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Commentaries

China's Nuclear Weapons and the Prospects for Multilateral Arms Control

Lt Gen Frank G. Klotz, USAF, Retired
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Robert McCreight

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Adam Lowther, John Geis, Panayotis Yannakogeorgos,
and Chad Dacus

Reforming Defense: Lessons for Arab Republics

Zoltan Barany

Terrorism in China: Growing Threats with Global Implications

Phillip B. K. Potter

The Future of US Deterrence in East Asia: Are Conventional Land-Based IRBMs a Silver Bullet?

David W. Kearn Jr.

Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace

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Commentaries

- China's Nuclear Weapons and the Prospects for
Multilateral Arms Control* 3
Lt Gen Frank G. Klotz, USAF, Retired
Oliver Bloom
- Convergent Technologies and Future Strategic
Security Threats* 11
Robert McCreight

Feature Article

- Chinese-US Relations: Moving Toward Greater
Cooperation or Conflict?* 20
Adam Lowther, John Geis, Panayotis Yannakogeorgos,
and Chad Dacus

Perspectives

- Reforming Defense: Lessons for Arab Republics* 46
Zoltan Barany
- Terrorism in China: Growing Threats with
Global Implications* 70
Phillip B. K. Potter
- The Future of US Deterrence in East Asia: Are Conventional
Land-Based IRBMs a Silver Bullet?* 93
David W. Kearn Jr.

<i>Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace</i>	117
Jonathan F. Solomon	

Book Reviews

<i>The Unseen War: Allied Air Power and the Takedown of Saddam Hussein</i>	158
By: Benjamin S. Lambeth	
Reviewed by: Col John Andreas Olsen, PhD	
<i>The Rise of China vs. the Logic of Strategy</i>	161
By: Edward N. Luttwak	
Reviewed by: Matthew Hallex	

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China's Nuclear Weapons and the Prospects for Multilateral Arms Control

The United States and Russia have engaged in negotiations to limit and reduce their respective nuclear arsenals for more than 40 years. The successful conclusion of the New Strategic Arms Reduction Treaty (New START) in 2010 marked the latest step in this process and, according to Pres. Barack Obama, set the stage for even more reductions.¹ In a June 2013 speech, the president in fact reaffirmed his intention to seek further negotiated cuts with Russia.

The other declared nuclear weapon states—China, France, India, Pakistan, and the United Kingdom—have so far not played a direct role in this process. Since the United States and Russia possess the largest and most diverse arsenals, comprising nearly 90 percent of the world's nuclear weapons, the more-modest nuclear capabilities of these other nations have heretofore had only a minimal effect on the overall strategic balance and notions of stability between the two nuclear superpowers.

That, however, may be changing. If the United States and Russia do indeed significantly lower their numbers of nuclear weapons in the years ahead, the relative proportion of nuclear capability represented by the other five countries could significantly increase. Such a development would have two important implications. First, it would raise the question of how the theories of nuclear deterrence, originally developed in a bilateral and Cold War context, will apply in an international system with several nations holding nuclear weapons numbering “in the hundreds.” It also suggests that the nuclear arsenals of the other nuclear weapon states will become an important factor in any future US-Russian discussions on nuclear reductions.

Officials in both the United States and Russia have already acknowledged that they will eventually need to address the other states in some form or fashion. In the United States, for example, the congressionally mandated bipartisan commission on the US strategic posture stated in 2009 that “in support of its arms control interests and interest in strategic stability more generally, the United States should pursue a much broader and more ambitious set of strategic dialogues with not just Russia but also China and US allies in both Europe and Asia.”² Additionally, in giving its consent to ratification of the New START, the US Senate called upon “the other nuclear weapon states to give careful and early consideration to corresponding reductions of their own nuclear arsenals.”³

For their part, the Russians have raised the issue of so-called third country nuclear forces in the past, including as early as the negotiations leading to the 1972 SALT I treaty.⁴ More recently, Deputy Foreign Minister Sergei Ryabkov told attendees at an international conference on 8 November 2012 in Moscow, “further steps in the field of nuclear arms reduction and limitation must be multilateral.”⁵ His comments also suggest that the United States and Russia may differ on the timing of including the other nuclear weapon states in any formal negotiations. Washington officials appear to believe that the two major nuclear powers should undertake one more round of reductions by themselves. Moscow officials, on the other hand, apparently prefer to involve the others sooner rather than later.

Even if the United States and Russia finally agree that the moment is right, it remains to be seen whether, and to what extent, the other nuclear weapon states are prepared to enter into discussions on strategic stability and ultimately on possible reductions in their respective nuclear arsenals. As one might imagine, the likely answers vary according to the policies and perceived national security needs of each country—and no two are alike.

Uncertainty Surrounds China’s Nuclear Forces

The nation that looms largest in both US and Russian assessments of future deterrence requirements, as well as the wisdom of making any further nuclear reductions, is China. While the nuclear stockpiles of the two major powers dwarf that of China, the latter still has a significant and growing nuclear arsenal. Moreover, the United States and Russia—for very different reasons—view China as a strategic competitor and a potential threat to important security interests in the region. Consequently, neither Washington nor Moscow relishes the prospect of China achieving parity in terms of nuclear weapons. They clearly wish to avoid reducing their own nuclear arsenals to the level held by China or, alternatively, reducing their arsenals to a level that could eventually be matched by China through continued or even accelerated development of its own capabilities.

A central problem in assessing the likelihood of either outcome remains the significant uncertainty about the current and planned size of China’s nuclear forces. China has consistently held that it needs only enough nuclear weapons to deter nuclear attack and counter nuclear coercion. This purpose does not, according to Chinese writings, require that China necessarily match the major nuclear powers in terms of weapons. Indeed, China has repeatedly said that it has no intention of engaging in

a nuclear arms race with other nations. Rather, as Taylor Fravel and Evan Medeiros argue, Chinese nuclear doctrine appears instead to be guided by the principle of “assured retaliation,” wherein “a small number of survivable weapons would be enough to impose unacceptable damage in a retaliatory strike and thus deter nuclear aggression.”⁶

The current size of China’s nuclear arsenal would at first blush seem consistent with this interpretation. A 2013 Pentagon report to Congress on China’s military capabilities estimates that its land-based nuclear capabilities consist of between 50 and 75 silo and road-mobile intercontinental ballistic missiles (ICBM). It also notes that China “will likely continue to invest considerable resources to maintain a limited, but survivable, nuclear force . . . to ensure the PLA can deliver a damaging retaliatory nuclear strike.” To this end, China is likely to, according to the report, further increase the number of its mobile ICBMs, begin operational patrols of its JIN-class submarines armed with the JL-2 sea-launched ballistic missiles, and develop countermeasures to US and other countries’ ballistic missile defense systems.⁷ The Pentagon assessment does not offer data on the actual size of China’s nuclear warhead stockpile. However, nongovernmental analysts Hans Kristensen and Robert Norris have estimated that China currently possesses a total inventory of roughly 250 nuclear warheads.⁸

Not everyone agrees with these numbers. Russian specialists Alexei Arbatov and Vladimir Dvorkin, for example, assert that “the Chinese nuclear capability has been clearly underestimated by the international community.” They note that some Russian experts estimate that China has 800–900 nuclear weapons in its current stockpile available for rapid deployment and possibly an equal number in reserve or awaiting dismantlement. They also refer to foreign press accounts alleging that an extensive system of underground tunnels in China could be used to store large quantities of military hardware, including nuclear weapons.⁹

The No-First-Use Debate

Beyond the question of the current and future size of China’s nuclear forces, another element of uncertainty concerns Chinese nuclear doctrine. Earlier this year, the Chinese government released its latest defense white paper. The new document predictably focused on areas of immediate concern to Beijing, including the widely publicized US “rebalance” to the Asia-Pacific region and the increasingly fractious maritime disputes in the region.¹⁰ Although the white paper did not dwell on China’s nuclear weapons policy, what it said—or, more to the point, did *not* say—on the topic drew an almost immediate reaction from Western observers.

Ever since it first tested nuclear weapons in 1964, China has professed that it will never be the first country to use them against any nuclear weapon state and that it will never use or threaten to use nuclear weapons against any nonnuclear weapon state or nuclear weapon-free zone. This so-called no-first-use pledge has become a routine staple of practically every official Chinese pronouncement on nuclear policy. Moreover, Chinese officials routinely criticize the United States and Russia for not explicitly declaring a no-first-use policy of their own and for allegedly retaining a “nuclear warfighting” posture, including the capability to conduct a first strike.

Yet, an explicit reference to the no-first-use policy was notably absent in the most recent Chinese defense white paper. In a *New York Times* op-ed, James Acton of the Washington-based Carnegie Endowment for International Peace ventured that the omission might reflect a change to China’s 50-year-old declaratory policy. He suggested that Beijing’s oft-repeated concerns about the potential threat posed by US ballistic missile defenses and conventional precision strike programs to Chinese nuclear retaliatory forces might be causing its defense community to rethink long-held assumptions about nuclear no-first-use.¹¹ In fact, several scholars contend that an internal debate along these lines did in fact take place in China in the mid 2000s.¹²

Other commentators were quick to challenge Acton’s conclusion. Perhaps the most interesting response came in an editorial by Maj Gen Yao Yunzhu of the Chinese Academy of Military Science—a widely known official spokesperson on Chinese nuclear policy.¹³ She dismissed Acton’s conclusions, arguing instead that the break with past language resulted not from a change in policy, but from a change in the format of the white paper. In fact, the latest edition has a different title and a different structure than six previous iterations (dating from 2000 to 2010). Moreover, Yao argues that the limited language on nuclear policy within the latest white paper is consistent with a no-first-use doctrine and that recent statements by Chinese leaders voiced in other venues—including the April 2012 nuclear security summit in Seoul—confirm that it is still official policy.

Both sides to this debate have a point. Much of the language on nuclear doctrine in the latest white paper looks cribbed from earlier editions, particularly the 2008 version. Thus, Acton is right to question why this latest paper would copy that language but remove the explicit references to China’s no-first-use policy found in previous versions. Conversely, Yao is correct to point out that the other recent instances in which China has repeated its no-first-use pledge do little to support

the contention that the Chinese government has abruptly and indirectly abandoned its 50-year-old pledge.

Whatever the truth, the episode underscores the lingering suspicions in both US and Russian circles about China's long-term nuclear plans. If China is indeed having second thoughts about its no-first-use policy in light of developing US conventional military capabilities, it might also be considering a very different nuclear force than one predicated solely on an assured second-strike retaliatory capability.

Prospects for Multilateral Arms Control

The uncertainty surrounding China's nuclear capabilities and doctrine have implications for future arms control measures involving the two largest nuclear powers. Until the United States and Russia can be more certain about where China's nuclear arsenal is, and where it is likely to go, critics in both countries will resist further reductions in their own arsenals, and strategic stability between all three countries will remain an area of concern.

US and Russian experts have repeatedly called for China to be more open about its current nuclear capabilities and future intentions. In a related vein, others have suggested that China, along with France and the United Kingdom, could voluntarily join the United States and Russia in disclosing information on their strategic nuclear forces in the manner spelled out in New START as a first step in enhancing transparency and building confidence.¹⁴

China, however, has historically been reluctant to discuss the size and characteristics of its nuclear forces, claiming that secrecy is essential to ensuring the survivability of its relatively small retaliatory force. As described by Major General Yao, "China depends more on uncertainty—not on certainty, not on transparency to deter . . . a certain amount of opaqueness is an integral part of China's no-first-use policy."¹⁵ Thus, it seems unlikely China will agree in the near term to be more forthcoming, either through unilateral disclosures or through multilateral cooperative approaches.

Likewise, China does not appear the least bit interested at the moment in engaging in more formal discussions on ways to limit or reduce its own nuclear weapons. While Chinese official statements do envision future multilateral negotiations on nuclear arms reductions, they also attach certain preconditions. For example, an earlier defense white paper (2010) stated that "countries possessing the largest nuclear arsenals bear special and primary responsibility for nuclear disarmament. They should further drastically reduce their nuclear arsenals . . . so as to create

the necessary conditions for the complete elimination of nuclear weapons.” And, before this can take place, “all nuclear-weapon states should abandon any nuclear deterrence policy based on first use of nuclear weapons.”¹⁶ Since there is little likelihood of either of these conditions being met, the prospects for China engaging—on either a bilateral or multilateral basis—in official dialogue on nuclear reductions or strategic stability likewise seem remote at the moment.

Some Encouraging Signs . . .

Still, there are some indications that China feels a need to respond, at least in a limited way, to the pressure exerted by others for greater openness regarding its nuclear capabilities and policies. Over the past several years, former officials, technical experts, and academics from the United States and China have met in a number of “Track 2” dialogues sponsored by the US National Academy of Sciences, the CSIS Pacific Forum, the Naval Postgraduate School, the Carnegie Endowment, and other nongovernmental organizations. While these are unofficial venues, they nevertheless play a useful role in promoting a better understanding of national positions, which can in turn help inform policymakers. For example, in 2008, the US Committee on International Security and Arms Control and the Chinese Scientists Group on Arms Control jointly produced an English-Chinese glossary on nuclear security terms.¹⁷ The open and candid discussions during this exercise helped shed additional light on the similarities and, in some case, the very real differences between US and Chinese perceptions of fundamental concepts associated with nuclear deterrence theory and practice.

In addition to active Track 2 efforts, there has been a noticeable uptick in the number of official visits and military-to-military exchanges during the past two years. For example, in September of this year, Gen Mark Welsh became the first US Air Force chief of staff to visit China in 15 years.¹⁸ Official Chinese representatives have also participated in a number of high-profile international conferences on nuclear policy and arms control—including the US Strategic Command’s inaugural deterrence symposium and the 2013 Carnegie International Nuclear Policy Conference.

Finally, China appears to be showing greater interest in playing a somewhat more visible and constructive role in multilateral arms control discussions. In 2012, it agreed to lead a working group of the five permanent members (P5) of the UN Security Council in developing a glossary of terms to facilitate further P5 discussions on nuclear matters.¹⁹ And in August of this year, the Chinese government finally agreed to provide limited data from its monitoring stations to the International

Data Center of the Vienna-based Comprehensive Nuclear Test Ban Treaty Organization—although China has yet to ratify the treaty.²⁰

... But Far from Ideal

While these are encouraging developments, China remains comparatively opaque with respect to its nuclear capabilities and doctrine. As long as this is the case, the United States and Russia will continue to harbor doubts about the current state—much less the future direction—of China's nuclear program. Building political support for substantial further reductions of their respective nuclear arsenals will thus be a hard sell in both countries.

Similarly, the prospect of formal discussions with China on strategic stability and nuclear arms control will remain a distant prospect regardless of what US and Russian officials may ultimately desire. In addition to China's stated position that the two nuclear superpowers must go much lower before it will countenance multilateral nuclear arms control discussions, China's secretive approach is a huge obstacle to meaningful talks. As the United States and Russia learned through many years of practical experience, the process demands a fair degree of information sharing and transparency, both in the negotiation stage and in the actual implementation of agreements. China is simply not ready for that yet. Thus, if further nuclear reductions are to take place, they will most likely occur only in the framework of another round of bilateral negotiations between Washington and Moscow.

For now, the best one can hope for is that China's apparent greater willingness to engage in official dialogue and military-to-military exchanges will ultimately lead to more openness about its nuclear capability doctrine. This is far from ideal, and the other nuclear weapon states should use every opportunity to remind China of that fact.

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Convergent Technologies and Future Strategic Security Threats

Today, serious security researchers who devote their energies assessing the realistic threats of 2025 and beyond may well consider revolutionary developments in future technology to have immediate or gradual military applications. These developments could contain leveraged and enhanced weapons that ultimately change the strategic balance through new missiles, satellites, lasers, and any number of new technologies which ramp up offensive capabilities or provide a strategic defensive edge. Beginning in the twentieth century, the advent of aviation, the tank, the missile, and the atomic bomb all provided in their own way evidence of progressively more sophisticated weaponry that conveyed genuine and substantial strategic advantage.

The linear development of newer weapons deserves as much attention as the darker dual-use characteristics emanating from any modern technology or advanced scientific discipline. But the chief challenge of the twenty-first century is to determine whether advanced technologies and breakthroughs in science will be largely benign and beneficial to society or will they inadvertently, or willfully, spawn entire groups of sinister future weapons we cannot yet imagine. If new, more dangerous, and strategically significant weapons emerge, it makes sense to ask a few basic questions, including: will future advanced weapons technologies remain in the hands of peaceful nations, will they be available to all nations, and will they be restricted or controlled in any way?

Global Security and Technological Convergence

We know the subject of technological convergence (TC) has arisen over the past 12 years, principally from a 2001 National Science Foundation (NSF) and Department of Commerce study which used the term extensively in its 2003 report, *Converging Technologies for Improving Human Performance*. In that case, the main focus was on using convergent technologies (CT) to advance the human condition in health, life sciences, education, and overall social well-being. Of course, there were considerable and impressive commercial benefits to be derived from CT,

and the report did delve into military aspects of the issue; however, the overwhelming emphasis was on human health and performance in a brand new century full of hope and optimism about harnessing new technologies to improve life and bring it closer to a more perfect state.¹

What has largely escaped serious scrutiny and exhaustive research in the realm of security policy and military affairs is the net effect of CT on the global balance of power and the extent to which metatechnologies emerging from CT are developed into new weapons systems. Worse, there seems to be a lack of responsible analysis regarding how CT could alter asymmetric warfare.

The definition of *technological convergence* is a sensible starting point for the issues raised and the arguments about its strategic significance. Using a utilitarian definition, technological convergence is the tendency for different systems to eventually evolve, blend, and synergistically reinforce and interact with each other, sharing and extracting resources and energy to produce new and unique metatechnological products and outcomes.

It is precisely the future amalgamation, integration, deliberate blending, and synergistic transformation of discrete technologies into a multichimera-like dual-use metatechnology that has the potential to disrupt the global balance of power and alter our definition of asymmetric warfare. If we remain aloof and distracted by the myriad societal benefits and staggering achievements which could be derived from benign and beneficial advances in genomics, neuroscience, or cybernetics we will have missed a strategic shift at least as significant as aviation or the atomic bomb. The terrain which should hold our paramount interest is twofold. We must grasp the strategic significance of maturing metatechnologies in the fields of robotics, cybernetics, neuroscience, genomics, artificial intelligence, and nanoscience which culminate in products, achievements, and breakthroughs with dual-use properties. We must also reckon with the implications for inadvertent or deliberately engineered combinations, blends, and synergistic integration of these technologies which when combined display strategically significant dual-use properties. The degree to which these two parallel developments during the period 2013 to 2025 emerge as legitimate objects of study will make a critical difference to the United States for the remainder of the twenty-first century. For the sake of clarification, each technology below should be understood:

- *Genomics/proteomics/synthetic biology* entail all aspects of DNA-based systems design and engineered adaptation to enhance, enrich, hybridize, or create new life forms.
- *Cybernetics* and *artificial intelligence* refer to progressively complex engineered computer systems integrated with information systems and databases to bridge the man-machine interface, thereby making both machines and man more capable of complex thought, independent assessment, and analysis which neither could attain by itself.
- *Neuroscience* refers to the broad group of scientific and technological methods, systems, and structural pathways which involve manipulation and enhancement of major brain functions such as thought, perception, judgment, mood, and behavior.
- *Nanoscience* refers to the subatomic level of materials where design, structure manipulation, and combinations of basic molecules below the ordinary molecular level enable development, hybridization, and creation of wholly new structural machines and submicroscopic systems.
- *Robotics* refers to the entire class of engineered and designed automatons which mimic human shapes and dimensions and rely on cybernetic subsystems enhanced with advanced electronics but which display and enact behaviors, actions, and maneuvers at a level of depth, complexity, and accuracy that rivals or exceeds what ordinary humans can do.

Convergent Technologies—What Does It All Mean?

We have seen the growth of space research and the degree to which its national security aspects dwell alongside the global quest for more and better information about the universe and its reciprocal impacts on our earthly society. No doubt, discoveries and revelations will emerge from this field, but unlike the areas of CT mentioned so far, space provides significant and daunting limitations and constraints on what can be discovered and achieved. Without doubt the steady growth and development of CT will be revolutionary in scope with the potential to radically change industrial, economic, and social structures in the twenty-first

century. It is abundantly clear CT activities such as bioinformatics, DNA diagnostics, molecular electronics, and neural computation are revolutionizing the traditional interaction between researchers, industry, and society. New models for research management are evolving based upon networks which break down the barriers between traditional disciplines

Among other things, this means both a cross-disciplinary and trans-disciplinary array of interactions, collaborations, and exchanges will take place over the next decade. Genomics and neuroscience will combine, cyber systems and artificial intelligence will collaborate, and robotics and nanobiological research will merge over the course of the next 10 years. While there is currently no serious public debate about CT, it must be seen in this context. It has, and will continue to be, relentlessly driven primarily by research policy actors, foundation funding, and by experts from various disciplines and is part of a more comprehensive political and social discourse on nanotechnology, biotechnology, information and communications technology (ICT), brain research, artificial intelligence (AI), robotics, and the sciences that deal with these topics.

Obviously, the government has an interest in CT and will undoubtedly nurture as many aspects of the separate key technologies as possible to foster their individual lanes of growth toward maturity and a state of metatechnology. It is far less clear what the world's other advanced nations will be doing while the United States alternately infuses and deflates continuing research and development activities in these separate but strategic areas. Convergence will likely be welcomed and supported in the European Union (EU) and Russia, as well as Asia, and the oversight, direction, and trajectory of each distinct technology will be shaped and guided by experts, investors, leaders of global enterprise, and academics while the audience of interested states contemplates how each technology might conceivably convey some unknown or unexpected form of strategic leverage. It also appears likely the EU, Russia, and Asia may want to follow a very different path than that of the United States, and for good reason. Make no mistake; the key question tied to the strategic significance of CT is one that does not reside solely inside the ambit of US security thinking. Nor is it subject to US control, protection, or governance.

Whether an international consensus on CT should be derived prior to, or after, a national security decision which elevates this area as a strategic benchmark for the twenty-first century remains to be seen. It

is within reason, and expectation that the EU, Russia, and Asia will want to put their own stamp on the development, control, and evolution of CT. If this is the case, whither the US strategic posture on CT itself? Some pundits would put the dead reckoning with CT far off and argue that we need not concern ourselves with its eventual maturation for another 25 years. This is more risk-management and gambling than serious strategic analysis.

Maybe the degree of public interest and congressional clamoring, together with the desultory drumbeat of the media, is insufficient to awaken US strategic thinkers to address CT issues. Perhaps they feel it is too soon to even formulate the question, as there are so many other pressing national security issues like Afghanistan, sequestration, immigration, trade, terrorism, loose nukes, Syria, and transnational organized crime. Evidently, this array of security issues is strong enough to drown out sustained discussion of CT for the time being.

Perhaps some would diminish or belittle the subtle threats which emanate from each discrete technology until that particular technology has been developed to a state of near perfection where all manifestations of its dual-use nature become apparent. For others this still falls short of caution, because the nefarious and negative side of dual use is seen as minimally dangerous if at all.

With this initial array of discrete but largely parallel technologies, it is enough to posit dual-use systems arising from their separate lanes of near perfection that could display patterns of behavior and actions which either enhance existing weapons or create new ones. Cybernetics and robotics could lead to a new warrior class of supra-human fighters against which conventional arms would be useless. Neuroscience and nanoscience could combine with genomics and create nanoscale aerial invaders which could inhabit our brains and remotely influence or direct our thoughts. As far as the most advanced researchers in each field are concerned, they uniformly claim there is no limit to the upwardly sophisticated actions and tasks which their field of technology can accomplish. They may disagree on how long it would take or how easy blending different technologies would be, but few are saying it is impossible to attain. Sounding the alarm about this impending watershed era in weaponization and over-the-horizon strategic threats is crucial. To argue against the likelihood and probability of this outcome is akin to saying every low-probability/high-consequence threat never merits serious

policy attention. History has sadly shown that such threats are understood only after they have unleashed chaos and mortal damage. Over the next 15 years, risking that these emerging technologies by themselves amount to nothing more than substrategic threats is to seriously misunderstand the nature of the threat itself.

Do We Grasp the Strategic Threat?

Maybe CT is understood to be largely benign, controllable, and ultimately governable, with the net result that strategic thinkers have dismissed the inherent risks embedded in CT as well as the strategic significance of dual-use matured metatechnologies. Perhaps this has been quietly studied at the classified level and found devoid of strategic significance because no one knows or can guess where each of the discreet technologies will be 10 years from now.

There is also a legitimate argument to be made that CT is not in public parlance and receives no serious media attention because open discussion of advanced science and technology has been constrained to a limited audience of academics, inventors, and scientists. One reason for this may well be the fact that CT itself has been inadequately clarified and is simply too ambiguous for anyone to generate concrete questions or ascertain its dimensions. It does not appear to trigger serious political or scientific debate, which therefore further constrains efforts to clarify the concept or make it more concrete in relation to clearly delineated areas of research and potential applications.

We must stop and assess the nature and scope of the issue, particularly if we argue that it is indeed a future threat. Ever since the 2003 NSF-Commerce report was first issued, there have been periodic discussions of CT in the media, and it has captured the attention and imagination of a few influential observers. The tone is understandably euphoric about the great achievements which could result. As cited in the report, futurist Ray Kurzweil predicted the arrival of *singularity*, which he defines in his book on the subject as “the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but that transcends our biological roots.” He writes, “There will be no distinction, post-Singularity, between human and machine or between physical and virtual reality.”²

Kurzweil also predicts a second revolution in the area of nanotechnology by 2020. According to his calculations, it is already showing signs of exponential growth as scientists begin to test first-generation nanobots that can cure some diseases and injuries. "Nanotechnology will not just be used to reprogram but to transcend biology and go beyond its limitations by merging with non-biological systems," Kurzweil says. "If we rebuild biological systems with nanotechnology, we can go beyond its limits."³ The final revolution leading to the advent of singularity will be the creation of artificial intelligence, or super intelligence, which could be capable of solving many of our biggest threats such as environmental destruction, poverty, and disease, according to Kurzweil.

