term, China might find it cheaper (much as Dwight D. Eisenhower did in the 1950s²⁷) to field a robust nuclear force rather than to man a large, modern military.

China’s Missile Build-up and Arms Control

Technological developments in China and abroad may have an impact on China’s future nuclear policy. China, for example, aims to develop a global precision strike capability. Its much-discussed anti-ship ballistic missile (ASBM) program is, in fact, just one step in its precision-guided munitions development program. According to Mark Stokes, the PLA has set the following timeline for achieving prompt global strike:

- 2010: 1500-2000km range ASBM
- 2015: 3000km range ASBM
- 2020: 8000km range precision strike capability
- 2025: global precision strike capability²⁸

Such a program will not only allow China to hold U.S. carrier strike groups out of a Taiwan conflict, for example, but will eventually enable the PLA to hold American military assets in the United States at risk with conventional weapons. While perhaps not a pleasing prospect for U.S. forces, this capability might lessen China’s dependence on strategic nuclear forces and lead the Second Artillery to abandon counter-value targeting.

China’s build-up of short and medium-range ballistic and cruise missiles may also, inadvertently, impact its nuclear doctrine. These missiles threaten U.S. air bases in South Korea, Japan, and on Guam as well as carriers at sea. While the PLA has understandably sought to bring nearby U.S. fighters into its crosshairs, it is forcing the United States to lessen its reliance on tactical aircraft for deterrence and war-fighting.

China has been able to engage in a build-up of short- and medium-range missiles because it is not a party to the Intermediate-Range Nuclear Forces Treaty (INF). The INF Treaty, signed by the United States and the Soviet Union in 1987, eliminated all ground-launched ballistic and cruise missiles with ranges between 500km and 5500km; the U.S. and Russia are constrained where China is not. The INF Treaty prevents the U.S. from relying on ground-launched missiles in the Asia-Pacific within 5500km of Chinese targets.

Instead of relying on tactical aircraft and short- and medium-range missiles for deterrence and war-fighting, the United States will increasingly rely on stand-off conventional strike weaponry (to eventually include a prompt global strike capability), which China finds destabilizing; it will be difficult, Beijing argues, for a Chinese soldier to determine

²⁷ See, for example, Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: Palgrave Macmillan, 2003), Chapter 6.

²⁸ Mark Stokes, “China’s Evolving Conventional Strategic Strike Capability,” *Project 2049 Institute*. September 14, 2009, p. 2.

whether an incoming missile is nuclear-tipped or conventionally armed or what kind of munitions a long-range bomber is carrying. In effect, China has created a dilemma for itself. In most imaginable scenarios, the delivery of munitions on Chinese targets by U.S. tactical aircraft would be much less escalatory than the delivery of munitions by long-range missiles or bombers. Yet China's own build-up of short- and medium-range missiles is forcing the United States to rely on long-range assets. American strategists must assume that as they move towards greater reliance on long-range stand-off weapons, the Chinese nuclear threshold will decrease.

In order to avoid further destabilization, China should be invited to accede to the INF Treaty or to sign a new INF treaty, not only with the United States, but with regional states such as Japan, South Korea, and Taiwan as well. If China refuses, the United States should abrogate the INF Treaty and begin an energetic build-up of short- and medium-range missiles on Guam, in Japan, and in South Korea. Having done so, the U.S. will be in position to barter away weapons it did not truly need when China determines that a missile race in Asia is counter-productive and destabilizing.

A new INF treaty would allow the U.S. and China to rely on tactical aircraft for deterrence and war-fighting and would decrease their need for long-range bombers and a prompt global strike capability. This would ease regional tensions, lessen the possibility of miscalculation, and raise nuclear thresholds. The elimination of the missile threat to South Korea and Japan might also reduce pressure on these U.S. allies to "go nuclear," thus forestalling wider Asian proliferation and the more complex web of deterrence relationships that would result.

Conclusion

It is, of course, impossible to predict precisely how China's nuclear weapons policy and strategic arsenal will develop in the coming decades. A dizzying array of technological, demographic, economic, and internal and external political trends are likely to exert force on Chinese strategic planners, pulling them in different directions.

There are, fortunately, a couple of things that we do know for certain. First, there is an ongoing debate among China's military thinkers about how and when to use nuclear weapons. Old logic is not being blindly accepted; traditional policies are being rethought. Second, in the nearer term, as the demographic crunch and pension crisis worsen and before China has closed its military gap with the United States, the People's Republic will feel pressure to increase its reliance on nuclear weapons. This is a worrying prospect for China's neighbors as well as for the United States, and it is a prospect the Obama administration should keep in mind as it works to reduce nuclear arsenals worldwide.