However, it seems obvious distinctions that separate scientific disciplines will break down, as advances in one field enable new thinking in others. Moreover, Dr. James Canton claims in the NSF report, "This new holistic model will combine advances in four different fields—nanotechnology, biotechnology, information technology, and cognitive science (known collectively as NBIC)—to achieve "a golden age that [will] be an epochal turning point in human history." With all this attention devoted to the spirit of human cooperation and the symbiotic global harmony that will characterize the future of the sciences some were so idealistic as to presume that one day, "Technological convergence could become the framework for human convergence—the twenty-first century could end in world peace, universal prosperity, and evolution to a higher level of compassion and accomplishment."⁴ Concerns about manipulation of the brain, thought patterns, emotions, and perceptions seemed overwhelmed by grand pipedreams about making our brains smarter and more durable.

Finally, while the 2003 report proposes a national R&D initiative to bring this convergent future into being, the national security aspects of CT were ignored or underplayed. The central message was to promote CT wherever possible in the new twenty-first century along with broad NBIC injections and support inside the American education system—all this without much fanfare about the dual-use nature of CT, what the spinoffs of matured metatechnologies could mean in strategic terms, or whether the possession of CT by a prosperous peaceful nation mattered as much as whether it became part of the Iranian or North Korean arsenal.

The earliest CT initiative dealt with bioethical issues. This was partly due to the fact that the President's Council on Bioethics, which is generally considered to represent conservative values, criticized it. The focus of this

criticism was the close linking of the CT conception of this so-called NBIC initiative with visions of far-reaching human enhancement—a technological modification of the human body and an ongoing merging of the human mind with machines. During the same period, elements of the NBIC initiative attempted an awkward alliance with trans-humanists who sought to promote human perfection and progressively technical modification of the human body through applied technology. Among their beliefs were the use of hallucinogenic drugs and the elimination of human death by resorting to science and technology. It is especially these particular features of the initiative that led the CT debate to exhibit such an extremely visionary character and to focus on the topic of human enhancement. Another bizarre interest of the trans-humanists was to eventually create cyborgs that were cognitively superior to humans.

This is simply to overstate the obvious—thousands of intriguing distractions, discoveries, and breakthroughs will eventually emerge from each aggregate subtechnologies discussed. But without serious and sustained discussion of the national security issues and aspects of CT and the ultimate ripening of metatechnologies, we will miss a crucial milestone in human history. There is a real danger that scientific achievements and discoveries will attract more attention and merit more public discussion than the wide array of security questions embedded in CT itself.

Is that because we fail to grasp what CT really is—or is it something more subtle and complex? If we are fortunate enough to master the evolution and maturation of metatechnologies and collaboratively manage and control the growth of CT, then concerns about neglected security issues will evaporate. However, nothing relieves the United States from the need to develop a strategic perspective on international commerce and trade involving CT or assessing the degree to which CT emerges as a bona fide weapon system in the EU, Russia, Asia, and among designated enemies. The opportunity to assess its true meaning and long-term strategic significance is now, and it deserves top priority among Pentagon and national security experts.

Summary

To remain passive and await emerging news and progressively more-sophisticated developments and outcomes from these discrete areas of science and technology which exhibit societal benefits is to shun the use

of coherent and comprehensive strategic analysis for the next decade. The principal argument is the imperative to begin paying serious strategic attention right now to CT or risk suffering some form of global security erosion detrimental to US interests. The areas of specific focus include genomics, synthetic biology, biomimetics, virtual reality applications for biological systems, nanobiotechnology and nanomedicine, artificial intelligence, nanoelectronics, nanophotonics, cybernetics, robotics, neuroscience, and the fields of simulations and modeling. It is a fair estimate that by the year 2023, major elements of CT integration and deliberate blending will have already occurred and considerable experimentation will have taken place. Regrettably, we lack the policy, doctrine, and strategy to address this event.

If we fail to study and examine the immediate and long-term implications of these complex dual-use areas of legitimate scientific inquiry, along with the related technologies they promote, we will have suffered a serious lapse in our national security that will be extremely difficult to overcome. Our nation's security and our national well-being require that we make the CT issue a top strategic priority for the twenty-first century.

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Notes

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Chinese-US Relations

Moving Toward Greater Cooperation or Conflict?

*Adam Lowther, John Geis, Panayotis Yannakogeorgos,
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A great debate is taking place within the US government between those who believe China will become an adversary and those who believe Chinese-US relations will remain focused on trade and peaceful coexistence.¹ Although the current debate includes a far more complex range of possibilities, this dichotomy highlights the fundamental conundrum facing diplomatic and military decision makers: what is the future of Chinese-US relations?

Former secretary of defense Robert Gates expressed the view of many within the Department of Defense when he said in March 2007, “I do not see China at this point as a strategic adversary of the United States. It’s a partner in some respects. It’s a competitor in other respects. And so we are simply watching to see what they’re doing.”² In his statement, Secretary Gates was careful to include the phrase “at this point,” leaving room for change in the relationship. Numerous individuals within the military strongly hold the view that US and Chinese interests are destined to clash as China continues its rise and, in coming decades, reaches economic and military parity with the United States.³ This view is similar in many ways to that expressed by John Mearsheimer—that conflict rather than competition between great powers is inevitable.⁴

This view is juxtaposed with a decidedly less adversarial perspective which predominates within the State Department. Former secretary of state Hillary Clinton expressed this view in 2009: “Some believe that China on the rise is, by definition, an adversary. To the contrary, we believe that the United States and China can benefit from and contribute

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to each other's successes."⁵ For those who hold a worldview more similar to neoliberal institutionalism, China's status as friend or foe is largely determined by the United States—a distinctly constructivist point.⁶ In essence, China and the United States are naturally destined for cooperation based on economic interests but are susceptible to becoming adversaries if China is forced into that role by US action.⁷

The difficulty with each school of thought is it views Chinese actions through Western and American lenses and theoretical frameworks. This leads to the detrimental effects of mirror imaging. China's worldview and the philosophy that shapes it are different from those of the West; therefore, one must understand the basic tenets of Chinese strategic culture before attempting to interpret Chinese actions and long-term ambitions. Once China's strategic culture is understood, three variables—economic activity, activity in cyberspace, and developments in military technology—offer observers from all schools of thought a sense of whether China is moving in the direction of cooperation or conflict.

This article offers analysts indicators pertaining to each variable that can determine the trend of the Chinese-US relationship. Each variable is analyzed in terms of cooperation, conflict, and US options. We must note that no single current or future action described below necessarily serves as an absolute certainty of Chinese intent to cooperate or fight, but these actions are highly suggestive. Based on this perceived direction, certain options then become available to the United States.

Strategic Culture

While the debate over the nature and characteristics of strategic culture remain unsettled, the concept—credited to Jack Snyder (1977)—has received considerable attention over the past three decades.⁸ Andrew Scobell provides the most straightforward definition of *strategic culture*: “a persistent system of values held in common by the leaders or group of leaders of a state concerning the use of military force.”⁹ Others have offered related definitions focusing on varying components of the concept.¹⁰ Most important, however, is that US scholars, analysts, and the military have shown particular interest in Chinese strategic culture since the mid to late 1990s, in part because some believe China may become our next strategic adversary.¹¹

Chinese strategic culture differs greatly from that of the West in ways that too few Americans understand. The influence of Hellenic philosophy, Judeo-Christianity, Enlightenment rationalism, American exceptionalism, and the US experience in war have shaped a strategic culture that prefers direct engagement with the enemy, major combat operations, and total defeat of an adversary.¹² Chinese strategic culture is shaped by very different influences that include Daoism, Confucianism, China's classical military writings, and—among younger military officers—nationalism.¹³ To understand the influence of these traditional ideas, it is helpful to think of Lao Tzu's *Dao de Jing* and the *Analects* by Confucius as core texts in the formation of Chinese strategic culture. More specifically, Lao Tzu focuses on the metaphysical, while Confucius offers a clear approach for moral behavior. *The Seven Military Classics of Ancient China*, which includes Sun Tzu's *Art of War*, can serve as the capstone of traditional Chinese strategic culture.¹⁴ Admittedly, this is a simplification of a complex subject that was more than a millennium in the making and continues to evolve, much as it did from the sixth century BC when scholars believe Lao Tzu, Confucius, and Sun Tzu are likely to have written and the tenth century AD when Daoism, Confucianism, and Sun Tzu's work were firmly ingrained in Chinese culture, writ large, and more specifically, into Chinese strategic culture.¹⁵

Communism has also played a central role in shaping strategic thought over the past six decades, but as Huiyen Feng pointed out in her operational coding of Mao Zedong and Zhou Enlai's beliefs, both leaders exhibited a Confucian strategic culture—suggesting that traditional strategic culture remained intact despite communist efforts to remake Chinese culture.¹⁶ Most recently, scholars and China analysts have highlighted the impact of nationalism in shaping the external actions of the Chinese government, an important point. However, China and its current leaders remain deeply influenced by more than two millennia of traditional culture that offers a very different approach to addressing strategic challenges than a turn to raw pursuit of national interests.¹⁷

In one of his early works on the subject, Alastair Iain Johnston suggests China has, over its long history, had a parabellum strategic culture that is largely realist in nature—a view that minimizes the influence of Eastern philosophy and metaphysics. Johnston suggests that at its weakest, China employs a strategy of appeasement. When weak but able to hold off an adversary, it employs a defensive strategy. And when militarily

superior, China takes the offensive.¹⁸ This view differs greatly from how other scholars and analysts describe Chinese strategic culture.¹⁹

In the view of many Chinese scholars and military officers, the country has *always* acted defensively—never offensively.²⁰ Thus, China has long acted to defend its territorial integrity and core interests, not for territorial expansion or the greed often ascribed in Western foreign policy. This point is of central importance because it is a principal characteristic of why China views its actions as defensive. Thus, the 1979 invasion of Vietnam (the Third Indochina War) was a defensive act in the view of Chinese leaders; for scholars and officials in the West, it was seen as an aggressive act by China. Thus, there is a disconnect when US and Chinese foreign policy analysts discuss offensive and defensive actions, because what Western observers often see as an offensive act is viewed by Chinese observers—when it is they who are acting—as defensive.²¹

Equally important is the dramatic divergence between Western and Sino military strategies; the former emphasizes mass at the point of attack while the latter focuses on winning without fighting. Chinese strategic culture, both modern and traditional, is characterized by ambiguity, disinformation, and secrecy—all critical to good generalship, according to Sun Tzu.²² These characteristics are important because they have the potential to achieve victory through “acting without action”—a precept of Daoism that is discernible in the writings of China’s classical military strategy.²³

In other words, China can achieve its strategic objectives—“winning without fighting”—by employing ambiguity, deceit, and secrecy in such a way that the United States follows a path (Dao) desired by China. This is another key difference between Western and Sino thinking. US strategic culture is often conceptualized as (1) determine the desired outcome (ends), (2) ascertain the methods to achieve those ends (ways), and (3) operationalize a strategy (means).²⁴ Chinese strategic culture, however, does not begin by determining the desired end state. Rather, through “right action,” a positive end state unfolds.²⁵

While the Dao was originally a metaphysical concept designed to give structure and purpose to an individual’s path in life, the concept became so culturally ingrained that it also influenced Chinese strategic culture, where it was raised to the national level and is guided by China’s leadership—civil and military.²⁶ By taking advantage of opportunities as they arise and exploiting the situation, one attains the optimum

outcome.²⁷ In other words, China's civil and military leadership do not have a cultural imperative that leads them to establish a desired end state to which they orient action, as is common in the West. Rather, there is a positive (natural) and negative (unnatural) direction in which the country can move. This causes China to appear to be acting as an opportunity seeker.²⁸ For example, China's path (Dao) includes economic modernization, but it does not include a specific point at which a predetermined objective will be reached—as would be common in the West. Admittedly, this may be difficult for the Western reader because it is so different from our own cognitive approach.

To explain this concept further, it is important to recognize that in Sino tradition, as illustrated by the writings of Sun Tzu, understanding the potential of a situation enables the state or the general to profit when advantageous circumstances arise. This is a critical skill/capability for a leader. Ambiguity, deception, secrecy, and the other characteristics Sun Tzu praises are all tools for maximizing advantageous circumstances.²⁹

The essential point of this discussion suggests that China's leaders will pursue strategic opportunities as they arise, even if they do not appear to be a part of a Western-conceived end state.³⁰ Thus, if the United States is weak and creates a space China sees as advantageous to fill, it is likely to do so. When this occurs, it should not be viewed as part of a grand strategy to displace the United States. Thinking in terms of the "Great Game" is a distinctly Western way of conceptualizing foreign policy.³¹ Instead, the United States should focus on understanding the path China's leadership is pursuing and work to support those objectives where they do not conflict with vital US interests. Where China's core interests conflict with US vital interests, China can be influenced if the United States maintains superiority in the right areas.

It is important to keep in mind China's strategic culture and the influences that shape how its civil and military leaders view defense and foreign affairs. China observers—principally those concerned with the direction of the Chinese-US relationship—can garner a stronger sense of whether that relationship is moving in the direction of cooperation or conflict by observing three areas of interests within the context of Chinese strategic culture: China's growing economic power, its activities in cyberspace, and its ongoing military modernization. Recognizing anything more than a sense of directionality, however, may require clairvoyance.

Chinese Economic Activity

Sustaining rapid economic growth is a core tenet of China's current path and a primary variable that can either ensure Chinese-US cooperation or, should the two countries' economic interests diverge, lead to economic and/or military conflict. The role and importance of the Chinese economy to the regime is central to how China's foreign and military policy may evolve in the years ahead. This is why Chinese economic activity is selected as one of the three variables. Given the real or perceived fragility of the Chinese Communist Party's (CCP) control over the country, the regime views maintaining strong economic growth as inextricably linked to its preservation—making this a core interest and key indicator.³² Although the current preeminence of internal stability through continued economic growth makes a cooperative China more likely, observers should monitor its leadership for indications of whether the country will continue to be relatively cooperative or attempt to undermine US interests and employ a strategy elaborated by Sun Tzu and consistent with Chinese strategic culture—winning without fighting.

Cooperation

Former premier Wen Jiabao expressed hope for improvement in Chinese-US relations: "We also don't hope for this year to become an unpeaceful year in the China-US economic and trade relationship. This will require both sides to work together."³³ One reason for potential Sino-US cooperation stems from positive economic and financial ties between the two countries. For example, China holds more than \$1.5 trillion of US sovereign debt, while Walmart serves (indirectly) as one of China's largest private-sector employers.³⁴ China's economic policies are principally designed to soothe a population that already questions the regime's legitimacy. Economic and/or military conflict with the United States would not aid economic growth in the short term. This makes such strife unlikely absent a clear belief that conflict is necessary for the long-term internal stability of China. Given its cultural penchant for taking the long view, perceived efforts to slow or restrain a restoration of economic and political power could, however, elicit a more immediate negative response. Presently, PRC leaders engage in little more than occasional saber rattling to stir nationalistic sentiment—when a distraction from flagging growth is perceived as beneficial to the CCP.³⁵ Although much has been made of China's provocative rhetoric concerning territorial

claims, the domestic and international politico-economic environments provide strong support for the proposition that the regime is likely to remain largely nonaggressive for the foreseeable future—absent a serious challenge to core interests.³⁶ A continuation of the status quo, and especially expressions of military cooperation and further liberalization of its economic policy, would indicate China is following a cooperative strategy.

Barring an economically debilitating regime change, China is expected to surpass the United States in economic and military might by midcentury—although such a transition is not inevitable. While the latest empirical research indicates that China's growth is likely to slow considerably over the coming decades, it will continue to outstrip that of the United States, giving China little reason to employ economic warfare in any form.³⁷ Moreover, the most likely question is not if, but when, the Chinese economy will become the world's largest and, in future decades, lead to military superiority. Even with modest economic growth (by Chinese standards), a consistent share of its gross domestic product devoted to defense spending, and relatively optimistic projections of US defense expenditures, China's military outlays are likely to eclipse US defense spending shortly after 2025. This would suggest that China's most rational course of action is to promote sustained economic growth and wait until its status as the world's leading power is solidified. The CCP leadership has indicated it will wait until that time has come before more aggressively seeking to challenge the status quo in any substantive way.³⁸

According to publicly released figures from China's finance ministry, the PRC spends more on internal security than on national defense. Internal security funding has also grown more quickly over the past two years than military spending.³⁹ With the CCP focusing on internal security, it is clear the regime sees this as a serious and growing concern—with instability serving as a potential black swan in Chinese foreign policy. In light of uprisings in the Middle East and increasing unrest at home, China's leaders have good reason to be concerned. Due to concern for instability at home, China is unlikely to initiate large-scale change within the international system. Its likely course of action over the coming years is to emphasize economic growth and continue concentrating its military efforts on developing defensive capabilities. However, if its economy stagnates and internal dissension rises, CCP leaders may act differently to preserve their hold on power.

Lastly, there is no indication that over the next decade China's need for food or energy will be constrained by the current international trading system. Should such constraints emerge, China would probably wage war if necessary to feed its people or power its industries. To avoid a potential conflict over energy issues, it is investing more in green energy than any other nation on earth and working to improve its agricultural industry. The Chinese government's actions and history suggest it is pursuing a strategy of cooperation and conflict avoidance when possible, while saving face.

Conflict

Considering China's strategic culture and the geopolitical environment, antagonistic actions by the PRC toward the United States are more likely to be economic than military. Given its cultural preference for winning without fighting, economic warfare offers the PRC an approach that challenges the United States resorting to kinetic operations. In both Johnston's view of Chinese strategic culture and that of his critics, such an approach would be consistent with long-held tradition. These policies would be designed to slow economic growth in the United States and its allies or to create instability in their economies—speeding China's ascent.⁴⁰ China could execute this strategy by accelerating liquidation of its long position in US treasury bonds (causing a devaluation of the dollar),⁴¹ by limiting US access to rare earth elements,⁴² and by seeking exclusive partnerships with European Union countries and Japan in high-tech industries.⁴³ While carrying out such actions, the Chinese government is likely to employ a deception strategy—consistent with its strategic culture—insisting that nothing substantive has changed in US-China relations.

China has been diversifying its currency holdings for some time and recently created an office devoted to finding new investment options for its large currency reserves.⁴⁴ A strong Chinese movement away from the dollar could raise the cost of financing the considerable US debt precipitously and create intense pressure to scale back spending on other priorities such as national security. Although this would clearly decrease the value of China's remaining dollar reserves, there are few better ways to undermine the long-term prospects of US hegemony that are more consistent with the tactics advocated by Sun Tzu.

The 2010 Chinese embargo of rare earth minerals to Japan—over a maritime dispute—provides a small preview of what future economic conflict may entail.⁴⁵ China controls a high percentage of rare earth elements widely used in high-technology industries and national defense. A full embargo would not be necessary; China could simply reduce availability while citing brisk internal demand and limited production. This tactic has the potential benefit of weakening the United States both economically and militarily.

Finally, China could weaken US hegemony through gradually pursuing increasingly extensive high-technology partnerships with EU countries and Japan. The PRC is already the most prolific exporter to both the EU and Japan, offering reason to believe these countries could eventually judge such arrangements as better serving their economic interests than close relations with the United States.⁴⁶ While China would bring increasing scientific talent to any potential partnership, the United States could be effectively marginalized in some developing industries. Currently, there are significant barriers to technology transfers with military applications, but this could easily change as China's economic importance to these countries intensifies.

US Options

If the United States desires to prevent China from viewing such economic tactics as an opportunity, it would be well advised to strengthen its long-term fiscal position, pursue additional sources of rare earth minerals, and eschew protectionist policies.⁴⁷ It will not be easy to deter China from seeing the US economic malaise as a strategic opportunity to expand its own influence. Thus, restoring US vitality and leadership in the global economy is vital if the United States desires to remain relevant and the primary nation of influence. Simply relying on globalization as a mechanism to prevent conflict is insufficient and offers short shrift to the wealth of historical evidence supporting the prospects for conflict advanced by Mearsheimer and other offense-based realists.

Activities in Cyberspace

China's rapid rise as an economic power is in part the result of effective economic reforms but also of its use of cyberspace to conduct widespread state-sponsored espionage against governmental and industrial

targets to “catch up” with advanced nations.⁴⁸ Extensively exploiting the newest domain of operations is consistent with Chinese strategic culture and the operational approach advocated by Sun Tzu and employed in more recent Chinese military history. Such behavior is exemplified by Google’s 2010 “exit” from China, which was the result of Chinese efforts to expropriate intellectual property. Recent information about China’s rapidly expanding use of the Internet suggests that residents of the PRC’s 60 largest cities spend 70 percent of their leisure time online, some actively engaged in attempts to exfiltrate corporate and government information from the United States.⁴⁹ The People’s Liberation Army (PLA) is also developing what is likely to be the largest cyber force focused on offensive operations within any military.⁵⁰

Whether such activities are state-sponsored or not, China is proving unwilling to undertake efforts to stop them. Until 2013, cyberspace proved to be a relatively risk-free domain with many opportunities for the PRC to expand its economic development and create a global military advantage. However, the release of the Obama administration’s intellectual property protection strategy suggests the US government is beginning to develop strategies to impose penalties on countries that use cyberspace for such theft.⁵¹ These policies will increase the prospects for cooperation in cyberspace to create a secure environment through which commercial and intellectual transactions can take place in an atmosphere of trust.⁵² It is here—perhaps even more than in the areas of economic activity and military modernization—that the United States can, by observing Chinese behavior, develop an accurate sense of the Chinese-US relationship.

Cooperation

A variety of cyber cooperation options can serve as indicators of the direction the Chinese-US relationship is moving. Developing cooperation with China on cyber issues is necessary—but from a position of strength. Recent studies have concluded that intense international pressure prompted the PRC to escalate efforts to curb doping in sports, suggesting that similar efforts to prevent malicious hacking might encourage Chinese compliance with emerging international cyber security rules and norms.⁵³ In short, if the United States wishes to eliminate opportunities for the PRC to exploit cyberspace, it must cooperate with the Chinese government on cyber issues.

Congressional testimony by Larry Wortzel, a member of the US-China Economic and Security Review Commission, also makes clear that cooperation in cyberspace is possible, as evidenced by supportive activities for specific law enforcement purposes. Wortzel told the House Committee on Foreign Affairs, "In some areas of cyber-crime, such as credit card theft rings and the theft of banking information, China's law enforcement services have cooperated with the United States."⁵⁴ Chinese authorities have criminalized malicious hacking and jailed culprits found guilty of creating damage through illegal actions involving intrusions into computer systems and networks. China's law enforcement agencies have also cooperated with their US counterparts.⁵⁵ This common approach to dealing with cyber crime can pave the way for serious bilateral discussions and negotiations on approaches for building a strong code of conduct dealing with criminality in cyberspace. Common ground exists for bilateral discussions and, ultimately, negotiations about cooperation on cyber security. Finally, several leading members of Congress recognize that Chinese-US cooperation in cyber security needs to encompass both military and nonmilitary aspects of cyberspace.

With President Obama and President Xi having most recently met in California 7–8 June 2013 to discuss, among other issues, China's aggressive cyber espionage,⁵⁶ China's opportunity to make tangible progress toward cyber cooperation will be evident in the months and years to come.⁵⁷ In previous meetings, the two presidents had agreed to create a high-level working group to address cyber issues. Examples of greater cyber cooperation would include a reduction in attempted intrusions originating from the PRC which target intellectual property, improved and timely sharing of information between Chinese and US computer emergency response teams, and enhanced law enforcement activities when cyber crimes occur.

Conflict

With the release of the Mandiant report, *Exposing One of China's Espionage Units*, in early 2013, the world received insight into China's current cyber activities.⁵⁸ As the report alleged, the PLA is actively engaged in cyber-espionage activities that target private sector networks. For most of the past decade, this was assumed to be the case for a number of intrusions not just against the United States, but our allies worldwide.⁵⁹ While alarming, Chinese hackers have shown considerable restraint in

their use of cyberspace—limiting their activities to espionage as opposed to destructive attacks. However, the PLA is focused on developing “informationized warfare,” which should give US decision makers cause for serious concern.⁶⁰ A refusal by the Chinese government to control state-sponsored cyber espionage will serve as a clear indication of how China’s leadership views the United States—with a lack of cooperation indicating it views the United States as a weakening power. To demonstrate its resolve on the cyber front, the United States should create a coalition of Chinese hacking victims to clearly indicate that this behavior will not be tolerated by the world. The PRC’s response to such action would also serve as an indicator of intent.

If China ignores US overtures such as those described above, this will serve as a clear signal it does not view cooperation with the United States as necessary to advance its core interests. Indeed, the ratcheting up of Chinese cyber espionage activities since the onset of track-two initiatives could indicate China’s intentions to continue such actions until a US strategy is implemented that either offers incentives to cease or makes it more painful for China to conduct cyber espionage.⁶¹ Both the Mandiant and Defense Science Board reports would suggest such a need. Given its perception of US weakness in cyberspace, it should come as no surprise that China has employed an aggressive cyber-espionage strategy, all while feigning innocence—an approach advocated by Sun Tzu. Absent a marked decline in Chinese cyber espionage, US leaders in the public and private sectors should attribute the failure of cooperative efforts to a perception by China’s civil and military leadership that the United States is a declining power without sufficient will and capability to prevent malicious activities in cyberspace. Should China refuse to cooperate, this would serve as an indicator of developing conflict on an issue that ranks among US vital interests.

China can also interfere with US cyberspace lines of communication (LOC). While closing sea and air LOCs to commercial traffic would clearly be seen as antagonistic and cause a loss of global goodwill, cyber attacks aimed at commercial interests (LOCs) can serve much the same purpose without arousing the same ire from the international community. Furthermore, targeted hacking of national security information systems can lead to the acquisition of key technologies with military applications. China’s use of hacking to steal technologies has received

veiled mention in the DoD's annual report to Congress on developments involving the Chinese military.⁶²

Secretary of State John Kerry's April 2013 visit to Beijing was an early sign of what was hoped would be a bilateral thaw after a series of intensifying disagreements surrounding US weapon transfers to Taiwan, UN sanctions on Iran, and the US Internet freedom agenda.⁶³ Kerry's visit was less successful than desired as it did little to slow China's cyber-espionage efforts, lending credence to Brad DeLong's suggestion that the balance of influence in Chinese-US relations has changed dramatically due to fundamental economic factors. Clearly, there will be fluctuations in this bilateral relationship, with the most recent "downs" linked to continued Chinese support for pervasive PLA-sponsored industrial espionage and China's growing assertiveness in the South China Sea.⁶⁴

US Options

Although the United States has been the technological pioneer in cyberspace, China is proving itself a pioneer in strategic thinking. One Chinese military theorist stated that "in confrontations on the future battlefield, what is scarier than inferior technology is inferior thinking."⁶⁵ The United States has focused on using technology to resolve issues without strategically thinking whether the technology is the right fit for the problem at hand.⁶⁶ Thus, without formal US strategies for managing this behavior, China will continue its widespread cyber espionage. This point cannot be underscored enough. Because the United States lacks a strategy for deterring or defeating actors undertaking malicious cyber activities, there is little reason for China to cease malicious cyber activities that have led to the theft of an estimated \$4 trillion in intellectual property.⁶⁷ For the United States, the only viable option is creating and implementing a cyber strategy that effectively protects the public and private sectors from cyber crime, cyber espionage, and cyber attack. Given the latent capabilities possessed by the United States, there is little doubt—particularly if Johnston is correct about Chinese strategic culture—that the PRC's behavior in cyberspace can be pushed toward international norms.

Gen Joseph Ralston, USAF, retired, former vice chairman of the Joint Chiefs of Staff, makes a compelling case for the long-term benefits of building trust with China through military-to-military contacts.⁶⁸ A similar argument can be constructed for building trust with China regarding the

areas of computer security and critical infrastructure protection.⁶⁹ VADM Mike McConnell, USN, retired, suggests Chinese-US cooperation would help “clean up” malevolent cyber activity and minimize hostile intrusions and disruptions caused by hacking and cyber crime.⁷⁰ Additionally, the East-West Institute has undertaken several track-two diplomatic initiatives to build trust. Secretary of State Kerry announced while in Beijing in April a formal initiative to begin building a foundation for cooperation between the United States and the PRC. Kerry said in his statement,

We will create an immediate working group because cyber security affects everybody. It affects airplanes in the sky, trains on their tracks. It affects the flow of water through dams. It affects transportation networks, power plants. It affects the financial sector, banks, and financial transactions. Every aspect of nations in modern times are affected by use of cyber networking, and obviously all of us, every nation, has an interest in protecting its people, protecting its rights, protecting its infrastructure. And so we are going to work immediately on an accelerated basis on cyber.⁷¹

If the Chinese leadership’s public statements are sincere, this is a positive step in the US-China relationship in cyberspace.

Chinese Military Technology

China’s acquisition and development of advanced military technology also offers significant insight into the likely direction of the Chinese-US relationship and will ultimately prove central to any conflict that might occur. Thus, it was selected as the third variable. The military technologies China pursues over the coming decades should indicate whether it perceives the United States as a friend or a clear military threat and the steps it will take to deter or defeat the US military.⁷² Unsurprisingly, China’s military is likely to continue focusing on the defense of the PRC’s core interests in the South China Sea, preventing Taiwanese independence, and building a military capable of defending the country’s advancements.⁷³ For the United States, understanding PLA capabilities, PRC leadership objectives, and Chinese strategic culture may enable it to deter the PRC from acting counter to US interests while supporting China’s peaceful rise.

Cooperation

While the People's Liberation Army (Navy, Air Force, Second Artillery Corps) is in the midst of an impressive modernization program, whether capability improvements will increase the prospects for conflict between the United States and China is uncertain. It is, however, important to point out that the specific weapons systems China acquires and develops send a very clear signal as to where a prospective threat might originate. For example, the acquisition and development of a large number of anti-aircraft carrier missiles, "carrier killers," by the Second Artillery Corps or fifth-generation fighters by the People's Liberation Army Air Force (PLAAF) signal that China sees a threat arising from a peer competitor. On the other hand, a PLA focus on such systems as military airlift, sea transport, and smaller combatant ships—all of which can serve a military, humanitarian, or counterpiracy mission—sends a very different signal. This specific point concerning platform acquisition and modernization also has cultural importance. *The Seven Military Classics* and Daoist writings place importance throughout on avoiding direct confrontation, particularly when facing a superior adversary. Thus, the PRC's modernization program is taking a form that appears designed to mitigate US strengths. This could promote cooperation and stability or create mistrust which degrades the Sino-US relationship.

Consistent with Chinese strategic culture, the PRC has shown a willingness to be patient with regard to securing core interests. In the case of Taiwan, it has waited more than 60 years for reunification and appears content to continue the ongoing integration process. The only indications of a willingness to use force have occurred at moments when Taiwan moved toward a formal declaration of independence. However, as Taiwan backed away from independence, relations with China returned to normal.⁷⁴ Competing claims in the South China Sea are potential flashpoints between the PRC and its neighbors, but China has also shown some willingness to delay aggressively asserting its territorial claims. This may result from a self-perceived weakness in its capabilities by the People's Liberation Army Navy (PLAN) or a reliance on patience and diplomacy, a characteristic of Chinese strategic culture.

In recent years, the PLAN—an increasingly capable blue-water force—has actively participated in counterpiracy operations, multilateral exercises, and, along with the PLAAF, is integrating into the global military community.⁷⁵ In a similar fashion, increased PLA participation in

regional multilateral military exercises and events would also demonstrate a desire on the part of China to integrate into a regional security arrangement.

Increased openness by the PLA is another indicator. Where, for example, the United States publishes a large number of national, defense, and military strategies elaborating US interests and concerns, China has historically remained opaque. The publication of periodic PLA defense white papers over the last decade is a positive development, but greater military transparency would indicate a desire to cooperate.⁷⁶

Conflict

The positive steps are offset by China's periodic aggressive acts, which often undermine confidence-building efforts. The ongoing modernization efforts of the PLAAF and PLAN are particularly concerning for the United States and China's neighbors.

The regular employment of ambiguity, disinformation, and secrecy—characteristics of Chinese strategic culture—in PRC foreign affairs has left the United States and countries throughout Asia reticent to believe that China's military modernization is solely for defensive purposes. With good reason, many nations in the region see the PLA undertaking an aggressive program of indigenous development and foreign (Russian) purchases that is enabling China to develop significant anti-access and area denial capabilities as well as the ability to project power regionally—a posture seen as highly provocative by US policymakers.⁷⁷ The primary effect is that the United States may have difficulty projecting power into the Asia-Pacific.⁷⁸ How China seeks to advance and defend its interests is causing concern within the US military that conflict may result.⁷⁹ Given the PRC's growing assertiveness regarding territorial claims in the South China Sea, it is also possible that missteps like the 2001 EP-3 incident and the more recent confrontation between China and Japan over the disputed Senkaku Islands may lead to an unexpected military confrontation between the two countries.⁸⁰

While the potential for military conflict remains low, the PLA modernization program appears targeted toward the defeat of US strategy in the region. Thus, many of China's acquisition and development choices serve as indicators that the PRC is preparing for a conflict with the United States. For example, China has built and fielded as many as 2,000 conventional ballistic and cruise missiles and is working to increase these numbers.⁸¹ The newest of these, the Dongfeng 31, comes in

two variants. It can be road-mobile and can carry multiple independent reentry warheads with a range of 11,000 km—sufficient to threaten US forces operating throughout the Asia-Pacific region. Over the next decade, the development of precise seeker warheads on these missiles will likely result in an enhancement of China's ability to accurately target ships and airfields. Should the Chinese focus on developing such warheads, the United States can take this as a negative indicator. These weapons are of particular concern to the US military given the lack of facility hardening and protective aircraft shelters at target airfields on Guam, Diego Garcia, and Hawaii, for example.⁸²

Another potential indicator of the Chinese-US relationship's direction is the threat to ships and airfields posed by the indigenously produced J-20 fighter, unveiled during then-secretary of defense Robert Gates' last visit.⁸³ The J-20 is widely considered a fifth-generation fighter, placing it in the same class as the F-22 and F-35.⁸⁴ It appears to have been developed on a time line from first pencil-drawn sketch to prototype in approximately 10 years—a much faster cycle than typically seen in the United States and perhaps, according to the Defense Science Board, aided by stolen F-22 and F-35 plans.⁸⁵ Larger than the F-22, the J-20 is likely to have longer range—giving it medium-range strike capability—posing a threat to US airfields and naval assets closest to China. Again, the future acquisition and deployment of these aircraft will serve as an indicator of the PRC's intent.

China's air defense network, and the deterrent effect it provides, is also becoming more robust. China has purchased the S-300 (formerly called SA-20) and has developed the HQ-19/SA-400 with Russia.⁸⁶ The HQ-19 has variants with up to a 400-km range—with some antistealth capability. Russia is now developing the S-500 and S-1000 systems, which appear to have ranges of 500 to 3,500 km.⁸⁷ The S-1000, if purchased or indigenously produced, could give China surface-to-air-missile ranges that exceed the combat radius of the newest US fighters, requiring them to refuel within range of these systems. There are also indications that these systems are being specifically designed to target air-refueling and airborne early warning aircraft.⁸⁸

China is also investing in a new and robust navy. Its first aircraft carrier is undergoing sea trials and will likely be equipped with helicopters, with fixed-wing aircraft added in the future.⁸⁹ China is planning to build two additional carriers, with the literature suggesting they will be fully

operational by 2020.⁹⁰ The PLAN also continues to add advanced diesel attack submarines that would make it very difficult for the US Navy to operate in the western Pacific.⁹¹

These developments (and others) are congruent with China's stated policy of "defending" its core interests, which it defines as securing and stabilizing the territory of "Greater China" and securing access to food and energy resources.⁹² Greater China includes Tibet, Taiwan, and the semiautonomous provinces of Hong Kong and Macao, as well as some disputed border areas. The Paracel and Spratly Islands, although not usually included in this definition, are clearly seen by some in China as Chinese territory.⁹³

The greatest risk of military escalation emanates from boundary disputes within the South China Sea. China is currently involved in maritime disputes with Vietnam, Brunei, Japan, Malaysia, and the Philippines. The recent dispute with the Philippines over Scarborough Shoal caused tensions to remain high for more than two months.⁹⁴ In April 2012, Chinese fishermen began fishing in disputed territory near the shoal. In response, the Philippines deployed naval vessels escorted by quasi-military utility vessels to the region to protect its claim. As each side deployed more vessels and tensions increased, China's *PLA Daily* suggested that war with the Philippines may be necessary to determine sovereignty over the Spratly Islands. By 24 May, China had 79 vessels arrayed in the disputed territory, including five navy combatants and its flagship vessel.⁹⁵ Shortly thereafter, fearful of the risk of a mistake or of emotions spiraling out of control, leaders on both sides began to work deliberately to deescalate tensions.⁹⁶ In future disputes, cooler heads may not prevail.

US Options

The danger for the United States is that it could be drawn into a conflict triggered by a miscalculation such tensions might cause. For example, just before the recent dispute, the United States had promised the Philippines it would come to its aid in the event of conflict. Had fighting broken out during the standoff, the United States would have had to risk serious damage to the Sino-US relationship or renege on its commitment to the Philippines.

Should the Association of Southeast Asian Nations (ASEAN) declaration of conduct (signed by China) become the framework for resolving

South China Sea disputes, claims in this area may have a path for resolution.⁹⁷ If this mechanism fails, however, the prospects for conflict increase.

China claims it does not seek global power status and that its current military-development programs would limit its ability to conduct long-range force projection (except in cyberspace) for a generation. When pressed, however, Chinese leaders acknowledge they may reach global power status by 2030 or sooner. They then suggest that 2030 is too far away to think about and, at present, they do not seek a global leadership role.⁹⁸ However, China's current modernization programs are clearly targeted toward mitigating US strengths and building a military capable of regional coercion. Because of this, and the increasing importance PLA capabilities play in the China-US relationship, the single best option for the United States may be to maintain military superiority across the air, sea, space, and cyber domains.

Conclusion

Monitoring China's actions in these three vital areas—keeping in mind the cultural context—will offer US decision makers a sense of whether the Chinese-US relationship is moving toward increasing cooperation or conflict. Ensuring the world's two great powers do not go to war will require US decision makers to understand Chinese strategic culture and its long tradition. Preventing conflict will call for an understanding of China that includes a deep and abiding appreciation for Sino metaphysics and philosophy, which have persisted in spite of six decades of Maoism and the new nationalism that is replacing it as capitalism leads to greater prosperity.

China is a state that will seek opportunities to advance its interests and restore traditional relationships with its regional neighbors, and perhaps beyond, all while attempting to avoid clearly challenging the international status quo. This is likely to mean China and the United States will compete on the world stage for economic resources and influence but will prevent that competition from escalating to war. However, if Alastair Iain Johnston is correct, preventing conflict will largely depend upon the United States protecting its interests while presenting China with a natural, cooperative path to continued prosperity.

Historically, great powers have found it difficult to become close friends. At the same time, a nonconfrontational relationship is possible.

Continued trade and cooperation on antiterror efforts, humanitarian relief, and antipiracy operations offer a solid foundation upon which to build relations. This does not, however, suggest that the United States should not carefully monitor the Chinese-US relationship. Observing the directionality of China's use of economic power, activity in cyberspace, and military modernization should give US policymakers and military leaders a sense of whether China and the United States may find themselves at an increasing risk of turning competition into conflict. ■■■

Notes

1. A number of off-the-record conversations by the authors with current and former senior military officers, defense officials, congressional staffers, and State Department officials since 2011 have repeatedly highlighted the disagreement surrounding the future of Chinese-US relations (cooperation vs. conflict) as a point of contention within defense and policy circles.

2. Quoted in Jim Garamone, "China Not Strategic Adversary of U.S., Gates Says," American Forces Press Service, 8 March 2007, <http://www.militaryconnection.com/news/march-2007/china-strategic-adversary.html>.

3. For a military officer's view of this widely held perspective, see Daniel Larsen, "U.S.-China Relations: No Need to Fight," *Joint Force Quarterly* 63, no. 4 (Winter 2011): 92-94. See also Richard Andres, "Recapitalizing the U.S. Air Force: Pay Now, Or Pay Later," *American Interest*, 18 March 2013, http://www.the-american-interest.com/article.cfm?piece=1397#_ftnref1. While those involved with Air-Sea Battle have written in the pages of *Armed Forces Journal* and other publications that this concept of operations is not targeted at China, it is viewed by some Chinese officials and US military officers in much the same way as Queen Gertrude's comment from Act III, Scene II, of *Hamlet*, "The lady doth protest too much, methinks."

4. John Mearsheimer, *The Tragedy of Great Power Politics* (New York: W. W. Norton, 2001). For a detailed description of offensive realism, see Peter Toft, "John J. Mearsheimer: An Offensive Realist between Geopolitics and Power," *Journal of International Relations and Development* 8, no. 4 (December 2005): 381-408.

5. "Clinton Says China Not an Adversary," *Washington Times*, 14 February 2009, <http://www.washingtontimes.com/news/2009/feb/14/clinton-says-china-is-not-an-adversary/?page=1>.

6. Jennifer Sterling-Folker, "Competing Paradigms or Birds of a Feather? Constructivism and Neoliberal Institutionalism," *International Studies Quarterly* 44, no. 1 (March 2000): 97-120.

7. Amitai Etzioni, "China: Making an Adversary," *International Politics* 48, no. 6 (2011): 647-66.

8. Jack L. Snyder, *The Concept of Strategic Culture: Implications for Limited Nuclear Operations* (Santa Monica, CA: RAND, 1977). For an excellent overview of the three generations of strategic culture scholarship, see Rashed Uz Zaman, "Strategic Culture: A 'Cultural' Understanding of War," *Comparative Strategy* 28, no. 1 (Summer 2012): 68-88. See also, Colin Gray, *Nuclear Strategy and National Style* (Lanham, MD: Hamilton Press, 1986); Elizabeth Kier, "Culture and Military Doctrine: France between the Wars," *International Security* 19, no. 4 (Spring 1995): 65-93; and Colin Gray, "Out of the Wilderness: Prime Time for Strategic Culture," *Comparative Strategy* 26, no. 1 (2007): 1-20.

9. Andrew Scobell, "Soldiers, Statesmen, Strategic Culture and China's 1950 Intervention in Korea," *Journal of Contemporary China* 8, no. 2 (Spring 1999): 479.

10. Jack Snyder originally defined the concept in writing that "strategic culture can be defined as the sum total of ideas, conditioned emotional responses, and patterns of habitual behavior that members of a national strategic community have acquired through instruction or imitation and share with each other with regards to [nuclear] strategy. In the areas of strategy, habitual behavior is largely cognitive behavior." Snyder, *Concept of Strategic Culture*, 8.

11. Teijun Zhang, "Chinese Strategic Culture: Traditional and Present Features," *Comparative Strategy* 21, no. 1 (Spring 2002): 73.

12. For an excellent description of Greek rationalism, see Reginald Allen, *Greek Philosophy: Thales to Aristotle* (New York: Free Press, 1991). Enlightenment philosophy is accessibly described in Jonathan Israel, *Democratic Enlightenment* (Oxford, UK: Oxford University Press, 2011). For an understanding of American exceptionalism and the worldview that shaped the United States, see Alexis de Tocqueville, *Democracy in America* (New York: Penguin, 2003). Historians John Shy, Russell Weigley, Henry Kissinger, and T. R. Fehrenbach, along with political scientists Morris Janowitz, Samuel Huntington, Carl Builder, and Colin Gray, have written extensively on the "American way of war." Perhaps the most succinct work on the subject is Adrian Lewis, *The American Culture of War* (New York: Routledge, 2007).

13. Huiyen Feng's *Chinese Strategic Culture and Foreign Policy Decision-Making* (London: Routledge, 2007) suggests that each of the People's Republic of China's leaders from Mao Zedong to Hu Jintao exhibit Confucian defensive strategic preferences. This does not suggest that communism and Chinese nationalism are not important influences in present strategic culture.

14. For an understanding of Chinese thinking, see Lao Tzu, *The Dao De Jing: Book of the Way* (New York: Penguin, 1964); Confucius, *The Analects* (New York: Penguin, 1979); and Ralph Sawyer, trans., *The Seven Military Classics of Ancient China* (New York: Basic Books, 2007).

15. The introductory chapters to Ralph Sawyer's translation of *The Art of War* (2001), Raymond Dawson's translation of the *Analects* (2008), and Jonathan Star's translation of the *Tao Te Ching* (2008) discuss when scholars believe each text was written and when that text rose to prominence within Chinese philosophy. In all three cases, the texts were written by court officials and were only adopted as great texts whose teachings should be followed over a period of more than a thousand years.

16. Feng, *Chinese Strategic Culture*, 36–52.

17. See Jacqueline Newmyer Deal, "China's Nationalist Heritage," *National Interest* no. 44 (January/February 2013): 44–53. Deal offers an excellent synopsis of Chinese nationalism since the later nineteenth century.

18. Alastair Iain Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton, NJ: Princeton University Press, 1998).

19. Interestingly, with near perfect uniformity, US scholars offer a more bellicose view of Chinese strategic culture than do their native Chinese counterparts—who describe Chinese strategic culture as largely defensive and Confucian. This difference in perception may be indicative of the variation in Western and Sino strategic cultures.

20. At a 2011 conference sponsored by the Chinese government, one of the authors was repeatedly told by Chinese academics that China has never acted offensively but always defensively—for the preservation of core interests.

21. In private conversations with Chinese scholars and military officers, this differing view of what constitutes an offensive and defensive act became readily apparent.

22. Sun Tzu, *Art of War* (Boulder, CO: Westview Press, 1994), 185–95.

23. Lao Tzu, *Dao De Jing*, 31–32.

24. Jack Kem, "Military Transformation: Ends, Ways, and Means," *Air and Space Power Journal* 20, no. 3 (Fall 2006): 85–95, <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj06/fal06/kem.html>.

25. For a discussion of the difference in Chinese and Western thinking on this subject see Francois Jullien, *A Treatise on Efficacy* (Honolulu: University of Hawaii Press, 2004), 32–45. According to Jullien, it is more appropriate to juxtapose Western and Sino thinking as goal or consequence. Where Western thinking is goal-focused, Sino thinking is consequence-focused. See also David Kang, *East Asia before the West* (New York: Columbia University Press, 2010), 25–53.

26. In its broadest sense, the Dao is the natural order of all things. It is the natural path of everything from the universe down to the individual. The path, in many ways, is like a river flowing around, beneath, and over obstacles. It reaches the ocean by following the path of least resistance.

27. For example, if you were walking down the street and saw a \$100 bill lying in front of you, it would be incumbent upon you to pick it up and use it for some advantageous purpose.

28. There was disagreement among the authors as to whether the use of *positive* and *negative* was more or less appropriate than *natural* and *unnatural* in this sentence. This is the result of varying interpretations of the original text and the degree to which the individual or country can alter or control the path.

29. Jullien, *Treatise on Efficacy*, 167.

30. While states, Western or Eastern, are wont to miss an opportunity to improve their position, which opportunities they pursue and the rationale behind their actions differ significantly from West to East because of the differences in philosophical traditions.

31. This shortsighted view of Chinese interests can often explain why China will act assertively and then back down. Its leaders have incorrectly perceived that an opportunity was present when, in fact, it was not. See Mark Leonard, *What Does China Think?* (New York: Public Affairs, 2008), 88–90.

32. For a detailed discussion of the inner workings of the Chinese Communist Party (CCP) and its views, see Richard McGregor, *The Party: The Secret World of China's Communist Rulers* (New York: Harper, 2010). Chapters two and seven are particularly instructive of how the CCP has inserted itself into and become dependent upon China's liberalizing economy.

33. J. R. Wu, "Wen Engages Chinese in Web Chat," *Wall Street Journal*, 1 March 2010, A-7.

34. Stephen Cohen and J. Bradford DeLong, *The End of Influence: What Happens When Other Countries Have the Money* (New York: Basic Books, 2010). See also Niall Ferguson, "Complexity and Collapse: Empires on the Edge of Chaos," *Foreign Affairs* 89, no. 2 (March 2010).

35. Susan Shirk, *China: Fragile Superpower* (Oxford, UK: Oxford University Press, 2007), 13–34.

36. Joshua Kurlantzick, *Charm Offensive* (New Haven, CT: Yale University Press, 2007), 82–107.

37. The economic and defense expenditure forecasts and the elements of China's possible economic strategy, referred to in this article, have been taken from Chad Dacus, "Chinese Soft Economic Warfare," in *The Asia-Pacific Century: Challenges and Opportunities*, ed. Adam Lowther (Maxwell AFB, AL: Air University Press, 2012).

38. Since assuming his current post, Xi Jinping has given no indications through his public speeches or actions that suggest the regime will pursue a more aggressive policy during his tenure. In fact, his recent imposition of authority on Chinese elites suggests that the senior leadership is focused on internal challenges.

39. See "China's Spending on Internal Police Force in 2010 Outstrips Defense Budget," Bloomberg, 6 March 2011, <http://www.bloomberg.com/news/print/2011-03-06/china-s-spending-on-internal-police-force-in-2010-outstrips-defense-budget.html>.

40. With a few notable exceptions, such as the Soviet Union, empires and great powers were built through commercial success which then enabled the development of military might. China is on course to follow this same historical example. And like past empires and great powers, China may seek to use its newfound power in more aggressive ways to reshape the international system—often in ways that appear to the detriment of its interests. See Jane Burbank and Frederick Cooper, *Empires in World History* (Princeton: Princeton University Press, 2010).

41. Those who believe the PRC would not take such an action argue that it would impose an economic cost on China, thus it is unlikely to occur. This argument is not persuasive because all forms of warfare impose costs. Economic warfare has the benefit of avoiding kinetic operations while still harming an adversary.

42. After China ended shipments of rare earth elements to Japan in 2010, the United States, Australia, and other nations began looking at their own production of these minerals. At present, there is no replacement for China's near monopoly. It may, however, come in future decades. Roland Buerk, "Japan and China in Rare Earth Dispute," *BBC*, 10 November 2010, <http://www.bbc.co.uk/news/business-11727224>.

43. While the potential success of an economic attack on the United States is debatable, the Pentagon has given serious consideration to the possibility. War games and studies have been commissioned by the DoD to examine a wide range of possible economic warfare approaches and US susceptibility to such tactics. See Eamon Javers, "Pentagon Preps for Economic Warfare," *Politico*, 9 April 2009, <http://www.politico.com/news/stories/0409/121053.html>.

44. Aileen Wang and Nick Edward, "China Steps up Effort to Diversify FX Reserves," *Reuters*, 13 January 2013, <http://www.reuters.com/article/2013/01/14/us-china-forex-investment-idUSBRE90D05T20130114>.

45. Keith Bradsher, "After China's Rare Earth Embargo, a New Calculus," *New York Times*, 29 October 2010, http://www.nytimes.com/2010/10/30/business/global/30rare.html?_r=0. It should be noted that China denies any formal embargo.

46. Admittedly, a dynamic environment exists. While China is rapidly supplanting the United States as a trade partner for EU nations, the United States is pursuing a free trade agreement with the EU. Such bold moves could dramatically change the bilateral economic balance, as could other large moves.

47. Although many people within the neoliberal institutionalist camp believe that China-US trade will ensure that the two nations do not go to war, this view either implicitly or explicitly suggests that neither China nor the United States has interests of greater importance than bilateral trade. This may not be the case and will largely depend upon the perspectives of US and Chinese decision makers as they weigh one interest against another in the future.

48. Antone Gonsalves, "Chinese Cyber-Espionage Threatens U.S. Economy, DoD Says," *CSO Online*, 24 May 2012, <http://www.csoonline.com/article/707035/chinese-cyber-espionage-threatens-u.s.-economy-dod-says>.

49. Yuval Atsmon and Max Magni, "China's Internet Obsession," *McKinsey Quarterly*, March 2010. See also Bryan Krekel, Adam Patton, and George Bakos, *Occupying the Information High Ground: Chinese Capabilities for Computer Network Operations and Cyber Espionage* (Washington: US-China Economic and Security Review Commission, 7 March 2012).

50. Office of the Secretary of Defense (OSD), *Annual Report to Congress: Military and Security Development Involving the People's Republic of China* (Washington: OSD, 2013), 44–46.

51. *Administration Strategy on Mitigating the Theft of U.S. Trade Secrets* (Washington: The White House, February 2013), http://www.whitehouse.gov/sites/default/files/omb/IPEC/admin_strategy_on_mitigating_the_theft_of_u.s._trade_secrets.pdf.

52. Panayotis Yannakogeorgos, *Strategies for Resolving the Cyber Attribution Challenge* (Maxwell AFB, AL: Air University Press, 2013).

53. Dali Yang and Alan Leung, "The Politics of Sports Anti-Doping in China: Crisis, Governance and International Compliance," *China: An International Journal*, March 2008. This paper was published several months prior to the Beijing Olympics—judged widely to be an amazing success for China in its transformational era of rapid economic growth and entry into the international community.

54. Larry M. Wortzel, "China's Approach to Cyber Operations: Implications for the United States, Testimony to the Committee on Foreign Affairs, US House of Representatives, 10 March 2010."

55. James Areddy, "People's Republic of Hacking," *Wall Street Journal*, 20 February 2010, A-1, describes the three-year imprisonment of a convicted Chinese hacker.

56. Ellen Nakashima, "Confidential Report Lists U.S. Weapons System Designs Compromised by Chinese Cyberspies," *Washington Post*, 27 May 2013, http://www.washingtonpost.com/world/national-security/confidential-report-lists-us-weapons-system-designs-compromised-by-chinese-cyberspies/2013/05/27/a42c3e1c-c2dd-11e2-8c3b-0b5e9247e8ca_story.html.

57. "Obama and Xi Conclude Summit, Ambiguity on Cyber Remaining," *Epoch Times*, 9 June 2013, <http://www.theepochtimes.com/n3/99012-obama-and-xi-conclude-summit-ambiguity-on-cyber-remaining/>.

58. *APT1: Exposing One of China's Cyber Espionage Units* (Washington: Mandiant, 2013), <http://intelreport.mandiant.com/?gclid=CMj66brt4bkCFTFo7Aodtx0A2A>.

59. See "China Hackers Hit EU Point Man and DC with Byzantine Candor," Bloomberg, 26 July 2012, <http://www.bloomberg.com/news/2012-07-26/china-hackers-hit-eu-point-man-and-d-c-with-byzantine-candor.html>.

60. Zhang Ling, "Initial Appearance of the Characteristics of Informationized Warfare," *Liaowang* no. 28 (July 2003): 9–15.

61. Karl Frederick Rauscher and Zhou Yonglin, eds., *Fighting Spam to Build Trust* (New York: East West Institute, 2011).

62. OSD, *Annual Report to Congress*, 12.

63. Hillary Rodham Clinton, "Internet Freedom," prepared remarks, Newseum, Washington, DC, 21 January 2010; and John Pomfret, "China Suspends U.S. Military Exchanges in Wake of Taiwan Arms Deal," *Washington Post*, 29 January 2010, http://articles.washingtonpost.com/2010-01-29/world/36893526_1_china-s-defense-ministry-chinese-energy-companies-china-over-internet-censorship.

64. See Richard Rosecrance and Gu Guoliang, *Power and Restraint: A Shared Vision for the U.S.-China Relationship* (New York: Public Affairs, 2009).

65. Timothy Thomas, *The Dragon's Quantum Leap* (Fort Leavenworth, KS: Foreign Military Studies Office, 2009), 238.

66. US history is replete with examples. World War II was won on technological superiority, not better strategy. When US-German forces were on parity earlier in the war, the Germans would typically win. The invasion of Iraq is a more recent example. Because the United States entered the war with the wrong strategy, the situation on the ground did not improve until strategy caught up with technology and the "surge" was implemented. Ibid, 13–33.

67. "How to Steal a Trillion," *Economist*, 19 February 2013, <http://www.economist.com/blogs/babbage/2013/02/chinese-cyber-attacks>.

68. Because of specific prohibitions on interaction between members of the US military and the PLA by both governments, military-to-military interaction is limited and, as the authors have experienced, circumscribed.

69. Joseph W. Ralston, "Why the Pentagon Needs Friends in Beijing," *Wall Street Journal*, 5 March 2010.

70. James Fallows, "Cyber Warriors," *Atlantic*, March 2010, 58–63. Also see "Mike McConnell on How to Win the Cyber-War We're Losing," *Washington Post*, 28 February 2010, B-1.

71. John Kerry, solo press availability in Beijing, China, 13 April 2013, <http://www.state.gov/secretary/remarks/2013/04/207469.htm>.

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Reforming Defense

Lessons for Arab Republics

Zoltan Barany

No institution is more important to the survival of regimes than their armed forces. As the recent upheavals in the Arab world have once again demonstrated, whether states are able to suppress uprisings or become victims to them largely depends on their armed forces' attitudes toward the protesters and the state itself. The military's role is also critically important to the transition prospects of political systems. No political regime can be consolidated in the absence of armed forces which support its political leadership. The generals' backing is an indispensable prerequisite of regime consolidation for polities of *all* types, whether democratic or authoritarian: quite simply, the new regime *needs* the military establishment's support.

Much of this article is about defense reform, particularly defense reform for states engaged in *democratic* transition. An alert reader might immediately summon a widely used definition of democracy—one that identifies requirements such as genuine competition for power, mass participation on a legally equal footing, and civil and other liberties that restrict the sphere of state power within the society—and reasonably wonder whether speaking about democratization in the contemporary Arab context is justified. Indeed, there are no genuine, consolidated democracies anywhere in the Arab world today, and although some of the post-Arab Spring leaders in Tunisia, Yemen, and elsewhere have paid lip service to democratization as their political end-goal, it is certainly prudent to maintain a healthy dose of suspicion regarding these claims. Democratic civil-military relations and defense reform for democratic states are important not just to set high standards, but also to be able to measure progress even if those standards may not be soon achieved by

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transitioning countries in the Middle East or elsewhere. Presented here is an *ideal type* of civil-military relations reform without illusions concerning the state of Arab polities or their determination to approximate them.

There is no mystery about what are the key attributes of democratic civil-military relations. What does make a great difference, however, is the starting point of defense reform. Are reforms being implemented in a political system just emerging from military or dictatorial rule, socialism, a major interstate war or civil war, or perhaps from a colonial past? The differences in these contexts cause the task of rebuilding the military and the manner in which reforms are implemented to be rather different as well. The fundamental question is how to build an effective, cohesive, and accountable military under the conditions of regime transformation. This article considers four Arab states—Tunisia, Egypt, Libya, and Yemen—that fell into three different categories in terms of their political environments following the recent upheavals: Tunisia was essentially a single-party state, Egypt approximated a country emerging from military rule, while Libya and Yemen could be viewed as post-civil-war cases. First, it explains *what* specifically should be reformed, considering components of a reform package democratizing states need. To illustrate key points, examples from around the world show what defense reforms have been tried and what measures have worked or failed in different settings. Next the attention shifts to *how* defense reform should be conceived and conducted, with special reference to countries emerging from single-party regimes, military rule, and post-civil-war environments. Finally, the article seeks to identify special areas of concern and opportunity for the military establishments of Egypt, Libya, Tunisia, and Yemen.

Components of Defense Reform

Crafting democratic civil-military relations is an endeavor largely determined by the context in which it is pursued. It is essential to discuss the main components of the reform program to be implemented in virtually all political systems transitioning toward democracy.

Minimizing the Military's Prerogatives and Political Activism

A democracy should not aspire to a politically neutral military but to one that is firmly committed to democratic governance. The armed

forces must be depoliticized, and its members must not play any political role other than exercising their civic right to vote. Active-duty military personnel must not run for, accept, or hold political office and should not appear at political rallies in uniform. The selection and promotion of the top military leadership must be controlled by civilians—ideally some combination of officials from the executive and legislative branches and, again, ideally (but not necessarily) following consultation with senior officers. One related issue is the need to codify the political institutions' areas of responsibility over the armed forces for all potential scenarios (peacetime, emergencies, war).

In most democracies, the head of state is the military's commander in chief, and a civilian minister of defense is responsible for day-to-day operations. Selecting a defense minister who possesses a measure of expertise or at least some demonstrated interest in defense-security matters and international affairs signals to the armed forces that the state takes them seriously. Ideally, the defense minister and the ministry are integrated into the governmental power structure, enjoy the confidence of the president/prime minister, and are willing to defend the legitimate professional interests of the military. It is important that chains of command within the armed forces are clearly spelled out and potential ambiguities eliminated. The top-ranking uniformed person of the military should be subordinate to the *civilian* defense minister, a cabinet member who represents the government in the armed forces and the armed forces in the cabinet.

The military must be accountable before the law, obedient to and supportive of the democratic polity, and its professional responsibilities constitutionally regulated. The armed forces should be staffed by individuals who are *inclined* to obey, and the state should adjust the incentives of the military so, regardless of their nature, they *prefer* to obey.¹ Enforcing the retirement age (say 55) for officers in post-authoritarian contexts usually effectively serves the purpose of getting rid of trouble-making generals. Establishing a military pay scale that corresponds to civil service salaries on appropriate levels helps create a culture of transparency and enhances desirable relations between the armed forces and society.

All too often the elites of newly emerging democratic regimes have little understanding of and/or interest in learning about the military as a professional organization. This is a costly mistake, because it is in the direct interest of the state to maintain armed forces that are not

only supportive of democratic governance but also capable of executing the missions assigned them. It is important not only that the military avoid politics, but also that it is content with the conditions of service. Although in a democracy the military should not have to be bribed or appeased, the state ought to extend the armed forces high professional status through the provision of up-to-date equipment and decent salaries and benefits; raise the social esteem of the military profession; avoid intruding into internal affairs, such as training and routine promotions; and, by all means, avoid using the military as a tool in domestic political competition. A democratic state must honor the military's *esprit de corps* while preserving democratic values and respect for human rights within the military culture.²

What has been the experience of removing armed forces from politics around the world? The answer depends largely on the amount of leverage the armed forces possess at the time of regime change. Ordinarily, military elites that enjoy little leverage and retain modest societal support at the time of regime change are easily extracted from politics and are not in position to effectively oppose the reduction of their privileges by the new democratizing regime. The best examples of this scenario are Greece and Argentina after military rule (1967–74 and 1976–83, respectively). In contrast, where the armed forces maintain significant public support at the end of their rule—post-Pinochet Chile comes first to mind—democratizers need to be far more careful with how they treat the military that, in any case, tends to preserve some of its privileges and political clout, at least in the short run.³

The situation is rather different in post-socialist (or post-single party) states. In these regimes the party controls the armed forces through a variety of institutions and agencies and is an organic component of the military itself; there are party organizations from the top echelons of the armed forces to party cells at the lowest level. Much of the training period of armed forces personnel is taken up with ideological indoctrination and ensuring that soldiers and their commanders remain loyal and vigilantly protect the regime (rather than the nation). Getting the military to accept a reduction in privileges is seldom difficult in post-socialist regimes because the armed forces were previously under firm party control.

Eliminate the Military's Domestic Missions

Since a principal objective of civilian leaders is to prevent the armed forces from interfering in domestic politics, the conditions under which the military may be used internally must be specified by law. Generally speaking, in the modern democratic state, the only legitimate internal role for the military is to provide relief after natural disasters—a mission it is ideally positioned to fulfill and which tends also to increase its societal esteem. It should not be used to quell domestic disturbances or perform crowd-control and other security functions which should be the responsibility of the police and other domestic security organizations. In particular, the armed forces should have no role in anti-drug-trafficking policies, because such activities inevitably increase the likelihood of corruption. In a similar vein, soldiers ideally would not participate in domestic programs such as rural infrastructure development that might foster politicization. States that maintain paramilitary organizations, gendarmeries, militias, national guards, and the like must clearly regulate the use of those organizations. The constitution must be clear about both the sort of domestic tasks permissible for the armed forces and the conditions necessary for their deployment.

There are a number of states with otherwise appropriate civil-military relations where the military is asked to fulfill functions it should not. One example is the Indian armed forces' continued involvement in the suppression of domestic conflicts. This constitutes such a troubling aspect of Indian military politics that, according to Stephen Cohen, "India is not a democracy in many of its districts where the army and the paramilitary forces supplanted the judiciary, the civil administration, and the ballot box as the ultimate arbiter."⁴

In a democratic state, the wartime use of the military must also be unambiguously regulated in the constitution. Ordinarily, the power to declare war or a state of emergency rests with the legislature, or at the very least, the executive must obtain parliamentary approval. The deployment of troops, with or without a formal declaration, is an important constitutional issue pertaining, in particular, to presidential powers and has been widely debated. In the United States, for instance, it was settled only in 1973 with the War Powers Resolution which clearly defined how many soldiers could be deployed by the president and for how long without legislative approval. In Canada, however, the declaration of war is still entirely an executive prerogative—while parliament has

been consulted, it has never claimed the right to declare war or to say when it has ended or how it should be conducted.⁵

Eliminate the Military's Role in the National Economy

Business activities distract soldiers from their primary mission—the defense of the homeland—and create conditions for corruption, negative interservice or inter-unit rivalry, and harm to the professionalism and societal prestige of the military establishment. Thus, the armed forces should not be involved in the economy. China is one major power where the negative effects of the People's Liberation Army's (PLA) decades-long and perfectly legal economic activities were recognized by the political leadership. In the late 1990s the Chinese Communist Party leadership debated the issue and in 1998 promulgated the Divestiture Act that banned the PLA from all commercial activities. Recent analyses have confirmed that the new policy has contributed significantly to the PLA's growing professionalism.⁶ The detrimental consequences of the armed forces' economic role have been acknowledged in other states that cannot compete with the Chinese state's financial resources to make up the difference in the defense budget the military would lose as a result of ending its business endeavors. For instance, Indonesian president S. B. Yudhoyono promised to drastically scale down the armed forces involvement in the national economy, and in 2004 a law was passed by the Jakarta legislature to enforce this policy. Although the results have left a great deal to be desired—the Indonesian state, unlike the People's Republic of China, has no way of compensating the armed forces for their lost revenues—the intention alone speaks for itself.⁷

Strengthening Legislative Involvement

Military politics is played out between the triangle of the state, the armed forces, and society, where the state side is usually dominated by the executive branch, with far less clout enjoyed by the legislature. An important criterion of democratic governance is that civilian control over the armed forces be *balanced* between the executive and legislative branches. As Robert Dahl wrote, “the civilians who control the military [and police] must themselves be subject to the democratic process.”⁸ The legislature debates foreign policy and defense issues and ought to have the power to call on members of the executive branch and the armed forces to testify before it in open or closed hearings. Nevertheless, in

many democracies legislators do not play an independent role in overseeing the armed forces, either due to limitations on their space of action, lack of expertise or interest in defense matters, or insufficient access to objective data and information. Inadequate legislative involvement in the defense-security domain is a shortcoming in numerous states that otherwise have overwhelmingly positive civil-military relations, such as Botswana, Greece, and Japan.

In only a few polities does the legislature play the kind of role necessary for substantively balanced civilian control of the military. This role comprises not just the debating and passing of defense-related bills but also, crucially important, taking an active part in three aspects of the armed forces fiscal affairs. First, parliament determines the process of how defense budgets are devised, including the questions of what institutions (e.g., general staff, defense ministry, governmental advisory bodies, NGOs, the executive office, and/or legislative defense committees) are involved and in what sequence. Second, the deputies participate in the formulation of the actual defense budget. And third, legislators maintain oversight of the disbursement and implementation of defense outlays. Countries with a long-term record of active and vigorous parliamentary oversight are rare; of those with post–World War II transitions to democracy, Germany and Spain are particularly prominent.

It is important to realize that at the time of transition in most countries, the legislature, if it indeed exists at all, is seldom the powerful representative of the people. In the Arab world, in particular, legislatures have been, at best, pro-forma rubber-stamp institutions staffed by sycophants and used to lend the rulers a thin and spurious veneer of legitimacy. This is even more so in the eight Arab kingdoms—all of them absolute monarchies—in which only the Kuwaiti legislature has been able to carve out real political influence, but even there the emir can, and frequently has, dissolved parliament when he found its activities inconvenient.⁹ Therefore, needless to say, weak legislatures must be first strengthened before they can play a meaningful political role, including the role of overseeing and controlling certain aspects of military affairs.

Bringing In Society

Independent civilian defense experts, nongovernmental organizations (NGO), and journalists focusing on security issues can play an important role in advising elected officials and the public about military affairs.

Their involvement can encourage transparency and promote confidence between state, society, and the armed forces. Introducing defense-related courses at universities, allowing civilians—journalists, bureaucrats, politicians, and others—to enroll in appropriate programs at military academies, and providing some public funding on a competitive basis to NGOs studying defense issues can all contribute to the overall improvement of democratic civil-military relations. In sum, in a democratic state the public has easy access to balanced, objective information regarding defense and national security matters.

Use the Military's Expertise

States and societies make considerable financial and other sacrifices to educate, train, equip, and otherwise maintain their armed forces. Marginalizing military officers by not asking for their advice in the process of devising defense and/or foreign policy, let alone military strategy, is irresponsible public policy and wasteful of public resources. In other words, officers acquire their specialized knowledge at a significant cost to taxpayers who should get some return on this investment. Using military expertise does not mean politicians are obligated to adopt recommendations, but foregoing the opportunity to listen to expert military advice on issues concerning their own and other militaries' capabilities is unwise. The practice of regularly requesting that officers share their knowledge with their civilian masters is also beneficial for overall civil-military relations. It makes the military feel useful, important, relevant, and more vested in the success of the regime.

It would be difficult to find a case more illustrative of how things go wrong when the armed forces are ignored or marginalized than under presidents Néstor Kirchner (2003–07) and his widow, Cristina Fernández de Kirchner (2007–present), in Argentina. In 2005 Kirchner appointed Nilda Garré, a former leftist militant, to lead the defense ministry. Throughout her term, Garré and the all-civilian defense ministry leadership showed nothing but contempt toward the armed forces as an institution, did not ask for military advice, and seldom met with the service chiefs. The ongoing tension between the ministry and the military benefited neither.¹⁰

Identifying New Missions

Samuel Huntington wrote that policymakers should equip their post-transition armies with “new and fancy tanks, planes, armored cars, artillery, and sophisticated electronic equipment,” in other words, “give them toys” to keep them happy and occupied.¹¹ But most states do not enjoy the resources necessary to take this advice. So, what should they do? One important part of the solution is to search for new missions for the military, such as international peacekeeping operations. These activities will make soldiers feel useful, enhance their own prestige as well as the international regard for their country, and might even be a significant source of income for military personnel in poor states. In addition, the special skills and training peacekeepers require creates the need for international peacekeeping centers and conflict prevention, management, and resolution programs that boost international cooperation and improve the military’s public image at home.

Participation in internationally sanctioned operations has benefited the soldiers of especially poorer countries. For instance, the Bangladeshi armed forces have been heavily involved in United Nations peacekeeping activities. In the Bangladeshi case, these operations have constituted a major source of domestic and international prestige and much-needed resources for the military.¹² Involvement in peacekeeping activities can also serve the domestic and international “rehabilitation” for armed forces in need of an image boost. For instance, Argentine president Carlos Menem (1989–99) was a strong advocate of UN-sanctioned international peacekeeping operations, believing that they would promote Argentina’s readmission into the international community after years of military rule and also help create a new identity for its armed forces.¹³

Thinking about Implementation

Obviously, before policymakers begin implementing these reforms, they must consider the type of regime their country is transitioning from because it will largely determine their tasks. For instance, after military rule (e.g., the Egyptian setting) during which military officers enjoyed numerous political and/or socio-economic perquisites, the aim of democratizers is to “roll back” the army’s privileged status and establish armed forces that are the servants of the state and its citizenry. After the fall of single-party regimes (e.g., Tunisia), the main task of democratizers

is not to take the military out of politics—as in post-military regimes—but the opposite, to take the politics out of the military; that is, to abolish party organizations and party influence over the armed forces.¹⁴

The task of reformers operating in a post-civil war setting (e.g., Libya or Yemen) is far more complex. In such environments, the need to balance public sector positions assumes great significance. In the military realm, putting ethno-religious or tribal quotas into practice is a difficult but necessary endeavor that can be accomplished according to different methods and with varying levels of success. Nonetheless, fostering the creation of a truly national identity, particularly in the armed forces, is an important long-term objective.

In post-civil war Bosnia, for instance, the unusual strategy of keeping soldiers in units segregated by religion may be in large part responsible for the preservation of divisions, aversion, and distance between different ethnic communities in the military 18 years after the end of hostilities.¹⁵ The Lebanese armed forces—like postconflict armies of Guatemala, Mozambique, Nicaragua, Nigeria, Sierra Leone, and South Africa—have been fully integrated, which has generated no major sectarian problems. In Salvadoran army units, as well, former guerrillas and government soldiers have quickly found a way to put the past behind them and concentrate on their tasks.

The objectives of post-authoritarian defense reform can be well conceived, but a crucial part of the reform program is the manner in which it is put into practice. Especially in cases where the military had retained some leverage following the fall of the old regime, *how* reforms are implemented can be a very sensitive issue. Consider three principles to properly carry out military reforms.

Clarity

Given the high stakes—that is, the military's ability to overthrow the state—it is essential to provide the armed forces with as unambiguous a political environment as possible. Constitutions should be clear about the chain of command in peacetime, wartime, and in national emergencies. What is an acceptable political role for active duty, reserve, and retired armed forces personnel? Should they be able to vote, join parties, appear in uniform in political rallies, run for office? This must be explained and regulated, and the consequences of noncompliance should be clear and consistently applied.

In dealing with the armed forces leadership, the government should strive for transparency. Political leaders should explain to the top brass, for instance, the political, social, and economic justifications for the defense budget, why the promotion of General X was vetoed by the prime minister, or the reasons for the party debates regarding abolition of universal conscription. Such transparency reduces insecurity, builds trust, and helps eliminate rumors. The importance of clarity in regulations and lack of ambiguity in laws has been demonstrated by the murkiness in the 1992 Chapúltepec Accord that ended El Salvador's civil war. According to Chapúltepec, the Salvadoran armed forces (FAES) are constitutionally limited to external security operations (defense from external threats) and providing help in national emergencies (this was to denote—but *did not specify*—natural disasters). Nevertheless, when opposition politicians questioned the deployment of thousands of FAES soldiers in the countryside to fill the vacuum created by the layoff of corrupt counternarcotics agents, the government responded that the operation was legitimate because crime in rural areas had reached “emergency proportions.”¹⁶

Gradualism and Compromise

In many democratic transitions from authoritarian regimes where the military enjoys an influential political role, swift and drastic changes are not advisable because they might unnecessarily provoke the ire of the soldiers for whom regime change signifies the loss of power and privileges. Following a gradualist approach that emphasizes coalition building and willingness to make acceptable compromises is usually a prudent way to proceed.

A fine example of this is Adolfo Suárez, Spain's first democratically elected prime minister (1976–81). Intent on radically transforming the Spanish defense establishment, Suárez moved prudently. He first sought and obtained the collaboration of influential military circles who were concerned primarily with the future of the armed forces. Only afterward did Suárez approach the confirmed democrats in the officer corps who might have objected to the former group.¹⁷ He implemented further reforms with the coordination of the service branches only after prior consultation with them.

In countries where the armed forces retain some political clout and public esteem after withdrawing from power (e.g., in contemporary Egypt), it is

especially important not to needlessly antagonize them by overly rapid reform programs designed to reduce their autonomy and privileges. The inability of politicians to compromise when necessary or accommodate the generals on issues of minor importance might easily alienate those officers who would be otherwise willing to subordinate themselves to civilian control. In other words, strategic compromises can enhance the prospects of successful democratic consolidation and cement civilian control over the armed forces. An apt example is Chile under its first post-Pinochet president, Patricio Aylwin (1990–94). At first, Chile's democratic reformers were forced to trade civilian control of the armed forces for short-term regime survival.¹⁸ The military was still powerful and retained the approval of a large segment of the population, and all the new regime could do was try to consolidate and expand presidential and state power over the generals. While Aylwin's options were limited, there were a number of things he could do, and he succeeded in doing them. He established the Commission on Truth and Reconciliation to search for the truth, identify victims, and establish accountability. The government's action resulted in moral reparation and monetary compensation, even if the armed forces leadership, insisting that its 1973 intervention was a "patriotic mission," refused to apologize. Aylwin's main objective was to begin a process of democratic consolidation that could only succeed if soldiers returned to their barracks and stayed there.¹⁹

Gradualism is particularly important in post-civil-war reform implementation. Given that in civil wars, by definition, the warring sides know one another, healing the rift between them is likely to take far longer than between strangers after a war between different states. For starters, the amount of time between the realization of opposing sides that a cease-fire and peace settlement are desirable and the actual signing of an agreement may be considerable. True reconciliation between the erstwhile antagonists is nearly always a long process; indeed, it might take generations. At the same time, it must be relentlessly pursued, because as long as politics is about identity rather than issues, nationalist and extremist parties will enjoy an influential political role at the expense of political organizations with more substance-oriented agendas.

Sequencing and Interference

Individual settings require different types of defense reforms. The main tasks for democracy builders range from having to build new

independent armies on the shaky or absent foundations left behind by imperial powers to drastically reducing the autonomy, privileges, and size of the armed forces in post-praetorian environments. A thoughtful sequencing of defense reforms can be exceedingly important in ensuring the military's compliance and cooperation. Consulting with democratic-minded military officers regarding the details and order of reform usually signals the state's willingness to consider the perspectives of the armed forces and can be expected to foster an agreeable inter-institutional climate. Such discussions do not mean the government is obligated to take the generals' advice, but as the Spanish case suggests, they are helpful in finding out the military's preferences and usually benefit both sides.

There are numerous other things the state should do. For example, civilian rulers ought to identify themselves with the armed forces, attend their ceremonies, award medals, and praise the soldiers as exemplifying the noblest virtues of the nation.²⁰ To illustrate the good sense of this point, we need look no further than post-military-rule Argentina. President Menem significantly reduced the military's political autonomy and budget and yet was held in high regard by the officer corps due to his numerous positive deeds signaling his appreciation of the armed forces. In contrast, Presidents Kirchner and Fernández alienated the military through a number of humiliating and unnecessary gestures.

The state must oversee the promotion of the most senior members of the armed forces. At the same time, politicians should make sure that if they do veto promotions, their reasoning is based on solid evidence regarding the objectionable candidate's professional competence or political attitudes. Politicians should not interfere in the routine promotions of lower ranks nor should they meddle in military education, training, and professional concerns unless those are in conflict with the regime's fundamental political values. When they do interfere, trouble tends to follow. A fitting example is the way in which Thai prime minister Thaksin Shinawatra (2001–06) frittered away his once considerable leverage over the Royal Thai Armed Forces. Notwithstanding his many conciliatory gestures toward the RTAF—which included steering his cabinet away from meddling in the army's internal affairs in his first couple of years in power—Thaksin enraged the top brass by repeatedly interfering in the army's promotion procedures to solidify his support base. Choosing to ignore signals of the deep-seated displeasure his actions provoked among the generals, he continued to appoint supporters and

even family members to top RTAF posts. These dangerous measures ultimately sacrificed not only Thaksin's regime, but more broadly, civilian rule in Thailand.²¹

Defense Reform in the Arab Republics

All of the Arab states where uprisings took place in 2011 are currently far from democratic consolidation. In fact, it is unclear whether their political elites desire democracy. Nevertheless, reforming military politics and the defense-security establishment should be an important priority of their transition, even if it is from one authoritarian regime to another.

In many respects Arab armies have been rather similar to the armed forces of other authoritarian states. In the post–World War II era, numerous Arab monarchies fell to military coups (e.g., Egypt, Iraq, Libya, Syria, Yemen), and the coup leaders along with the officer corps ordinarily became a part of the ruling elite. The Arab republics born in coups, along with several monarchies where unsuccessful coup attempts took place (Morocco, Jordan, Bahrain, Saudi Arabia), realized the grave necessity of coup-proofing. This meant relying on family, tribal, ethnic, and sectarian loyalties; creating new paramilitary organizations charged with the protection of the regime whose commanders reported directly to the ruler; and making sure that all entities entrusted with security functions were spying on one another.²² In some Arab states the armed forces received significant business interests (Egypt, Syria, Yemen) while in others, their economic involvement was not permitted. Although some Arab armies have become quite professional, political considerations continue to take precedence over merit-based evaluation of military personnel in many countries.²³

Uprisings in 2011 led to the fall of authoritarian regimes in Tunisia, Egypt, Libya, and Yemen.²⁴ The status of countries prior to defense reform is crucially important to consider because it strongly affects the reforms to be implemented and the manner of implementation itself. These four countries represent very different situations. Egypt's civil-military relations in many respects are similar to those of a country just emerging from military rule.²⁵ Libya and Yemen, on the other hand, should be thought of as post-civil war cases. Finally, Tunisian military politics may be compared to that of a country after the fall of one-party

rule, where the military did not play more than a relatively passive supporting political role. These four republics can learn from the experiences of earlier transitioning states in shaping new civil-military relations.²⁶

Tunisia

Tunisia is where the wave of unrest began, in mid-December 2010. Once it became clear that the security forces were unable to control the demonstrators, President Zine al-Abidine Ben Ali ordered army chief of staff Gen Rachid Ammar to deploy his troops to suppress the uprising. Ammar rejected the order and placed his men between the security units and the protesters, thereby effectively saving the revolution and forcing Ben Ali into exile. The military's decision not to side with the regime was not surprising. Ben Ali's predecessor, Habib Bourguiba, had deliberately kept soldiers out of politics during his three decades as president (1957–87), even banning them from joining the ruling party and withholding from them the right to vote. Ben Ali continued the policy of keeping the armed forces on the political sidelines. Unlike most other North African militaries, Tunisia has never attempted a coup, never took part in making political decisions, never was a “nation-building” instrument, and never joined in economic development schemes. Ben Ali kept it a small (approximately 30,000 strong in contrast to the five-times-larger police force), marginalized, and modestly funded force focused on border defense.

The armed forces are widely considered as a *national* institution by Tunisians in contradistinction to the Presidential Guard, the police, and the security organizations. Undistracted by politics and despite its meager budget and equipment, the Tunisian military in time came to rank among the Arab world's most professional forces. With its comparatively disadvantaged status and its officers' disdain for the notorious corruption of the presidential clique, the military had no special stake in the regime's survival and no strong reason to shoot fellow Tunisians on the regime's behalf. In no Arab country has the military been more clearly distinct from the regime in power: indeed, in Tunisia the term *la grande muette* (the big silent one) is often used to describe the army's noninterference in public affairs.²⁷ The population maintained an overwhelmingly positive view of the armed forces, which requires a one-year service for young men; in fact, the military *was not* identified by Tunisians as part of Ben Ali's coercive apparatus.²⁸

From the perspective of civil-military relations reform, Tunisia is in an enviable situation indeed. The biggest task for reformers in polities that follow a regime like Ben Ali's in Tunisia—one similar to one-party rule—is to reduce political influence of the former elites in the military. But Tunisia's armed forces were highly unusual to the extent that the old regime marginalized them and did not require soldiers to continually demonstrate their overt political support. Moreover, the military had a relatively small budget, corruption in the army was not a serious problem, and the institution had played no role in the national economy.²⁹

Tunisian military leaders have repeatedly expressed their willingness and even enthusiasm to work with the new regime in establishing democratic civil-military relations. They have declared that their extant arsenal and equipment was sufficient to fulfill their mission—a rather unusual opinion to hear from high-ranking soldiers.³⁰ The Ministry of Defense is mostly staffed by civilian personnel and is led by a civilian minister. One important task for Tunisia is to increase the legislature's involvement in defense matters. Tunisian political elites might want to follow the blueprint of new democracies of Southern and Eastern Europe where legislative work also had to be filled with content following democratic transition in the last few decades. It is important to note, however, that even in Spain, perhaps the quickest and most successful case of military transition in the region, the road to success was neither linear nor without difficulties.³¹ The key is to promote legislators' interest in defense issues and provide them with the unbiased civilian expertise they need—access to experts on military-security issues and relevant NGOs—to allow them to make informed decisions. All signs suggest that the legislature in Tunis will be working with an entirely accommodating group of generals.

Egypt

Every Egyptian leader since the monarchy fell in 1952 has been a military man with the exception of Mohamed Morsi, who was president for a mere 368 days (30 June 2012–3 July 2013) before the army overthrew him. After the 2011 uprising that unseated President Hosni Mubarak, the position of Egypt's military seemed in many ways like an army emerging out of military rule possessing plenty of leverage. To be sure, this analogy is somewhat misleading; after all, the Egyptian armed forces were less politically influential in the last couple of decades of

Mubarak's 30-year reign than the internal security apparatus.³² Nevertheless, their significant remaining political clout, their deep involvement in the national economy, and their high societal prestige—which only increased following the revolution—rendered them, along with the Muslim Brotherhood, one of the two most important political players in the country.³³ If Egypt were on course to a democratic transition—hardly a given—there would be a lot it could learn from earlier democratization experiences. Although there are several ways to improve Egyptian civil-military relations, the strong position of the Egyptian armed forces cautions optimism about how much of these reforms can be or will be implemented. But casting doubts aside for the moment, one can see what *could be* done in an ideal world.

The Egyptian legislature should certainly gain more voice in defense matters by actively involving itself in debates regarding defense budgets, the use of monies, and the manner in which they are distributed, along with calling leading officers to provide parliamentary testimonies. An example that might be instructive is Indonesia, where after Suharto's fall, a gradual transition took place that culminated in something approximating democratic consolidation in the past decade. The parliament in Jakarta does have a significant say in controlling the defense budget—it even has the right to change specifications of procurement items. Overall, however, Indonesian parliamentarians still exercise little oversight outside of budgetary matters, which are, admittedly, one of the most important areas to oversee. The reason is that many legislators lack the expertise or interest to ask the right questions, and they don't have the support staff to prepare properly. Parliament's role expansion had gone hand in hand with a number of new laws narrowing military prerogatives, creating a powerful constitutional court, and gradually growing the clout of civilian political institutions.³⁴ Given that the state religion in Indonesia is also Islam, its overwhelmingly successful experience in transforming civil-military relations should be closely followed by Egyptian democratizers.

Another case Egyptian democratizers might study with profit is Turkey during the now decade-long prime ministership of Recep Tayyip Erdoğan. The Turkish military's power has been gradually diminished by political elites through the diminution of the army's representation in central institutions and the slow but steady expansion of the legislature's involvement in defense affairs.³⁵ Although Turkey is far ahead of Egypt

in terms of political, economic, and social development, its experience in the last decade demonstrates the continuous gains a moderate Islamic state can make in limiting the political influence of a once seemingly omnipotent military establishment. To be sure, not everything in the Turkish experience is worthy of admiration—the recent judicial campaign against leading generals is a case in point—but Egyptian reformers would have much that is progressive to consider.³⁶

Another important area of concern for Egyptian reformers is the army's deep involvement in the national economy. As noted above, in recent memory only the Chinese government was able to eliminate the military's previously significant economic role. In contrast to Egypt and Pakistan—where the army has also carved out for itself a substantial economic presence—China possessed the financial resources to complete the army's transitioning out of the economy without corresponding shock to the defense budget.³⁷ Unlike in Egypt and Pakistan, where the armed forces play critical political roles in the state, the Communist Party's control of the Chinese military is unchallenged.³⁸ Any serious contemplation of a forced reduction of the army's political role can only begin once the state is firmly in control of the armed forces, which does not appear to be the case in present-day Egypt. It is also important to be aware of the coup-proneness of military elites during the diminution of their political influence, as shown by the lessons of Argentine, Russian, Spanish, and Thai post-authoritarian transitions (some successful, others not).

Since 2011 the army remained a critical factor of the political equation in Egypt. One of the indispensable tasks of the Muslim Brotherhood-dominated government in Cairo was to reduce the military's political influence and, if possible, turn the generals into obedient servants of the state.³⁹ It did not succeed. Even though President Morsi retired a number of top military leaders and managed to return the soldiers to their barracks in August 2012, the armed forces retain a great deal of autonomy in the country's new constitution. The new National Defence Council, introduced in June 2012, has 11 military representatives and only six civilians, including the president, and—given that it makes decisions by absolute majority—it can assemble and pass resolutions without the president and ignore the president's call.⁴⁰ Furthermore, during the heady days of the large-scale demonstrations in the summer of 2013, when large crowds demanded Morsi's resignation, defense minister Gen Abdul-Fattah el-Sisi threatened military intervention in the political crisis,

warning the freely and fairly elected Morsi that his government had 48 hours to respond to the demands of the people.⁴¹

The military was true to its word: judging Morsi's response wholly unacceptable, it unceremoniously unseated him and his government on 3 July 2013 in what was clearly a coup d'état.⁴² The arrest of Morsi's allies in the Muslim Brotherhood commenced even before the president's removal from office ("to ensure the country's security").⁴³ Rather than taking charge themselves, the generals appointed a caretaker government, having learned the painful mistake of trying to run the bureaucracy in 2011–12. This time the military seeks to remain on the sidelines as far as governing is concerned while trying to reestablish public order and ensure their considerable privileges remain untouchable by any future administration. Nonetheless, the former task proved far more difficult than the generals might have imagined. For several weeks the Egyptian military was engaged in trying to suppress demonstrations organized by the Muslim Brotherhood and, in the process killed hundreds of protesters and injured many more. Perhaps most troubling is the fact that dozens of Islamist activists died while in army custody.⁴⁴

Given the chaotic situation and the military's difficulty in trusting the outcome of political processes, military leaders moved to adjust the playing field for its own benefit. In late summer 2013, the military appointed 19 generals as provincial governors in a move reminiscent of the recent authoritarian rule, expanded its crackdown on people suspected of (but unproven) Islamist sympathies, and expedited the legal procedures for jailing Islamists. At the time of this writing, the Egyptian military was descending into lawlessness, and hopes that it would soon be reformed and become a servant of a democratic state seemed more unrealistic than ever.

Libya and Yemen

Although Yemen is far poorer than oil-rich Libya, the two states share many similarities, among them a low level of institutional development and towering corruption. Prior to the Arab Spring, there were no public institutions capable of operating independently of Ali Abdullah Saleh and Muammar Gadhafi. Libya has not had a constitution since 1951, and corruption is rampant in both countries. Tribal affiliations, of relatively little consequence in Tunisia and Egypt, are of foremost importance in Libya and Yemen. In each country, but particularly in Libya, the mili-

tary and security establishment was divided into numerous organizations that had little contact with one another. The regular military was ostensibly charged with the external defense of the country while the security forces were supposed to protect the regime, though in practice, ensuring regime survival was the main mission of *all* these forces.

Another important characteristic shared by Libya and Yemen is that both should be considered as post-civil war settings. What are the most important tasks of reformers in these contexts and what can reformers learn from the experiences of other post-civil war countries? In every post-civil war situation the building or rebuilding of a *national* army is a critical component of the reconstruction program. In such environments, the demobilization of forces and the reintegration of erstwhile combatants into civilian life are two of the most pressing undertakings. The collection and destruction of excess weapons and ammunition are related tasks that—as we have seen in the cases of post-civil war Bosnia, El Salvador, and Lebanon—are often very contentious. Due to the lack of trust between former enemy forces, it is not surprising they generally want to retain some strategic advantage or security guarantee that would enable them to resume fighting if necessary. Therefore, promoting transparency and building trust between the different sides through a variety of confidence-building measures implemented by impartial security institutions is critically important for long-term stability.

Reconstructing the security sector may be the most important undertaking of the Libyan and Yemeni regimes. In the former, there are hundreds of rival militias representing different tribes from different regions of the country. Most of them need to be disarmed and dispersed, while some could be integrated into a new national army. But, as is clear from the foregoing, which militias to disarm and break up and which ones to include in the new national force is, indeed, a tremendously complex and politically sensitive undertaking.⁴⁵ The competition between the Libyan militias has been extremely fierce, no militia leader wants to give up his influence without considerable payoff, and most are distrustful of rival leaders and of members of the new government. At the same time, the loose borders can render any successes of the demobilization and disarmament campaigns futile given that Libya's long and unsecured border with the Sahel has historically provided smuggling routes for arms, illegal goods, and combatants.⁴⁶ Prime Minister Ali Zeidan's announcement in late June that Defense Minister Mohammed

al-Bargathi was removed from his post following clashes between rival militias in Tripoli, in which 10 people were killed and more than 100 wounded, indicates just how elusive real progress has been.⁴⁷


Even prior to the Arab Spring there were more guns than people in Yemen; bringing normalcy to the country which is now more extensively armed, and with two insurgencies continuing (the Houthi rebellion in the north and the separatist conflict in the south), will be exceedingly difficult. In spite of these obvious obstacles, President Abd Rabbuh Mansur Hadi—a former general and vice president—embarked on a sweeping restructuring of Yemen’s divided and weak armed forces to consolidate his power, centralize the armed forces to make them less beholden to tribal chiefs in the regions, and better prepare Yemen for its numerous security challenges. Hadi was supported in this endeavor by a December 2011 initiative of the Gulf Cooperation Council which decreed that a committee should be formed to reorganize the Yemeni army and end its division. He removed more than 20 senior commanders who were either incompetent, loyal to former president Saleh, or both.⁴⁸ Most significantly, he dismantled the elite Republican Guard—a unit led by former president Saleh’s son Ahmed—and also replaced Yahya Saleh, the head of the Central Security Forces and nephew of the former president.⁴⁹ The fundamental intent behind these changes is to transform the Yemeni military from a regime-protection force to an institution whose objective is the defense of the nation. Importantly from the perspective of US foreign and military policy, Hadi confirmed his unqualified endorsement of US drone strikes in his country during his September 2012 visit to Washington.⁵⁰

Conclusion

Reestablishing security and creating and/or reforming a unified national military are some of the indispensable tasks that must be high on the agenda of Arab reformers in the wake of the recent uprisings. Several weighty issues are common to them all. Improving the effectiveness of the armed forces is just as important in Egypt—where the bloated military has been frequently described as lacking professionalism⁵¹—as in Libya and Yemen, although in so many respects, Tunisia is an exception. To appreciably raise the level of professionalism, however, the state needs to be both willing and able (i.e., possess control over the military)

to drastically transform the armed forces, and the generals must be amenable to change long-ingrained routines. These conditions have seldom been present at the same time except where the military was built from the bottom up following a catastrophic defeat (as in post-World War II Germany and Japan).

Another concern likely to change all of these military establishments is the creeping Islamization of their respective polities. Prior to the Arab Spring, these armies were dominated by secularists or moderate Islamic cadres, given the political elites' deep suspicions of or overt antagonism toward religious extremism. Just how they are going to respond to the growing influence of Islamics in the new governments will depend primarily on the manner and directness with which religious currents affect them. The gradual but unrelenting Islamization of the Pakistan army which started during the presidency of Gen Muhammad Zia-ul-Haq (1978–88) is an example.⁵² For other examples, one might look at the experiences of East European countries suppressed by the Soviet Union following World War II; their armies underwent a forced transition dominated by Marxist-Leninist ideology.⁵³

In sum, defense reform is an important and urgent task for the Arab republics. The conceptualization and preparation of these reforms are complex and difficult projects in themselves; implementation would be even more so. The fundamental prerequisites of these undertakings are governments that are interested in and capable of pursuing them and which have the clout over the military to get it to accept and, ideally, embrace defense reform. These endeavors have been beset by many obstacles in settings far less challenging than those of the contemporary Arab republics. Therefore, it is extremely hard to be optimistic regarding the chances of transformative defense reform in the Arab world. 

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Terrorism in China

Growing Threats with Global Implications

Phillip B. K. Potter

Until rather recently, China was able to hew closely to Deng Xiaoping's advice to maintain a low profile internationally, particularly in regions of the world salient to the most active and dangerous international terrorist organizations. This limited foreign policy had the unintended—though surely welcome—consequence of keeping China off the radar of the international jihadist movement. Highly capable groups such as al-Qaeda neither directly threatened the country nor forged deep alliances with indigenous Muslim terrorist groups aligned against the Chinese state. Chinese policymakers have also had notable success limiting both the volume and effectiveness of terrorist attacks on their own soil, but this relatively calm state of affairs is under increasing pressure and is rapidly changing for several reasons.

First, China's global economic and political emergence has introduced an international jihadist element into what had been a largely isolated domestic movement. Economic growth and great-power ambitions have propelled China onto the international stage in search of resources, market access, and prestige. The growing Chinese footprint in the Middle East and North Africa is of particular concern since these regions are those most hotly contested by extremist jihadi organizations that consider foreign incursion into Arab lands an especially egregious offense.¹ Second, signals of increasing acceptance of a stakeholder role in the global economic and political order—such as China's ascension to the World Trade Organization, the Beijing Olympics, and Chinese cooperation in security efforts such as the antipiracy campaign off the coast of Somalia—increase the extent to which those opposed to that order see the country as a legitimate target for terrorist attacks. Where China was once viewed as a patron of liberation movements (including those active in Palestine)

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and a counterbalance to the United States and the Soviet Union, current jihadist propaganda characterizes it as inheriting the designation of “head of the snake” from the United States.² Third, China’s ongoing security crackdown in Xinjiang has forced the most militant Uyghur separatists into volatile neighboring countries, such as Pakistan, where they are forging strategic alliances with, and even leading, jihadist factions affiliated with al-Qaeda and the Taliban. The result is cross-fertilization between previously isolated movements, leading to the diffusion of tactics and capabilities that have the potential to substantially increase the sophistication and lethality of terrorism in China.³

At the same time, technological and social changes within China are making terrorism more difficult to combat while increasing the value of attacks to perpetrators. The mobility and information exchange on which China’s economic growth is predicated, especially in the most developed coastal regions, increases both the vulnerability to major terrorist attacks and the dividends that such an attack would yield to its perpetrators. Should the organizations operating in Xinjiang become capable enough to break through government containment and project attacks into the eastern population centers, they would have easy access to soft, high-profile targets as well as an information and media environment that is increasingly ripe for terrorist exploitation.

To further clarify the nature of China’s terrorism problem, this article provides a brief background of Uyghur separatism and violence in Xinjiang then outlines the origins and present shape of its counterterrorism policy and evidence on the forces heightening the threat of terrorism in China. These developments have policy implications for China and the international system.

The Threat of Terrorism from Xinjiang

Terrorist incidents have occurred in China with increasing frequency since the late 1980s as the result of the grievances of non-Han ethnic minorities, particularly the Uyghurs.⁴ These grievances generally center on the perception that the Uyghurs’ culture and grip on Xinjiang is under attack through a growing insistence on the use of Mandarin Chinese in the education system, limitations on religious authorities and practices, and increasing economic inequality.⁵ While impossible to measure conclusively, Uyghur dissatisfaction appears to have only grown over the

past two decades in the face of massive in-migration by ethnically Han Chinese that has increased their representation in the region from just under 7 percent in 1940 to 40 percent today—leaving the Uyghurs as a minority in Xinjiang with approximately 45 percent of the population.⁶

Throughout this analysis, the focus is on the Eastern Turkestan Islamic Movement (ETIM), which is widely regarded as a long-standing terrorist organization and the most active organization currently operating in Xinjiang. In recent years the ETIM has begun referring to itself as the Turkistan Islamic Party (TIP) or the Eastern Turkistan Islamic Party (ETIP).⁷ While Chinese sources identify a substantial number of organizations operating in Xinjiang, the best evidence indicates that most are passing groupings of individuals, not terrorist organizations as identified by standard definitions. This is perhaps unsurprising given the government's incentive to exaggerate the extent of the immediate terrorist threat to justify (both at home and abroad) the extensive security apparatus that is primarily in place to subdue ethno-nationalist mobilization and separatism.

The collapse of the Soviet Union led to the establishment of new states along the western border of China. These states contain titular populations with ethnic and religious characteristics more closely resembling those of western China's long-restive non-Han populations, and this has contributed to an upsurge in Uyghur nationalism. The expectation that the collapse of the USSR would precipitate weakness in the Chinese state—a perception strengthened by the 1989 events in Tiananmen Square—further emboldened separatism.⁸ However, Beijing's response to this threat was immediate and repressive. The government was successful in preventing both terrorist attacks and the ability of these organizations to grow and operate. Separatist violence has remained limited in scope and largely confined to Xinjiang, with terrorist organizations too weak to conduct attacks in eastern China where they would have the most significant political effect.

The political divides between eastern and western China are increasingly clear. The security presence in Xinjiang is enormous, both in terms of manpower and spending. Over the past several years, the government has increased security with numerous “strike hard” campaigns in which suspected nationalists were rounded up and communication and mobility were severely curtailed. In reality, the extent and reach of the security apparatus in Xinjiang would be utterly alien to an average Han Chinese

resident of, for example, Shanghai. Xinjiang bristles with police, military personnel, security cameras, and checkpoints. Regular searches and identity checks are commonplace, as are shutdowns of Internet and mobile communication networks.⁹ Movement between cities, particularly during restive periods, is often limited. While Chinese budgets are opaque, official sources trumpeted a 90-percent increase to the Xinjiang public security budget in 2010 to 2.89 billion yuan (\$423 million).¹⁰ This considerable sum, however, is likely dwarfed by central government spending on public security in the region, which amounted to \$111 billion in 2010 with an unknown—but certainly considerable—percentage being spent in Xinjiang. In addition, the People's Liberation Army, which is budgeted separately, is very active in western China and engages in activities commonly associated with domestic security bureaucracies, such as counterterrorism, surveillance, and border protection.¹¹ Yet, despite this massive investment in security, there is potential for increased instability in the future.

Over the past decade, the centers of operation of the most important Xinjiang groups—most notably the ETIM/TIP—moved into Afghanistan, Kazakhstan, Tajikistan, and Uzbekistan. The most militant Uyghur separatists have been forced into these volatile neighboring countries, including Pakistan, by the NATO war in Afghanistan and the security crackdown in Xinjiang and are developing ties with jihadist factions there affiliated with al-Qaeda and the Taliban. This process of displacement has contributed to a web of relationships among key Uyghur terrorist organizations and major terrorist groups throughout the region (see fig. 1).¹² Strong international alliances with capable organizations tend to radicalize and build the capacity of domestic organizations, exacerbating the threat. This cross-fertilization between previously isolated movements leads to more attacks and higher casualty counts through the diffusion of particularly deadly tactics, such as suicide bombings, which China has largely been able to avoid thus far.¹³

Figure 1 presents a disturbing web of relationships, particularly because it includes al-Qaeda and the Taliban. The depth of these ties has been the subject of some debate. Throughout the 1990s, Chinese authorities went to great lengths to publicly link organizations active in Xinjiang—particularly the ETIM—to al-Qaeda.¹⁴ But the best information indicates that prior to 2001, the relationship included some training and funding but relatively little operational cooperation.¹⁵

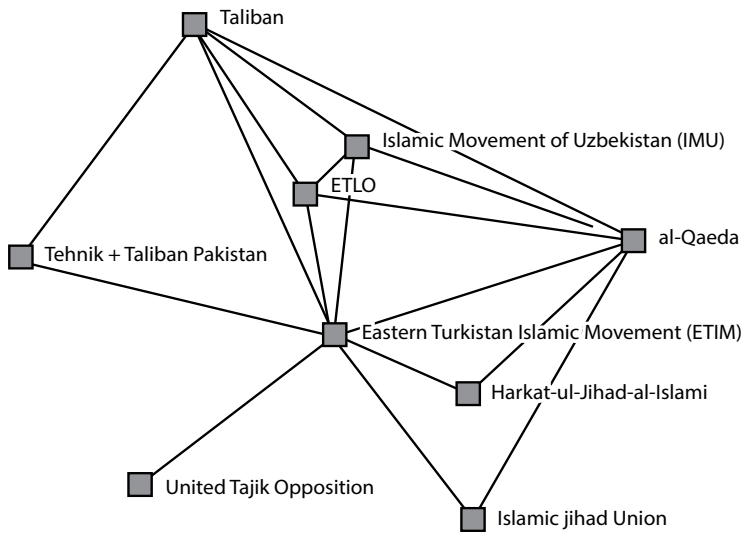


Figure 1. Relationships among regional terrorist organizations

There is, however, substantial evidence that more meaningful relationships have developed over the last decade and that the capabilities of terrorists operating in Xinjiang are increasing as a result. For example, in October 2009, Abu Yahya al-Libi, a high-ranking al-Qaeda leader, called on Chinese Uyghurs to wage holy war against the Chinese government, claiming that China would face the same sea of Islamic fighters that brought the Soviet Union to a standstill in Afghanistan. Al-Libi's comments point to the increasing interest of the broader jihadist movement as well as al-Qaeda's central leadership in expanding its reach into Xinjiang. This is fueled by the fact that, at present, the most militant elements of the Uyghur separatist movement appear to be concentrated in North Waziristan, the notoriously unstable and ungoverned tribal region of Pakistan that is home to important elements of the Taliban and al-Qaeda.

The ETIM/TIP leadership has been active in the tribal regions of Pakistan for some time. While the Uyghurs that were in Afghanistan prior to 2001 (including those picked up by US forces and sent to Guantanamo) were peripheral to the international jihadist cause, this is also no longer the case. According to *Karachi Islam*, a jihadist newspaper, the recently killed leader of the ETIM/TIP, Abdul Shakoor Turkistani, also commanded al-Qaeda forces and training camps in the federally

administered tribal regions of Pakistan.¹⁶ The fact that the head of the ETIM/TIP was also head of al-Qaeda forces in the most volatile region of Pakistan indicates that considerable cross-fertilization has already occurred. Indeed, the 2012 airstrike that killed Shakoor also killed two Tehrik-e-Taliban Pakistani (TTP) commanders and 15 other militants of unknown organizational affiliation while they were engaged in a joint training exercise.¹⁷ Shakoor assumed control after Abdul Haq al Turkistani was killed in a 2010 US Predator drone strike in North Waziristan. Haq was also central in al-Qaeda activities and a member of al-Qaeda's *Shura Majlis* (executive council).¹⁸ Abdul Haq was so highly placed in al-Qaeda leadership that he served as a mediator between rival Taliban factions and played an integral role in military planning. He attended meetings in Waziristan with Baitullah Mehsud, the primary Taliban official in Pakistan. Moreover, Haq was known to have played a role in discussions among senior Taliban, Haqqani Network, and al-Qaeda leaders regarding the Pakistani military's operation in South Waziristan. Interestingly, Abu Yahya al-Libi (the aforementioned Libyan al-Qaeda leader who called for attacks on China) was also in attendance.¹⁹

The benefits of terrorist cooperation generally accrue in the form of training, the infusion of resources, and the inflow of foreign fighters. Until quite recently, there was little evidence to suggest that foreign fighters have substantially infiltrated Xinjiang or that terrorists perpetrating attacks in China were trained abroad.²⁰ However, attacks in Kashgar on 30–31 July 2011 indicate that this, too, is changing. The attacks were complex and coordinated, involving a car bomb, truck hijacking, and stabbings on the first day. The following day there was a coordinated attack on an area popular with Han Chinese involving multiple bomb blasts, shootings, and stabbings. While the degree of operational sophistication suggested collaboration in itself, concrete evidence came from a video released by the ETIM/TIP a month later showing one of the attackers training in a Pakistani camp. Subsequently, China issued a list of six ETIM/TIP members it accused of engaging in collaborative terrorist activities throughout Asia, including “a certain South Asian country,” a veiled reference to Pakistan.²¹

The reality is that Uyghur nationalism and separatism are evolving in a very dangerous and volatile part of the world. Continued and deepening collaboration is likely, and deep relationships with al-Qaeda and the Taliban place the ETIM and, by extension, the other violent factions of

the Uyghur separatist movement close to the center of a dense web of international terrorist relationships that have the potential to increase the capability of these organizations. To date, Uyghur violence has been notably low-tech, mostly employing knives and rudimentary home-made explosives. With international relationships comes the potential for technological and tactical diffusion that could substantially increase the reach and lethality of attacks in the future. Moreover, as US engagement in Afghanistan draws to a close, hardened and highly capable jihadist elements active in that conflict (including Chinese Uyghurs) will return home, potentially bringing radicalism and terrorism with them. This, of course, is precisely the same dynamic that took hold in the aftermath of the Soviet war in Afghanistan and will require China to further evolve its counterterrorism policy.

China's Evolving Counterterrorism Policy

Counterterrorism policy in China has evolved over the last 60 years in ways that reflect the country's transition from pariah to major power. Under Mao, China openly supported terrorist organizations such as the Popular Front for the Liberation of Palestine and the Democratic Front for the Liberation of Palestine.²² Assistance to these groups was integral to its political identity as a primary patron of liberation movements in the developing world. Moreover, China's relative international isolation after the Sino-Soviet split necessitated trade and political relations with states that were also relegated to the periphery of the international system, including sponsors of terrorism such as Iran, Syria, and Libya.

As Deng Xiaoping brought China back into the international fold, these practices declined because the almost single-minded focus on development left little room, politically or financially, for relationships with radical organizations and marginalized states. Also, these relationships became liabilities as China sought acceptance into the international system to facilitate its economic growth.²³

The shift from open support for terrorist organizations to disengagement was followed by a second major shift to a position of active opposition. This policy change was in response to mounting concern among the leadership over the emerging separatist movements in Xinjiang as well as, to a lesser extent, external pressure to become a more engaged global stakeholder. Current terrorism policy in China is therefore the

product of dueling concerns over domestic stability and autonomy on the one hand and international stature and reputation on the other—a tradeoff that other scholars have identified as competing core elements of the country's foreign policy more generally.²⁴

The 9/11 attacks on the United States served as an opportunity for China to solidify and accelerate its shift to a policy of active opposition to international terrorism while smoothing over a particularly rough patch in the US-China bilateral relationship. The George W. Bush administration came into office with what initially seemed to be a tougher line on China than that held by his predecessors. On the campaign trail, Bush excoriated President Clinton for “appeasing” China. The Hainan spy plane incident, a mere 10 weeks after Bush's inauguration, brought relations to their lowest point in years. The rapid escalation in tension with the new administration was a source of consternation for the Chinese government, which began looking for a favorable moment to correct course. An obvious one emerged when the Bush administration reached out for allies in the global war on terror (GWOT). This opportunity for rapprochement was doubly attractive because it could be done while addressing the long-standing separatist threat in Xinjiang. By placing separatist violence in Xinjiang in the context of 9/11 and the GWOT, Chinese policymakers leveraged US policy to reframe their handling of violence in western China from one that might be subject to international criticism regarding human rights to one where such critiques would seem hypocritical.

To accomplish these interwoven objectives of international emergence, improved relations with the United States, and confrontation of separatist violence in its west, China promptly voiced strong support for the United States in the immediate aftermath of the 9/11 attacks and initiated closer cooperation on international counterterrorism efforts. The United States, eager to build an international coalition, reciprocated by officially identifying the ETIM, the primary separatist group operating in western Xinjiang, as a terrorist organization. As a result, China was able to improve bilateral relations with the United States while clearing space for its preferred policies in Xinjiang.²⁵

China's engagement with the so-called global war on terror came with broader implications for its foreign policy and role in the international system, since it involved a shift from the practice of treating terrorism as a domestic issue cloaked by sovereignty to characterizing it as an international

problem.²⁶ This introduced an important contradiction to China's usually consistent insistence on the sanctity of sovereignty. In general, Chinese authorities have sought to place domestic terrorism challenges in the context of the GWOT when that argument generates international goodwill and provides cover for preferred policies in Xinjiang. However, international criticism, such as occurred in response to the preemptive security crackdown in the lead up to the 2008 Olympic Games, is typically met by a reversion to claims of sovereignty over internal matters.

One can contextualize the relative success of China's counterterrorism policies by plotting the level of violence in that country alongside the number of attacks in Israel, Russia, and the United States from 1989 to 2008 (see fig. 2). The analysis combines data from the Global Terrorism Database (GTD) with information drawn from Chinese and Western media reports.²⁷ The level of violence in China is consistently well below that of the other three countries—a distinction particularly notable given China's substantially larger population. Russia has generally suffered the most incidents over the past two decades, and violence there appears to be increasing. This represents a cautionary tale for China since the violence against Russia emanating from the Caucasus bears important structural resemblances to the threat of violence from Xinjiang. Specifically, Chechen Muslims were also seemingly isolated from the broader jihadist movement, but links were quick to form once the conflict gained prominence. These links then contributed directly to increased capabilities that allowed Chechen terrorists to strike deep into Russia and conduct sophisticated attacks like those on Moscow's Dubrovka Theater in 2002, Beslan in 2004, and the Moscow subway system in 2010.

While still relatively low, even after its emergence in the late 1980s, the level of terrorist violence in China has varied over time in ways that can inform our understanding of the evolving nature of the threat. The general rise in number of attacks from between 1989 and 1997 reflects an upsurge in Uyghur nationalism in response to opening Central Asia after the collapse of the Soviet Union. During this period, key organizations such as the ETIM rose to prominence. Over the following decade, China had remarkable success in tamping down violence, with the notable exception of a cluster of incidents immediately following the 9/11 attacks in the United States. However, the long quiet did not indicate the underlying problem had been resolved, as there was a dramatic spike

in violence ahead of the 2008 Beijing Olympics, heightening the threat of terrorism.

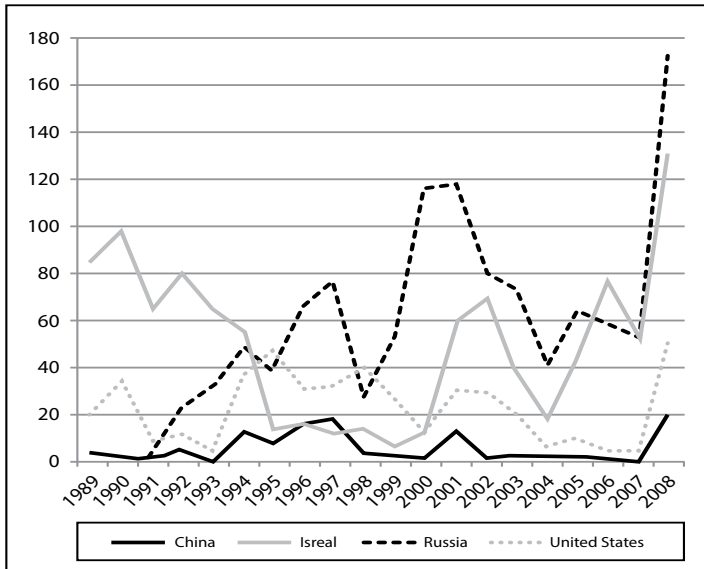


Figure 2. Terrorist incidents per year (1989–2008)

The historical case of China also seems to support the notion that strict authoritarianism can insulate against terrorism—terrorism was essentially unheard of in China prior to the 1980s. Some of this observation may stem from the lower reliability of the data from that period, but certainly the near absolute social controls in place in the Maoist era made terrorism especially difficult. Strict assignments to work units enforced with grain rations meant that mobility was minimal and several layers of watchful eyes kept close tabs on social order.

The liberalization that has occurred over the last 30 years stripped away much of the infrastructure of social control, but China remains nonetheless far better equipped to control and observe both its own citizens and foreigners within its borders than most liberal democracies—even many autocracies—given the reach and effectiveness of the bureaucratic state and security apparatus.²⁸ Counterterrorism efforts are further facilitated by the relatively high visibility of foreigners and ethnic minorities in eastern China. Since the emergence of serious separatist violence in the late 1980s and early 1990s, social controls are much stricter in Xinjiang than elsewhere in the country, and Uyghurs living and traveling outside the province are subject to special scrutiny. Finally, guns and

other weapons are difficult to obtain, as exemplified by the recent spate of high-profile stabbings in China. However, the relationship between weapons availability and terrorism should not be overstated. Suicide vests and improvised explosive devices can be fashioned from readily available materials, underlining the importance of the diffusion of tactics and knowledge and, by extension, international connections.²⁹

The Threat of Terrorism

Until the last decade, China was not militarily or economically active in the regions of the world most salient to the broader Salafist jihadi movement. Moreover, China's status as a developing country, potential challenger to the United States, and relative outsider to the existing political and economic order reduced its symbolic value as a target. As a result, China has not suffered direct attacks from international terrorist organizations, nor have these groups had a strong incentive to forge deep alliances with indigenous terrorists active in western China.³⁰

The consequences of China's rise in areas ranging from economics to international security have been widely discussed,³¹ but the terrorist impact upon the country has generally escaped scrutiny. As China grows economically, isolationism is increasingly untenable since further development is predicated on access to resources and markets. The search for energy in particular has already led China to engage increasingly in the Middle East, North Africa, and other regions central to the interests of established terrorist organizations. China's penchant for controlling resources at the source exacerbates the problem, since Chinese nationals, business holdings, and military assets abroad are more vulnerable to terrorist attacks, which in turn could precipitate nationalist responses at home. Chinese nationals working abroad have increasingly come under attack. For example, authorities in Dubai convicted a Uyghur from Xinjiang of conspiring to bomb a shopping mall specializing in Chinese goods. Muslim extremists in Peshawar, Baluchistan, and Afghanistan have also assassinated Chinese workers.

The 2011–12 upheaval in Libya illustrates several aspects of this emerging vulnerability. The uprising against the Gadhafi regime trapped close to 30,000 Chinese citizens in that country. This led to a popular outrage within China, mostly voiced online, and a dangerous situation for the government, since the perception of inaction could have put

the regime on the wrong side of nationalist sentiments.³² In response, China sent the *Xuzhou*, a recently launched, state-of-the-art missile frigate, and initiated its first substantial mission in the Mediterranean to evacuate its nationals. Given China's increasing economic involvement around the globe, similar scenarios will inevitably arise with increasing frequency. Moreover, the very presence of military assets to protect China's economic and strategic interests can create grievances among local populations that can, in turn, motivate terrorist violence and provide an inviting target, much as has been the case for the United States.³³ In this light, it is worth noting that the *Xuzhou* went directly to the Mediterranean from its prior mission defending against piracy off the coast of Somalia—further underlining China's increasing presence in terrorist hotbeds and engagement with international initiatives.³⁴

In general, China has become a more desirable target for internationally oriented terrorist organizations as it solidifies its status as an international power and stakeholder in the existing international order. Acceptance by the World Trade Organization, the 2008 Beijing Olympics, and the 2010 Shanghai Expo are all very visible signals of China's emergence, but they also increase its symbolic value as a target of a major international terrorist attack.

The global jihadist community is clearly reassessing its view of China's place in the international system and its legitimacy as a target. Brian Fishman notes the example of Akram Hajazi, a major intellectual figure for jihadist strategists, who wrote in 2007 that China's rise to preeminence in the international system would only cause it to replace the United States as the primary enemy.³⁵ This opinion appears to be influencing a diverse group of highly capable international terrorist organizations. For example, while China has traditionally remained relatively neutral toward Lashkar-e-Taiba due to that organization's complex relationship with the security services in Pakistan (a long-time ally) and role in the ongoing rivalry with India (a long-time rival), the terrorist group now prominently targets China in its propaganda, accusing it of systematic mistreatment of Chinese Muslims.³⁶

The experience of the United States is a cautionary tale. Aside from US support for Israel, its military presence in the broader Middle East and support for unpopular Arab regimes were the primary motivations that brought the United States into focus as a target for international terrorism.³⁷ As Osama bin Laden himself stated shortly after the 9/11

attacks, “I swear to God that America will not live in peace before all the army of infidels depart the land of the prophet Muhammad.”³⁸ There is evidence that this abstract threat is already beginning to coalesce into something more concrete. In 2009, al-Qaeda in the Islamic Maghreb (AQIM) threatened to target Chinese nationals and projects in Algeria in retaliation for the treatment of Uyghur Muslims in Xinjiang. China’s embassy called on the nearly 50,000 Chinese in that country to be on guard, and security measures at Chinese firms were substantially upgraded. This threat was notable because it underlines the degree to which the treatment of Muslims in western China has emerged as an issue for the global jihadist movement. It also demonstrates that Chinese assets in the Middle East and North Africa are both a grievance and a liability, and it shows that the potential linkage between Xinjiang and the Chinese presence abroad is not lost on those who would perpetrate attacks.

Liberalization and Terrorist Opportunity

The model of growth that has allowed China to develop so rapidly is predicated on a partial loosening of social controls in support of economic liberalization, and many have pointed to this social liberalization and the preliminary flowering of civil society as positive externalities of that drive for growth. These changes, however, also increase China’s vulnerability to terrorism. This tension between growth and social control is felt particularly in western China, where the official government goal for Xinjiang—having it serve as a commercial hub for the region—has come into direct conflict with the perceived need for strict social control to quell the restive Uyghur population. For example, preparations for the first annual China-Eurasia Expo in September 2011 required a substantial expenditure on increased security, and strict restrictions were put in place in ethnic Uyghur neighborhoods for the duration of the event. In the longer term, maximizing economic growth will not only require loosening restrictions on the movement and interaction of the local population but also accommodating foreign traders and investors who will demand a greater degree of openness, just as they have in eastern China. Officials tend to see this as a substantial risk, particularly since many Uyghurs view the outward signs of economic growth and investment as a grievance, owing to the fact that they generally do not share equally in the benefits of this growth.

Rapid changes in the means and effectiveness of social control are compounded by equally momentous changes both in governmental policies over control of the media favoring limited liberalization and in technological changes that make communication easier and censorship more difficult. While these changes can be positive when it comes to holding officials accountable in the context of the SARS outbreak, the Sichuan earthquake, or the recent high-speed rail accident, the rewards are less clear when it comes to terrorism. Indeed, increased media freedom has the potential to increase the rewards of terrorism for those who would perpetrate it. In the past, China has been able to downplay or completely obscure news of terrorist attacks, thereby eliminating much of its appeal as a political act.³⁹ But media liberalization, the Internet, and social media are making this increasingly impossible.⁴⁰

In China's partially competitive media market, news outlets are forced to navigate the difficult task of providing programming that appeals to the Chinese public without crossing obscure and constantly evolving redlines laid down by party officials.⁴¹ This results in an incentive to get as close to these lines as possible without crossing them, leading to both a relative increase in controversial stories that challenge government priorities and to substantial self-censorship.⁴² This tension between the party line and the bottom line is particularly stark in the traditional media's coverage of terrorism occurring within China. The public has a powerful appetite for such information, so news outlets attempt to provide it without crossing the line that separates the acceptable from the unacceptable. However, the government has strong incentives to limit dissemination of this information. This dynamic tends to push the coverage and discussion of terrorism out of the print and television media and into informal outlets.

The larger concern for the terrorism/media nexus in China is therefore not traditional media, but the "new media." With more than 420 million Internet users, China has more people surfing the web than any other country, and new web-based technologies are increasingly directing media attention. Over the past decade, numerous incidents first reported online generated such outrage that traditional news media were compelled to report on them, often leading to changes in the government's positions.⁴³ The spread of these new technologies severely undermines the current model of media control in China, one which relies on a combination of self-censorship and official oversight.⁴⁴

The decentralization of the flow of information, stemming in large part from the rise of Internet forums and social media, has made it increasingly difficult for the Chinese government to control information, including information about terrorist attacks. The popularity of Internet message boards proves highly challenging for government censors who find themselves nearly always in the position of playing catch up. The more recent explosion in popularity of Twitter-style microblogs (*weibo*) has the potential to completely upend the system due to their sheer volume and speed coupled with complete decentralization. Where Chinese authorities once were able to keep terrorist incidents out of the public consciousness, and therefore largely devalue them for potential perpetrators, technology has made this increasingly difficult.

An analysis of Chinese news from July and August 2008 (the height of the terrorist campaign preceding the Olympics) bears out the inherent tension between media incentives to report on terrorist events and government interest in suppressing this information, as well as the increasing difficulties in doing so.⁴⁵ There were a substantial number of Chinese-language newspaper articles on terrorism during this period, indicating that the media sees a market for such information. However, very few touch on the specifics of attacks within China, and many downplay the threat of terrorism.⁴⁶ Instead, many stories emphasize preparedness for attacks or positively profile first responders who would be responsible in the event of future attacks.⁴⁷

The restrictions on the traditional media seem to have pushed much of the actual discussion of the 2008 events toward online message boards and other new-media outlets. For example, a search of *tianya.cn* (a popular Chinese Internet forum) for discussions relating to the 2008 terrorist campaign reveals a much broader discussion of the emerging threat of terrorism in China.⁴⁸ Many comments are openly nationalistic, and many posts express the view that the West—and the United States in particular—downplays the threat of Uyghur terrorism. In many of these same threads, talk of terrorism takes on a xenophobic edge. In particular, comments focus on Muslims and Chinese ethnic minorities—especially the Uyghur and Hui—associated with Islam. Other posts praise the victims of terrorism and demand a strong response from the authorities. There are relatively few discussions of specific events, but there are many allusions to posts being “harmonized,” indicating that censorship is likely.⁴⁹ However, it is certainly not the case that all commentary about

unreported attacks is assiduously removed from Internet forums (even for attacks that went unreported in the Chinese media), indicating the limitations of censorship in this context.

Looking Toward the Future

There are reasons for serious concern about the future threat of terrorism in China. The forces that have prevented and limited violence to date are under increasing pressure as China grows and liberalizes, and this is occurring in the context of a maturing separatist movement emanating from a substantial, ethnically coherent population with deeply felt grievances. Put simply, one downside of growth and liberalization is increased exposure to both international and domestic terrorism.

The appetite for discussion, both in the media and on Internet forums, suggests that future terrorism in China has the potential to engender a substantial public reaction which will in turn require a response from the state. This stands in some contrast to the Japanese case, where the 1995 attack on the Tokyo subway system was notably ignored. This opened the political space for the organization to be dealt with in the legal domain. In this sense, China appears to more closely represent the global norm, where public reaction necessitates a less discriminate, less restrained response, which can actually increase the value of terrorist acts.

A popular nationalist response to terrorism can be problematic for Beijing. First and foremost, it can force a strong response the government would prefer to avoid for strategic reasons. Indeed a substantial body of existing scholarship argues that a primary objective of terrorism can be to goad the government into an overreaction, often fueled by popular sentiments.⁵⁰ Also, to the extent that the attack has links to organizations operating abroad, popular demands for action could drag China into regional confrontations with Pakistan or Afghanistan.

Many of the forces described here cannot be stemmed. China cannot withdraw from the international stage and cannot forestall liberalization indefinitely without substantial costs. Regardless of the Communist Party's stance on political liberalization or retrenchment, communication technology and access to it will likely continue to advance and make censorship ever more difficult. The implication is that Chinese policymakers have painted themselves into a corner. By responding to the growing unrest in Xinjiang with heightened repression, they have exacerbated

ethnic minority grievances and introduced an increasingly stark tradeoff between continued security on the one hand and a growing political divide between the east and west of the country on the other.⁵¹ As it stands, China's ability to subdue terrorism and violence has come at the price of a highly authoritarian and centrally planned western region that stands in growing contrast with a relatively freer and more capitalist east. Increasing pressure on the present calm leaves Chinese policymakers with three unpalatable options: increased terrorism, ever more heavy-handed security in Xinjiang, or political accommodation of minority grievances. The first of these options has long been deemed unacceptable (as it is in most countries), and the third appears politically untenable due to the recent leadership transition and a longer-term sense of insecurity at the top levels of government. Unfortunately, the remaining option—harsh crackdowns on Uyghur nationalists and increased security—further fuels existing grievances while entrenching the divide between a freer and more prosperous east and a security state in the west.

Despite fervent wishes of those in Beijing who hope the rising economic tides alone will diminish the threat of terrorism emanating from Xinjiang, there is little evidence to suggest growth alone will be sufficient. Policymakers have consistently pointed to the substantial economic growth in Xinjiang, which has averaged about 10 percent over the last 15 years, as evidence that their policies are working. The party's contention is that the same implicit contract that governs the relationship between the people and the government in the rest of China—robust economic growth in exchange for unquestioned political authority—should hold here as well. However, in western China this formula is upset by the substantial ethnic and nationalist sentiments. Moreover, while the numbers would be enviable in the United States, growth in Xinjiang has actually lagged behind that of coastal China, owing in no small part to tight controls on the economy and society.

The economy in Xinjiang is dominated by the oil industry and the Xinjiang Production and Construction Corps, which are both government controlled and together account for close to three-quarters of provincial GDP. The remainder of the growth comes primarily from government spending and subsidies. This is an expensive proposition, and it reinforces the structural divides between the regions and underlines the extent to which the economy is based primarily on resource extraction and redistribution rather than the vibrant production-based industry that

we commonly associate with China and its growing economic clout. Indeed, Xinjiang's potential as a hub for oil and gas exploration will likely bring the divide between east and west into even starker relief. To the extent that the region's economic development is predicated on resource extraction to fuel industrial growth elsewhere in the country, it will diminish the need to promote growth through other channels. At the same time, the infrastructure surrounding resource extraction, such as pipelines and refineries, are vulnerable to attack. The result may be yet another spiral in which increased security and increased displacement feed on one another. More to the point, the widely held perception among Uyghurs in Xinjiang is that economic growth, regardless of its source, is accruing primarily to the Han immigrants and by fueling the influx of Han Chinese only serves to accelerate the demise of independent Uyghur identity.

The most viable long-term solution would be to address underlying grievances of the Uyghur population within the confines of the political system. This would ideally entail providing political space for moderates by granting more meaningful autonomy, thereby isolating extremists from the broader ethnic community. However, if past behavior is the best guide to the future, then it is more likely that increased terrorism will be met with an attempt to forcefully impose social control and roll back liberalization. This is already happening in Xinjiang, where social controls are substantially stricter than in the east. The implication is that the short-to-medium-term future of liberalization may be one of "two Chinas:" a relatively open east in which more freewheeling commerce and political behavior fuel one another's growth, and a lagging west characterized by mutually reinforcing isolation and authoritarianism.

The two-Chinas approach incentivizes the cross-border linkages between militants identified here. It also puts a premium on their ability to take the fight to eastern China where the government's capacity to disrupt it is lower and the rewards of an attack are higher. Thus, the more Beijing tries to bottle up grievances in the west, the higher the rewards for groups who can strike in the east.

This presents real challenges for Chinese leaders. While policymakers have identified growing inequality and geographically uneven development patterns as pressing policy problems, solutions are strained by the inability to put Xinjiang and other western provinces on the same security footing as the rest of the country. Furthermore, Chinese policies in

Xinjiang are a substantial impediment to the country's aspirations to become the leading power in Central Asia. There has been some success in this domain in terms of the Shanghai Cooperation Organization as well as energy trading, but the sense that Beijing is substantially at odds with minority populations who share cultural and linguistic similarities with China's Central Asian neighbors reinforces the notion that China is a distant, foreign power in the region regardless of the contiguous borders.

A rise in terrorism in China will have unpredictable consequences for the international system. The trends identified here will be difficult to stem, and it is therefore prudent to consider the challenges and opportunities they present for US policymakers. Chief among these are the implications for regional relations in central Asia. To the extent that elements in Pakistan's tribal regions contribute to terrorism in China, they could potentially insert tensions into the relationship between China and Pakistan that closely mirror those that now plague the relationship between the United States and Pakistan. This has the potential to significantly complicate regional dynamics, including those involving India. The risk of regional tension is heightened by the reality that if attacks escalate, there will be a temptation to place the blame on the neighboring countries from which the terrorist organizations operate, be it Pakistan, Afghanistan, or elsewhere. Even if Chinese policymakers view such moves as strategically unwise, they may prove necessary to appease nationalist sentiments and deflect critiques of the state. Finally, any meaningful increase in terrorism in China may pose challenges for foreign policy strategies predicated on further liberalization in that country insofar as the intolerance of violence against the state leads to a broader reaction against liberalization nationwide.

This overall pattern of violence suggests two key points. First, what terrorism there is in China appears to respond to broader geopolitical circumstances and strategic opportunities (e.g., 9/11 and the Olympics), which is surprising given it is perpetrated by ostensibly weak and isolated organizations with local grievances. Second, tensions and grievances can remain dormant for significant periods of time only to flare dramatically, suggesting the present quiet is no guarantee for the future.⁵² Indeed, more recent incidents such as the 2011 attacks in Kashgar suggest that we may be entering a new, more volatile, phase.

That said, from the US perspective there are potential upsides as well. As demonstrated by the rapprochement between China and the Bush

administration in 2001 and the ongoing regional cooperation within the Shanghai Cooperation Organization, counterterrorism efforts also have the potential to tie China to the international community in productive ways. In particular, cooperation on counterterrorism furthers the ongoing erosion of its insistence on a strict interpretation of sovereignty norms. As a permanent member of the United Nations Security Council, China's difference in perspective on this matter has prevented international cooperation in a variety of domains. To the extent that cooperation on counterterrorism could close that gap, it could have positive externalities for security cooperation elsewhere in the system. **SSQ**

Notes

1. These grievances include both the economic and military presence of foreigners, but for a more specific treatment of the link between occupation and terrorism, see R. A. Pape, *Dying to Win: The Strategic Logic of Suicide Terrorism* (New York: Random House, 2005); and Pape, "The Strategic Logic of Suicide Terrorism," *American Political Science Review* 97, no. 3 (2003). But see also S. Ashworth et al., "Design, Inference, and the Strategic Logic of Suicide Terrorism," *American Political Science Review* 102, no. 2 (2008).

2. Brian Fishman, "Al-Qaeda and the Rise of China: Jihadi Geopolitics in a Post-Hegemonic World," *Washington Quarterly* 34, no. 3 (2011).

3. M. C. Horowitz, "Nonstate Actors and the Diffusion of Innovations: The Case of Suicide Terrorism," *International Organization* 64, no. 1 (2010); and M. C. Horowitz and P. B. K. Potter, "Allying to Kill: Terrorist Intergroup Cooperation and the Consequences for Lethality," *Journal of Conflict Resolution*, released online 10 January 2013.

4. This raises the thorny question of the definition of terrorism. Beijing has been known to characterize nonviolent mass mobilization in Xinjiang and Tibet, as well as protests by Falun Gong, as acts of terrorism. While few terrorism scholars would agree with that definition, outlining a common scholarly definition of terrorism remains a challenge. Because violence in Xinjiang has an ethnic dimension and therefore typically targets both ethnic Han and the Chinese security apparatus, I define *terrorism* as the illegal use of violence by a nonstate actor to attain a political, economic, or social goal through fear, coercion, or intimidation. This is a widely employed definition borrowed from the National Consortium for the Study of Terrorism and Responses to Terrorism (START).

5. Herbert S. Yee, "Ethnic Relations in Xinjiang: A Survey of Uygur-Han Relations in Urumqi," *Journal of Contemporary China* 12, no. 36 (2003).

6. The remainder is made up of various other minorities, led by ethnic Kazaks and Hui.

7. By way of comparison, China, Kazakhstan, and Kyrgyzstan—and by extension the Shanghai Cooperation Organization—have designated the Eastern Turkestan Islamic Movement (ETLO) as a terrorist organization. In general, the ETLO is more moderate than the ETIM/TIP and has been convincingly linked to relatively few terrorist incidents, most of which took place in the late 1990s. The United States refused China's request to classify the ETLO as a terrorist organization in 2003 based primarily on its prior renunciation of violence.

8. G. Bovingdon, *The Uyghurs: Strangers in their Own Land* (New York: Columbia University Press, 2010).

9. Wei Shan and Gang Chen, "The Urumqi Riots and China's Ethnic Policy in Xinjiang," *East Asian Policy* 1, no. 3 (2011).

10. Cui Jia, "Xinjiang Security Funding Increased by 90 Percent," *China Daily*, 13 January 2010.

11. Roy Kamphausen, David Lai, and Andrew Scobell, *Beyond the Strait: PLA Missions other than Taiwan* (Carlisle Barracks, PA: Strategic Studies Institute, 2008).

12. I generated figure 1 using data from the Terrorism Knowledge Base (TKB), a dataset developed and sponsored by the Memorial Institute for the Prevention of Terrorism. I supplemented these data with open-source academic and media publications to generate a more complete picture of the relationships in this understudied portion of the broader terrorist network.

13. Horowitz and Potter, "Allying to Kill"; and Horowitz, "Nonstate Actors and the Diffusion of Innovation."

14. The United States and United Nations also assert that a link exists.

15. J. Todd Reed and Diana Raschke, *The ETIM: China's Islamic Militants and the Global Terrorist Threat* (Westport, CT: Praeger Security International, 2010).

16. Abdul Shakoor Turkistani was killed 24 August 2012, and at this writing it is unclear who replaced him. Chinese authorities accused him of planning attacks on Chinese nationals in Pakistan and orchestrating the ETIM/TIP campaign prior to the 2008 Olympics. *China Daily*, 21 October 2008.

17. Bill Roggio, "Turkistan Islamic Party Leader Thought Killed in US Drone Strike," *Long War Journal*, 25 August 2012, http://www.longwarjournal.org/archives/2012/08/turkistan_islamic_pa_1.php.

18. Abdul Shakoor is also thought to have been appointed to this body when he was given command of al-Qaeda forces in the region.

19. Bill Roggio, "Al Qaeda Appoints New Leader of Forces in Pakistan's Tribal Areas," *Long War Journal*, 9 May 2011.

20. However, fighters from Xinjiang have been active in other theaters such as Afghanistan and Chechnya, and there have long been concerns that such fighters will return to Xinjiang battle-hardened. See Reed and Raschke, *ETIM*.

21. Ministry of Public Security, "List of Confirmed Terrorists, Batch 3," 6 April 2012.

22. Mao Zedong stated in a speech on 22 August 1964 that

The Palestinian Arabs should go back to their homeland. Right up to the present time we have had no diplomatic relations with the Israeli government. The Arabs are the overwhelming majority. All Arab peoples are opposed to their fellow-Arabs being driven out of Palestine. If we don't stand on your side we will be making a mistake. That is why we are with you. But it is not just a question of Israel but of who stands behind Israel. Therefore it is a world question and particularly one concerning the USA.

23. There are exceptions to this trend. For example, China maintains ties to Iran, Sudan, Zimbabwe, Burma, and North Korea, though these relationships reflect strategic concerns about commerce, borders, encirclement, and local instability rather than concerns about international standing.

24. See M. D. Swaine and A. J. Tellis, *Interpreting China's Grand Strategy: Past, Present and Future* (Santa Monica: RAND, 2000); S. L. Shirk, *China: Fragile Superpower* (New York: Oxford University Press, 2007); Shirk, *The Political Logic of Economic Reform in China* (Berkeley: University of California Press, 1993); and M. D. Swaine and D. P. Henry, *China: Domestic Change and Foreign Policy* (Santa Monica: RAND, 1995).

25. While the US fixation on terrorism during the Bush administration was useful to China in some regards, other aspects of the "war on terror" have made the Chinese foreign policy establishment more uncomfortable. Most notably, Chinese decision makers have tended to object to the degree that it has served as the basis for US unilateralism, though they have done so strategically. See S. Shen, *China and Antiterrorism* (New York: Nova Science Publishers, 2007), 10–17.

26. The shift can be clearly seen in foreign policy position papers issued during this period. See, for example, "China's Position Paper on Enhanced Cooperation in the Field of Non-Traditional Security Issues" (2002), which states, "As for international cooperation on counter-terrorism, China supports an enhanced leading role of the United Nations in combating terrorism."

27. The frequencies in fig. 2 are substantially different from those available from Chinese sources, which typically combine riots and terrorism. In many ways, mass mobilization is a greater concern for Chinese security officials than small-scale terrorist attacks.

28. Suzanne Ogden, "Inoculation against Terrorism in China: What's in the Dosage?" in *Democratic Development and Political Terrorism: The Global Perspective*, ed. William Crotty (Boston: Northeastern University Press, 2005).

29. Horowitz, "Nonstate Actors and the Diffusion of Innovations."

30. Prior to its emergence as a global power, China was heavily engaged in the affairs of a few countries in its immediate region that subsequently emerged as terrorist hotbeds, most notably Pakistan and Indonesia. However, these are exceptions that tend to prove the rule. In both cases, China maintained a low public profile despite its substantial engagement behind the scenes. Moreover, China consciously avoided maintaining military bases, engaging in resource extraction, keeping close public association with foreign leadership, or pursuing other types of engagement most likely to mobilize a terrorist response.

31. This is an extensive literature, but for two good examples, see D. Shambaugh, *Power Shift: China and Asia's New Dynamics* (Berkeley: University of California Press, 2005); and B. Zheng, "China's 'Peaceful Rise' to Great-Power Status," *Foreign Affairs* 84, no. 5 (September/October 2005).

32. Jessica Weiss, "Authoritarian Signaling, Mass Audiences, and Nationalist Protest in China," *International Organization* 67, no. 1 (2013).

33. Examples are the attack on the USS *Cole* in the Gulf of Aden and the earlier attack on the Marine barracks in Lebanon.

34. Similar regional engagement also has the potential to contribute to grievances. For example, China has been spending heavily in Kyrgyzstan and Tajikistan, as well. They have built and repaired a lot of the national highway systems and built hydroelectric dams, among other projects. Indeed, there is some evidence that Chinese are illegally settling farming villages located next to the border with China by bribing local officials for residency permits.

35. Fishman, "Al-Qaeda and the Rise of China."

36. Paul B. Stares et al., *Managing Instability on China's Periphery*, (Washington: Council on Foreign Relations, 2011).

37. Congressional Research Service (CRS), *Al-Qaeda: Profile and Threat Assessment* (Washington: CRS, 2005).

38. Quoted in William M. Arkin, "Military Bases Boost Capability but Fuel Anger," *Los Angeles Times* Op-Ed, 6 January 2002.

39. Cass R. Sunstein, "Terrorism and Probability Neglect," *Journal of Risk and Uncertainty* 26, no. 2 (2003).

40. Walter Laqueur stated this relationship succinctly when he wrote, "the media are the terrorist's best friends . . . the terrorist act by itself is nothing, publicity is all." Quoted in R. F. Farnen, "Terrorism and the Mass Media: A Systematic Analysis of a Symbiotic Process," *Terrorism* 13 (1990).

41. D. Stockmann and M. E. Gallagher, "Remote Control: How the Media Sustain Authoritarian Rule in China," *Comparative Political Studies* 44, no. 4 (2011).

42. S. Liu, "Structuration of Information Control in China," *Cultural Sociology* 5, no. 3 (2011).

43. Famous incidents include one involving Sun Zhigang, a migrant graphic designer, beaten to death by police. See H. Yu, "From Active Audience to Media Citizenship: The Case of Post-Mao China," *Social Semiotics* 16, no. 2 (2006). Another incident known as the "Wanzhou uprising" was in response to an encounter between a "lowly porter" and a "self-proclaimed" government official. See Y. Zhao, "Rethinking Chinese Media Studies," in *Internationalizing Media Studies*, ed. D. K. Thussu (New York: Routledge, 2009).

44. I. Weber and L. Jia, "Internet and Self-Regulation in China: The Cultural Logic of Controlled Commodification," *Media, Culture & Society* 29, no. 5 (2007).

45. Search terms used include *East Turkestan Islamic Movement*, 东突厥斯坦伊斯兰运动 (又称 "东突厥斯坦伊斯兰党"、"真主党"、"东突厥斯坦民族革命阵线"、"东突伊斯兰运动, 简称 "东伊运"); *East Turkestan Liberation Organization*, 东土耳其斯坦解放组织, 简称 "东突解放组织", 最大的称为 "东突民族党"; ordinary Chinese refer to Xinjiang terrorist organizations by a shared abbreviation, *dongtu*, 东突; *terrorist attack*, 恐怖袭击; *terrorist*, 恐怖分子; *terrorism*, 恐怖主义; and *Xinjiang independence*, 疆独.

46. See “Experts Say Dongtu Is Not a Real Threat to the Olympics,” August 2008, http://realtime.zaobao.com/2008/08/080811_05.shtml.

47. See “What Should City Residents Do in the Event of a Terrorist Attack?” 8 July 2008, <http://news.qq.com/a/20080807/002669.htm>; and “Resident Terrorist Watch Manual,” 21 July 2008, <http://2008.163.com/08/0721/09/4HC9NMIQ00742KTQ.html>.

48. Search tianya.cn from July to October 2008, keywords: *dongtu*, 东突; *terrorist attack*, 恐怖袭击; *terrorist*, 恐怖分子.

49. For example: “US Legislature Ruled that Dongtu are not Criminals—China’s Enemy is US friend,” <http://www.tianya.cn/publicforum/content/worldlook/1/186955.shtml>; “Dongtu 18 Years of Evil! The Lamentations of a Murdered Special Forces Officer,” <http://www.tianya.cn/publicforum/content/news/1/103812.shtml>; “Chinese Military: Even If Dongtu Has 300 Caves, Let’s Blow Them All Up!” <http://www.tianya.cn/publicforum/content/worldlook/1/189377.shtml>; “Multiple Cars Explode, By Terrorists,” <http://www.tianya.cn/publicforum/content/water/1/791085.shtml>.

50. Osama bin Laden was explicit about this strategy, as noted in “Transcript: Translation of Bin Laden’s Videotaped Message,” *Washington Post*, 1 November 2004:

It is easy for us to provoke and bait this administration. All that we have to do is to send two Mujahedin to the farthest point East to raise a piece of cloth on which is written al-Qa’ida in order to make the generals race there to cause America to suffer human economic and political losses without their achieving for it anything of note other than some benefits to their private companies. This is in addition to our having experience in using guerrilla warfare and the war of attrition to fight tyrannical superpowers as we alongside the Mujahedin bled Russia for 10 years until it went bankrupt and was forced to withdraw in defeat.

51. While many of the issues I discuss here have parallels in other areas of western China, such as Tibet, the primary focus here is on terrorist threats emanating from Xinjiang.

52. These patterns should be viewed with the caveat that all terrorism data, and particularly data on terrorism in China, is subject to selection biases and the particularly the problem of undercounting. Under certain conditions China has strategic incentives to obscure attacks. An additional cause for concern is the possibility that, due to the steady improvement in the quantity and quality of information coming out of China, this problem of undercounting is not consistent over time. This suggests a consistent downward bias of inconsistent magnitude.

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The Future of US Deterrence in East Asia

Are Conventional Land-Based IRBMs a Silver Bullet?

David W. Kearn Jr.

China's military modernization has been a central concern of US policy-makers for some time.¹ During the past three years, China's behavior in relation to various territorial disputes has exacerbated regional tensions and reinforced fears that as its power increases, it is destined to become more aggressive and use its expanded military capabilities to coerce its neighbors, initiate crises, and perhaps directly challenge the United States. While these are indeed important longer-term concerns, perhaps the most acute threat of China's modernization program is its deployment of large quantities of short- and intermediate-range ballistic missiles (SRBM/IRBM). In a future cross-strait conflict, it seems increasingly likely that China could achieve air superiority over Taiwan. Moreover, China's missiles now threaten key forward US bases and hold US naval forces in the region at risk, creating a vulnerability that could hinder the capacity of the United States to effectively defend Taiwan. These developments in turn undermine US deterrence against China taking military action in the event of a crisis, making a conflict more likely. As a major component of what experts have termed an anti-access/area denial (A2/AD) strategy, China's missile forces pose a clear challenge for US policymakers.²

In response, some US experts have proposed deployment of conventional land-based IRBMs in the region to offset this growing Chinese advantage and reinforce the ability of the United States to deter China from future aggression.³ While this option has not been fully developed

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in operational terms, one fact is clear: for the United States to deploy a new IRBM, it must unilaterally withdraw from the 1987 Intermediate-Range Nuclear Forces (INF) Treaty or cooperatively dissolve or significantly alter the treaty with its other signatory, Russia. The treaty removed these weapons from US and Soviet arsenals and remains in effect today, prohibiting their testing, development, or deployment.⁴ This diplomatic hurdle may be significant, but it should not—in and of itself—determine whether these types of weapons would serve as an effective response to China's growing capabilities. The political and security implications of a decision to develop and deploy new intermediate-range conventional missiles within and beyond the region should obviously be considered in the context of US national security objectives. While arms control considerations should be taken into account, the primary question should be: can a new generation of US missiles effectively deter China while defending Taiwan and help maintain or expand US capabilities in East Asia?⁵

This article briefly examines China's military modernization and the critical role conventional short- and intermediate-range ballistic missiles play in its A2/AD approach. Next it considers the potential benefits of a new US conventional IRBM in addressing the Chinese missile threat and its A2/AD capabilities in general and the obstacles confronting deployment of such a system, particularly basing and cost. It then presents the likely security implications of deploying a new US conventional IRBM, taking into account China's perceptions and potential responses, and finally, offers some programmatic alternatives that could enhance US offensive capabilities and thus reinforce deterrence in a more cost-effective and operationally flexible way over the short, medium, and longer terms.

China's Missile Modernization and the Anti-Access Challenge

For more than a decade, the development and deployment of conventional SRBM capabilities have been an important focus of China's military modernization efforts. With more than 1,000 shorter-range ballistic missiles (CSS-6 and CSS-7) deployed in areas adjacent to Taiwan, these weapons have been viewed as primarily dedicated to the mission of deterring leaders in Taipei from unilaterally altering Taiwan's current status and formally declaring independence.⁶ Should deterrence fail, these capabilities provide Beijing with a robust capacity to compel the leadership

in Taipei to reverse such a declaration and return to the status quo ante. However, as China's missile capabilities have expanded, the nature of the threat to Taiwan has also increased significantly. Experts now argue that a coordinated Chinese attack utilizing its missile forces to degrade Taiwan's air defenses and potentially destroy much of the Republic of China Air Force (ROCAF) on the ground—even units located within hardened, well-defended shelters—would virtually provide the People's Liberation Army Air Force (PLAAF) with air superiority over the strait. With its quantitative advantage in fighter and strike aircraft, the PLAAF would be expected to overwhelm any surviving ROCAF units. This scenario underscores the crucial role of the United States in defense of Taiwan in the event of such an attack.⁷

A more troubling development is the People's Liberation Army's (PLA) development and deployment of intermediate-range missiles. The quantitative and qualitative improvements of those systems (particularly in terms of accuracy) combine to increasingly hold US forces in the region at risk. The conventional version of the CSS-5 IRBM—which is believed to be the basis of a “carrier-killer” antiship ballistic missile (ASBM) variant—is capable of hitting major US air bases in the Western Pacific, including Kadena on Okinawa and Kunsan in South Korea.⁸ In the past few years, China has also developed and deployed large numbers of DH-10 land attack cruise missiles (LACM) which have an estimated range of approximately 2,100 km and are reportedly retargetable and highly accurate. With a Chinese capacity to saturate bases in the region, even Andersen AFB on Guam could become a first-strike target.

While investments in other programs, like fourth-generation strike aircraft and modern surface and subsurface vessels, create challenges for US planners, the missile program is a particularly difficult problem.⁹ The net effect of China's military mobilization, typified by its expansion of conventional missile forces, is to significantly degrade offensive capabilities. Given the importance of forward bases to any US scenario to aid Taiwan, coupled with the important role of US aircraft carrier battle groups in responding to a crisis, China's investment in large quantities of increasingly lethal missile systems places those erstwhile assets in danger. These capabilities are at the core of what has been termed the *anti-access/area denial capability* by defense experts in Washington.¹⁰ China's efforts have focused squarely on blunting the US ability to project power into its immediate region and transforming what had previously been a

major US advantage (relatively short-range strike aircraft launched from forward regional bases and aircraft carriers) into a potential liability. Combined with advanced air defenses and other assets, China has created a defensive coastal zone too dangerous for US forces to enter.¹¹

Eroding US firepower and China's capacity to hold at risk US forward bases and naval assets critical to power projection in the regions around Taiwan and China's immediate littorals ultimately calls into question the ability of the United States to deter Chinese offensive action.¹² In the event of a crisis it makes such a scenario more likely as Beijing may have an incentive to alter Taiwan's status while it has a perceived advantage over the United States. If the conventional balance were to shift so far in China's favor, the decrease in expected costs may actually provide incentives to strike first.¹³ In a worst-case scenario, if China were able to launch a perfectly executed attack that effectively disarmed Taiwan, the United States might be deterred from responding. A well-coordinated first strike using missile forces and various other anti-access capabilities (information and electronic warfare capabilities, antisatellite weapons, and improved strike aircraft and submarines) could disable US bases and make naval operations within the "first island chain" too risky, significantly constraining the US response.

This is not to imply that Beijing is seeking to prevail in a conventional war in the traditional sense. After all, the United States would still have extensive capabilities outside the immediate theater of operations. However, in the event of a crisis, China may seize the initiative by using its conventional military advantage (specifically its missile forces) to achieve its political objectives vis-à-vis Taiwan with a relatively large-scale but "limited" use of military force to effectively confront the United States with a *fait accompli* that would be ostensibly perceived as too costly to reverse.¹⁴ A potential US military response under such circumstances is obviously an open question, but clearly the potential for escalation to a more wide-ranging conflict is high.

Experts have surmised that China's modernization efforts were designed—in large part—to rectify the vulnerabilities perceived by Chinese leaders in the wake of the 1996 Taiwan crisis, when President Clinton dispatched two carrier battle groups to the Taiwan Strait in response to provocative missile tests by China.¹⁵ The tests, generally viewed as an attempt to intimidate Taiwan and pro-independence leaders in Taipei, failed to have the desired political effect, and the crisis ended.

When considering the prevailing analyses of the 1991 Gulf War and 1999 Kosovo air campaign, both of which highlighted the impact of US precision-guided munitions (PGM), China's A2/AD strategy plays to its geographic advantages and its primary concern for maintaining Taiwan's status.¹⁶ In a conflict with the United States, it is necessary to have a de facto buffer zone to keep US forces far enough away from critical targets like air bases, missile sites, and command and control installations so short-range strike aircraft and PGMs are ineffective.

Chinese developments have not gone unnoticed in Washington. While this may be a worst-case scenario, the logic has informed thinking within the Pentagon and the security community and coalesced around a new operational concept—Air-Sea Battle (ASB).¹⁷ ASB would combine US air and naval power to maintain and expand the capacity of the United States to project power in China's surrounding littoral regions, thus removing the perceived defensive buffer zone and restoring the conventional balance in the Western Pacific to one that allows for US offensive operations. In turn, this would support or enhance the US capacity to deter conflict in the future and reassure US allies while maintaining stability in the event of a political crisis involving Taiwan. While ASB remains an operational concept—not an official strategy or formal battle plan directed at any specific state—it is expected to shape the way the Pentagon invests in research and development projects, procures new weapons systems, and reconfigures force structures and posture over the longer term. It focuses on emerging technologies to execute novel operations like “blinding” or “dazzling” campaigns that use information and electronic warfare, as well as high-end conventional weapon systems. At its core it is predicated on restoring the ability of the United States to engage in offensive operations against China.¹⁸ Taken to the logical extreme, ASB would essentially return superiority to the United States, not merely rectify current perceived deficiencies in US capabilities created by China's A2/AD. This seems to go well beyond traditional, basic notion of deterrence: raising the expected costs of unwanted action. Rather, ASB possesses significant elements of denial (decreasing the adversary's expected benefits of action) and war-fighting (the perceived need for capabilities to defeat the adversary to deter unwanted action) approaches to deterrence.¹⁹

Potential Benefits of US Theater Missiles

Some experts argue that the deployment of US conventional, land-based IRBMs would allow the United States to more effectively address the growing challenge of Chinese A2/AD capabilities.²⁰ Land-based conventional ballistic missiles (or *theater* missiles) have been considered, along with various other platforms and munitions, as potentially useful components for implementing the ASB concept. In the most straightforward terms, theater missiles would greatly enhance US offensive capabilities and ostensibly make up for any loss of firepower that would occur if forward-based US strike aircraft were degraded. Enhanced US firepower would therefore significantly improve the conventional balance across the strait and raise the expected costs of Chinese offensive actions, restoring the US deterrent capacity in the region that has been eroded by China's modernization program. More specifically, the US deployment of theater missiles in East Asia would appear to offer four distinct but related benefits.

Enhancing US Offensive Capabilities/Deterrence by Punishment

First, and most importantly, conventional land-based IRBMs enhance US firepower in the immediate region and increase the offensive capabilities confronting China in the event of a conflict.²¹ Even in contested areas, the ability of an IRBM to penetrate defenses is effectively guaranteed. The deployment of these missiles would significantly degrade the perceived buffer zone Beijing has achieved with implementation of its A2/AD approach and significantly improve the conventional balance in favor of the United States. For any unprovoked aggression, whether against Taiwan or US forces or allies in the region, China could expect to face significant costs. This should significantly enhance the ability of the United States to deter China from provocations against Taiwan by placing its own high-value targets, particularly missile launchers, air bases, command and control assets, and other infrastructure, at risk.²² If China's anti-access capabilities have undermined the perceived capacity of the United States to project power into the regions surrounding Taiwan, including mainland China and its littoral zones, then the deployment of conventional missiles in sufficient number—particularly spread among several bases—would fundamentally alter China's security environment.

Enhancing US Offensive Capabilities/Deterrence by Denial

Should deterrence fail, theater missiles would improve US capabilities to effectively defend Taiwan by placing some of China's most threatening assets at risk. Specifically, experts have argued that an "in-kind" response based on the deployment of US conventional ballistic missiles may be the only effective means for addressing China's mobile missile systems.²³ Given their accuracy, range, speed, and ability to penetrate enemy defenses, conventional ballistic missiles would be particularly well suited for conducting operations against transporter erector launchers (TEL) under contested conditions. Past experience indicates that traditional airpower, even with air superiority, is not well suited for locating and striking mobile missiles and their TELs.²⁴ If the United States maintains its surveillance capabilities and situational awareness under conflict conditions, then theater missiles provide a prompt strike capability that could significantly threaten China's mobile assets and degrade one of its critical A2/AD capabilities. This also enhances the capacity of the United States to deter China by potentially denying it the benefits of its missile systems and could spur Beijing to reconsider their use in a crisis situation.²⁵

Complicating Anti-Access by Expanding China's Target Packages

Introducing an offensive capability that PLA planners would certainly have to address complicates Chinese targeting. These new US weapons would be considered priority targets. Therefore, Chinese missiles currently allocated to saturate Taiwan's air defenses, crater runways, destroy US aircraft on the ground at vulnerable forward bases, and potentially target US naval assets would now have to be retargeted to US missile bases.²⁶ In sufficient number and with effective diverse basing options (whether in hardened silos or mobile launchers), a new generation of conventional ballistic missiles could dramatically alter China's contingency plans and undermine a core pillar of its A2/AD approach.

Improving Capabilities and Controlling Escalation

Some experts assert that US missiles deployed throughout the region will be less escalatory in the event of a crisis or actual conflict than "central" strategic responses deployed to the theater from the United States. Because they are visible and expected to be used in the event of a conflict,

US theater missiles are less likely to raise alarms in Beijing which could lead to further conventional or perhaps even nuclear escalation.²⁷ In this sense, these weapons greatly enhance the clarity and decrease the uncertainty associated with an expected US response to PRC offensive operations under conditions of crisis or in the early stages of a conflict. With these weapons deployed in the theater, any Chinese strike could be met with a controlled, proportionate response, more or less automatically. Conversely, munitions from a long-range bomber or submarine launch could be misread as strategic weapons, with catastrophic implications.

Depending on the nature and size of the US deployment, a new generation of theater missile forces—a hypothetical “Pershing III” conventional IRBM—would confront China with an asset that threatens important aspects of its A2/AD forces including airbases, hardened command and control installations, air defenses, and perhaps most importantly, its mobile missile systems. In improving US deterrent capabilities and providing a clearly visible program that directly addresses China’s most threatening capabilities, the deployment of theater missile forces will reassure US allies in the region and contribute to crisis stability. Despite the expected benefits, however, a new conventional IRBM is not without potential drawbacks.

Obstacles to US Theater Missiles

Advocates of Air-Sea Battle and the more general deployment of missiles often discuss the expected benefits of such a program, but few have seriously considered the implicit assumptions critical to its ultimate contribution. Even beyond the potentially significant diplomatic and political-military costs associated with US withdrawal from the INF Treaty, a new generation of conventional land-based IRBMs is likely to encounter significant obstacles. The two most important challenges are basing and cost. It is important to consider the basing issue first as it may actually contribute significantly to the question of costs and affect expected benefits of the program.

The Critical Issue of Basing

Experts who support the US deployment of conventional land-based IRBMs assume that with adequate basing options the United States can present a relatively large and diversified threat to China’s missile forces

that will rectify the perceived imbalance in conventional capabilities. Jim Thomas of the Center for Strategic and Budgetary Analysis, which has done significant work on ASB and A2/AD, has presented the most expansive conceptualization of a new land-based US ballistic missile program, depicting a linked network of installations in a ring of bases around China's periphery in the Western Pacific. He also envisions a "magazine" of munitions that could be utilized for land attack, air and missile defense, and antiship missions.²⁸ This would truly represent a major shift in favor of the United States, but it would also involve significant costs and difficult diplomatic negotiations for basing rights.

If the deployment of US conventional IRBMs were sufficiently large and diversified, China could be deterred from action. Such a scenario may indeed alter the balance in the region in a significant way. However, this is predicated on the assumption that multiple regional bases will be readily available to host US missiles, which is unrealistic. Rather, it is extremely doubtful that the United States will have access to basing that would actually maximize the expected benefits of the program as envisioned.²⁹ A limited basing posture would not completely negate the potential value of the program, but it is a significant constraint that must be evaluated alongside any perceived military contributions. In the absence of a major shift in Chinese policy that dramatically rejects its current "peaceful rise" to a more objectively aggressive and expansionist approach, the United States is unlikely to find bases beyond its own territories in the Western Pacific.³⁰

As the experience of the late 1970s reflects, requests to regional allies to host highly visible and threatening counterforce weapons, even in the face of a significant threat, are likely to be rejected.³¹ Given the high levels of economic interdependence in the East Asian region and the central role China has assumed in regional trade, countries like Japan, South Korea, and the Philippines are unlikely to view the threat of a Taiwan conflict as necessitating what they would view as a highly provocative response to a threat that only indirectly affects their security. Deploying missiles on their territory that directly target China would fundamentally alter the relationships between these states and, in turn, make them priority targets of China's offensive weapons in a future conflict.³²

Even with a significant erosion of regional diplomatic relations due to an overtly hostile shift in Chinese diplomacy, domestic public opinion in those states is likely to continue to oppose such deployments, precisely

because of the high likelihood of being pulled into a future conflict. Thus, the assumption that the United States would have multiple basing options that would allow for effective diversification of missile forces is highly problematic, and any prudent planning for developing such a program should assume that deployment will be limited to US territories in the Western Pacific. This fact alone significantly undermines the case for conventional IRBMs as a response to China's missile programs. The US inability to access bases will affect costs by increasing range requirements, and the likely limited nature of the deployment removes many of the perceived strategic or operational benefits that a larger-scale, diversified deployment could offer. Specifically, the second and third benefits—holding China's mobile missiles at risk and complicating China's targeting plans by increasing the number of critical US assets in the region—are effectively removed by a proposed placement of missiles solely on US territory (i.e., Guam). Another important point is that despite the best efforts by the United States to maintain the reliability and resilience of its command, control, computers, communications, intelligence, surveillance, and reconnaissance (C4ISR) capabilities in the Western Pacific, it seems somewhat unlikely that, in the event of a conflict, these key assets will not be impacted to some degree by Chinese information and electronic warfare activities. Even if the United States were able to maintain the integrity of its C4ISR network in the region, conventional IRBMs fired from Guam are unlikely to arrive as desired, precisely because of the distance the missiles must travel. Shorter-range ballistic missiles within 1,000 km may be capable of executing an anti-TEL mission, but it seems dubious that missiles traversing 3,500–4,000 km would be effective, given the distance and time they would have to travel and the need for extensive updating and retargeting capabilities.³³

The Programmatic Costs of Land-Based Conventional IRBMs

The more straightforward question is one of program costs. Would the program be a relatively high-end, technologically advanced solution that is prohibitively expensive and limited in practical utility, or is it a cost-effective program that may possibly have larger benefits? Perhaps unsurprisingly, the program costs associated with the development of a new, highly capable intermediate-range missile are likely to be considerable. The Pershing II program, which ultimately produced 234 missiles, would cost approximately \$4.3 billion in 2011 dollars.³⁴ To provide a

basic cost estimate of a Pershing III program, a RAND study considered an initial deployment of approximately 600 missiles in the Western Pacific. That appears to provide the capacity required to target China's key air bases which are likely to be used in the event of a conflict with Taiwan.³⁵ An initial program cost was estimated at \$12 billion. However, several factors may contribute to an even more costly system.

First, the attributes of a Pershing III would almost certainly require a range of at least 3,500 km—almost twice the Pershing II (1,800 km)—to effectively threaten the important Guangzhou and Nanjing military districts adjacent to Taiwan and perhaps ranges in excess of 4,000 km to strike critical targets in Central China. Secondly, to be effective in striking hardened targets, the proposed missile would need to be highly accurate. Thus, a Pershing III is expected to be more expensive than a reconstituted Pershing II because of the demands for range and accuracy. Finally, industrial base issues must be taken into account. While the United States is obviously capable of developing and deploying such a system, the long period of inactivity in this specific area of research and development would likely add to program costs.³⁶ The institutional knowledge and infrastructure associated with development of a high-end IRBM has not existed since the INF Treaty was implemented, so a new program would essentially start “from scratch.”

One would expect the Pershing III to be road-mobile or perhaps placed in hardened silos to maintain survivability. It is not immediately clear which configuration would be preferred on Guam in terms of feasibility and cost effectiveness. So, while these new missiles would certainly enhance the firepower that could be delivered on key fixed Chinese targets such as air bases, command and control nodes, and critical military infrastructure, they are likely to be a costly solution to the problem of enhancing US offensive capabilities. Ultimately, despite the attractiveness of ballistic missiles as a response to China's A2/AD capabilities, other options may provide the requisite firepower to degrade China's ability to coordinate and conduct air operations across the Taiwan Strait and within the first island chain.

Regional Security Implications of a Deployment

Beyond its substantial program costs, the deployment of US land-based IRBMs would likely have significant political and military implications for US-China relations. The actual deployment of a highly capable,

intermediate-range conventional missile aimed at high-value Chinese targets is likely to be interpreted as very provocative and thus transform China's perception of a threat from the United States. It is unclear if China would respond by limiting its own deployments. If the US missiles are viewed as particularly threatening to its forces, China would be expected to actually expand its intermediate-range missile forces well beyond current levels, ultimately limiting the perceived improvement in the balance initially achieved by the US deployment. Rather than dampen potential dynamics that could lead to escalation, the deployment of perceived highly effective US missiles would likely decrease stability, placing pressure on both China and the United States in the event of a crisis.

Transforming China's Threat Perception

The most straightforward effect of a US withdrawal from the INF Treaty would be to increase Chinese fears of US intentions. As experts have written elsewhere, China's limited nuclear deterrent—including its commitment to a “no first use” doctrine—and focused military modernization have been targeted toward averting nuclear blackmail and deterring what Beijing perceives as interference in its development.³⁷ The opaque nature of China's policymaking apparatus has complicated efforts to understand its ultimate long-term objectives, and its assertion of exclusive rights in the South China Sea and territorial disputes with Japan and India have contributed to this uncertainty. What seems clear, at least in the short term, is that the focus of China's military modernization has been predicated on deterring outside intervention in a Taiwan conflict and improving its ability to prevail should deterrence fail. The central challenge for US policy toward China is balancing cooperation and conflict and hedging against the emergence of an aggressive China which continues to consolidate its power and expand its material capabilities. While deterring China from coercing its neighbors and following the provocative path of historical rising powers, it is also important to avoid engaging in policies that lead to a self-fulfilling prophecy and contribute to the emergence of a belligerent and revisionist China. In fact, given the current relations between the two states, it is difficult to see the political impetus for such a policy decision absent a prior deterioration of US-China relations to the point where the probability of conflict has increased and the potential gap in US conventional missile

forces is perceived as an immediate and acute threat warranting such a controversial diplomatic response.

The deployment of new missile systems in the East Asian theater is likely to be perceived as highly escalatory and could perhaps even precipitate a diplomatic crisis. Though the US intent may indeed be to compensate for a perceived gap in deterrent capabilities and the vulnerability of its forward-based assets in the region, it is doubtful Beijing would view such deployments as merely addressing these factors.

Altering China's Missile-Centric Strategy

A more basic point inherent in the logic of deploying theater missiles is that a buildup and even perhaps long-term diversification of those forces will alter China's cost calculus in planning for a Taiwan operation.³⁸ The United States can create more targets at some level and deploy greater capabilities within the theater, but it is far from clear that such assets will deter China. China's modernization, focused on an expansion of missile forces, seems to reflect a different cost-effectiveness calculus from that of the United States. Traditional US reliance on tactical and strategic airpower is premised on the straightforward concept that missiles can only be used once, whereas airpower is a much more versatile (reusable) capability. Nonetheless, China's development and procurement priorities are unlikely to be fundamentally altered by what would likely be a limited US deployment of theater missiles. Engaging in a missile race where it seems that China has a comparative quantitative advantage (and perhaps a qualitative advantage, at least in the short-to-medium term) does not necessarily seem cost effective for the United States.

Rather than responding to the asymmetry created by China's missile-centric modernization program with an in-kind response, it would seem prudent for the United States to leverage areas where it may possess comparative advantages, such as undersea, surface, and airpower operations. With the asymmetry of interests that exists in the Taiwan crisis scenario, it is unlikely the United States is ever going to completely overcome China's "home field" advantage in military terms. Given the centrality of averting Taiwan's independence, we should expect Beijing to commit whatever resources necessary to maximize its probability of prevailing in a conflict. Again, this does not entail a general war with the United States but a limited-aims conflict where China has distinct geographic advantages, bolstered by its military modernization program.³⁹

In short, a deployment of US intermediate-range missiles that represented only a marginal improvement over existing conventional offensive military capabilities (because of limits on basing and costs) is unlikely to alter Chinese considerations and may in fact only prove self-defeating if China ultimately compensates for US improvements with a further expansion of its own missile forces.

Potential for Crisis Instability, First-Strike Incentives, and Escalation

US policymakers should expect China to view the deployments as highly threatening and provocative.⁴⁰ Considering the history of the “dual-track” decision in Western Europe in 1979, the Soviet perception of the deployment of Pershing IIs was that the United States was attempting to alter the balance between NATO and the Warsaw Pact, not simply to offset the deployment of Soviet SS-20s.⁴¹ Given their ability to strike high-value Soviet leadership and command and control targets with little warning time, Moscow viewed the deployment as highly threatening, which intensified the deterioration of US-Soviet relations in the early 1980s.⁴² The introduction of a Pershing III missile on Guam should be expected to spur a similar reaction from China. A highly capable missile that could destroy command and control assets, missile launchers, and other high-value targets would be seen as a highly threatening “counterforce” weapon—albeit conventional. Thus, we should expect these weapons to be perceived at the very least as important targets in the event of a crisis. This leads to two dynamics that could undermine crisis stability and introduce first-strike incentives.

First, if the United States is limited to deploying new land-based IRBMs only on Guam, the simple fact of their consolidated position in a relatively small geographic area creates a vulnerability, whether they are mobile or in hardened silos. China is presented with a limited, fixed target that could potentially be significantly degraded or eliminated in the event of an effective, coordinated first strike. Thus, in a future crisis, leaders in Beijing would have preventive motives to attack US missile deployments to remove the most threatening assets from the US arsenal. The second related dynamic arises from US perceptions of Chinese motives. Because of pressures for China to preemptively attack Guam, the United States finds itself in a position to “use or lose” its missile forces as a diplomatic crisis intensifies. Knowing that they are likely targets of a Chinese first strike, pressures build upon the United States to consider striking first out of fear that the probabilities of surviving a

Chinese first strike are low and that seizing the initiative would improve the probability of success. In either case, the potential for miscalculations and even accidental exchanges would increase, as forces on high alert seek to avoid being caught off guard. Similarly, the pressures to use or lose may contribute to inadvertent escalation as the fear of suffering a disarming or degrading first strike presses leaders to utilize all available munitions. More generally, escalation dynamics should be expected fairly early under most conceivable conflict scenarios once targets on the Chinese mainland are struck. Whether this more “maximalist” approach is necessary to deter China and reassure US allies remains debatable. A more realistic approach would focus on the ability of the United States to maintain the requisite offensive capabilities that could be used in flexible, prompt, and responsive ways to deter China from aggression against Taiwan in the event of a cross-strait crisis.

Alternative Approaches for Enhancing US Capabilities

Given the nature of the threat created by expansion of China’s missile forces, active (and passive) defensive options are relatively limited because of the likely costs. Therefore, the focus on potential programmatic responses logically shifts to enhancing US conventional capabilities to deter Chinese operations by decreasing expected benefits and raising costs of a potential preventive strike in the event of a diplomatic crisis.

Alternatives for the Short Term

Despite the constraints of the INF Treaty, the United States remains capable of deploying robust conventional capabilities in the East Asian region to bolster its current force posture if necessary. In considering current assets available to US planners, the *Ohio*-class, or “Tactical Trident,” SSGN (nuclear-powered guided missile submarine) would seem to address several important challenges.⁴³ First, with conventional configuration, the SSGN can carry 154 Tomahawk land attack missiles (TLAM) or the equivalent of a battle group’s full capacity of cruise missiles which can be launched at rapid rates while also allowing for controlled, proportional, limited responses. Given its ability to operate in otherwise denied areas due to its endurance and stealth, the SSGN provides a robust capability to maintain US firepower in the event of a Chinese attack. The US Navy currently deploys four of the *Ohio*-class

SSGNs, which were converted from nuclear-armed SSBNs in the 1990s for approximately \$400 million each. The USS *Ohio* and USS *Michigan* are deployed in the Pacific, while the USS *Florida* and USS *Georgia* are deployed in the Atlantic. In the event of a crisis, the movement of these four submarines to the Western Pacific would send a strong signal of US resolve and significantly bolster US capabilities in the region. In June 2010 this type of signal was sent when three of the four SSGNs arrived in strategically important ports: the USS *Michigan* in Pusan, South Korea; the USS *Ohio* in Subic Bay, Philippines; and the USS *Florida* in Diego Garcia.⁴⁴ If the United States invests in maintaining sufficient levels of precision-guided munitions, including the so-called Tactical Tomahawk and predeployed replacement munitions at Guam, for example, the SSGN fleet could contribute to significant enhancement of US firepower capabilities in the region for a sustained period. Maintaining this capability and perhaps expanding upon it through the conversion of other submarines or committing a certain number of new submarines to the Tactical Trident mission would provide a consistent, survivable, and flexible asset to deter or effectively defend against a potential conflict in the Western Pacific.

In the short term, investments can be made to sustain and enhance the standoff capability of the B-1 and B-52 forces with improvements of air-launched cruise missiles that can be fired from outside the range of Chinese anti-air and fighter capabilities. While an updated variant of the joint air-to-surface standoff missile (JASSM) has been procured to achieve longer ranges, it is unclear that even with a maximum range of 500 nautical miles (805 km) the JASSM-ER (extended range) is sufficient for a Taiwan crisis scenario. A B-1 can carry 21 of these missiles but would currently have to approach contested airspace to deliver them on targets.

Alternative Options for the Medium Term

In considering other programs that could enhance offensive capabilities and thus improve the US capacity to deter Chinese aggression, one candidate would be the resurrection of the “arsenal ship” concept which was considered in the mid 1990s but ultimately rejected.⁴⁵ The ship was conceived as a relatively cost-effective means (ostensibly \$520 million in 1996 dollars) of providing significant firepower capabilities to a theater commander.⁴⁶ With plans for 512 vertical launch system (VLS) cells,

four to six of these vessels would greatly enhance the US conventional firepower capability in the region and would have the added benefit of presenting Chinese planners with a number of additional targets to address, creating significant complications to targeting packages.⁴⁷ Some experts have also considered a surface vessel, like the arsenal ship, that could carry a sea-launched IRBM. This would represent a major expansion of capabilities, though it may present some problems vis-à-vis the spirit, if not letter, of the INF Treaty.⁴⁸

Another medium-term alternative would be an “arsenal airplane” that would carry a large number of cruise missiles and greatly enhance the standoff offensive capability of existing US airpower. The Boeing P-8A Poseidon, developed by the US Navy as a multimission aircraft (MMA) for antisubmarine warfare (ASW) and antisurface warfare (ASUW) as well as intelligence, surveillance, and reconnaissance (ISR) is based on a Boeing 737 airframe.⁴⁹ Equipping a similar civilian-based jet with advanced, long-range cruise missiles would likely be more expensive than the Poseidon’s \$280 million unit cost, but for the cost of baseline investment in a Pershing III, a fleet of 40–45 of these aircraft could address any perceived gap in capabilities.⁵⁰ Ultimately, these programs would seem relatively cost-effective solutions to the perceived conventional imbalance created by the Chinese missile program while proving far more flexible and versatile than a deployment of land-based missiles to the Western Pacific. These platforms can be deployed anywhere and could thus contribute to contingencies in other regions while proving less overtly threatening to China on a day-to-day basis.

Alternative Options for the Longer Term

Concerns about the ability of US tactical aircraft to respond from forward bases given the threat of Chinese missiles is seemingly made more acute by the perceived decrease in US long-range strike capabilities due to the small size of the B-2 force, the limited capabilities of the B-1 bomber, and the age of the B-52 force.⁵¹ With Chinese investments in modern air defense systems, early warning, and command and control capabilities, the ability of older, non-stealth, long-range platforms like the B-52 and B-1 to carry out missions over mainland China is no longer tenable. The perceived need for a follow-on to the B-2 has been argued elsewhere, and given the importance of maintaining a long-range strike capability, this seems like a prudent area of investment over the

longer term.⁵² Estimates on the size and costs of such a program can vary significantly, depending on the analysis, but 100–175 airframes costing approximately \$40–\$50 billion provides some sense of the magnitude involved. Moreover, a significant tradeoff seems to be emerging over whether to defer the program to take advantage of technologies that will be available in 2020 or attempt to build a less-expensive platform based on existing, off-the-shelf technologies which could significantly influence the ultimate price of the program.⁵³ The decision to invest in a next-generation long-range bomber will obviously take into account a variety of threats as well as cost issues, and a new IRBM would be much smaller in scope and thus a fraction of the overall costs. However, given the constrained fiscal environment facing the Department of Defense, if we assume that the investment required would be approximately \$12 billion, the question arises as to where those resources are best spent. It would seem that a new platform with the range, versatility, and power projection capabilities of a next-generation penetrating bomber would warrant serious consideration against a highly capable missile that would have limited utility beyond the East Asian theater.

Over the longer term, a focus on “smarter” munitions, which could potentially linger for some time over a battlespace and be rapidly re-targeted may actually be a less costly and more effective solution to the challenge of China’s mobile missiles—the anti-TEL mission—than fixed IRBMs. The question of maintaining C4ISR under combat conditions is likely to remain critical, but with a successful track record, US research and development in unmanned aerial vehicles (UAV) technology is likely to continue to provide applications that could contribute to effective execution of this type of mission over time.⁵⁴

Enhancing Denial Capabilities

The improvement of active and passive defenses and the protection from hardening surveillance and reconnaissance capabilities to maintain early warning and avoid suffering a disarming first strike would contribute to the mitigation of China’s missile threat. The US Navy’s Aegis system has proven effective in addressing limited missile attacks under test conditions.⁵⁵ However, missile defenses are confronted with the challenge of numbers, and given the finite number of Aegis cruisers and destroyers and their commitment to other regions, the Chinese missile buildup presents real problems for an active defense strategy. Even

including Japanese missile defense capabilities, it is highly unlikely that the United States will ever be able to bring enough missile defenses to the region to be decisive in a conflict. At some point, they are likely to be overwhelmed. Nonetheless, they contribute to US posture by complicating China's cost-benefit and risk assessments.

Similarly, passive defenses further undermine China's planning by allowing US bases to absorb and recover from a strike.⁵⁶ In the short term, investing in capabilities to strengthen and, if necessary, repair runways would mitigate the effects of a missile attack. Similarly, hardening of existing bases by building additional shelters and underground fuel tanks may be costly but could potentially improve the ability to withstand an attack and maintain operational tempo. Over the longer term, the potential diversification of US forward bases in the Western Pacific may also be beneficial but will require extensive diplomatic and political activity as well as economic resources. In addition, the hardening and expansion of C4ISR capabilities in the region to achieve early warning and to maintain a robust US capacity for situational awareness is essential. This would likely necessitate investment in various cyber and space capabilities as well to allow the United States to withstand a blinding or dazzling attack in concert with its missile deployments. Such assets may also allow the US military to degrade or hinder the ability of the PLA to coordinate and execute an attack, mitigate the damage of an attack, and improve its capacity to respond.⁵⁷

The unfortunate reality is that the expected value of both active and passive defenses is likely to erode over time with further expansion of Chinese missile forces. US decisions can offset China's advantages, but at best, they are unlikely to overcome them in a cost-effective way. Recognizing the fundamentally uneven nature of this competition, planners and decision makers should focus scarce resources on capabilities that enhance deterrence without contributing to an escalation of tension and a dynamic that leads to further Chinese deployments. In this sense, if deployment of new conventional theater missiles only spurs China to develop offsetting quantities of offensive missiles, these denial capabilities will only be devalued further over time.

Conclusions


The threat to US interests created by China's missile expansion is a serious one. However, it is not clear that the development and deployment

of land-based intermediate-range conventional missiles—currently constrained under the INF Treaty—by the United States would represent the optimal means of addressing that threat. While a Pershing III IRBM would enhance the conventional capabilities available to US forces in a conflict, it would be costly and significantly less effective because of the critical issue of basing. Alternative programs may provide similar capabilities while proving more cost effective and operationally flexible.

A new land-based conventional IRBM will improve US offensive capabilities in the Western Pacific and thus could contribute to a more robust capacity to deter China from future aggression. However, a US theater missile is unlikely to prove useful in effectively targeting Chinese mobile missiles, and while it could contribute to striking important fixed targets, other munitions and platforms may be capable of executing this mission. More importantly, it is unclear that the deployment of new US missiles in the theater would have any greater effect of deterring China than existing US platforms that can be moved into the region in the event of a crisis. Nor is it obvious that land-based conventional IRBMs would be less escalatory than central US systems. Thus, the deterrent benefit of new US theater missiles should be considered side-by-side with the potential destabilizing and escalatory dynamics they may create under crisis conditions. Since the United States is unlikely to gain access to bases in the region beyond its territories like Guam, we should expect the program costs to be significant while potential military benefits of a large-scale, diverse deployment concept are absent. The deployment of these missiles would likely have significant implications for the US-China relationship by significantly increasing China's perception of a US threat, potentially spurring an arms race that could ultimately leave the United States in a worse position, and decreasing crisis stability. On balance, a Pershing III land-based, intermediate-range conventional ballistic missile would likely be costly and only make a limited military contribution, while the larger implications of its deployment are worrisome.

A final point worth considering centers on the concept of competitive strategies: the implementation of policies that encourage an adversary to engage in self-defeating behavior.⁵⁸ It seems clear that China has indeed found an asymmetric means to achieve a position of advantage vis-à-vis the United States in a relatively limited realm (the Taiwan Strait and its costal zones) and this will complicate US plans to contest these areas in

the event of a crisis. At the same time, the United States seems to have significant comparative advantages in the development of other platforms that can improve its position in this realm and provide extensive benefits and likely superiority in other potential areas of conflict (surface warfare, subsurface warfare, long-range strike, etc.). It seems possible that a major shift to develop and deploy an expansive new system of land-based conventional missiles—if the diplomatic challenges can somehow be addressed—may actually be channeling limited US resources into a very constrained capability that could play into China's hands in the long term. If the resources devoted to such a program undermine the ability of the Pentagon to field a next-generation bomber or significantly constrain the number of submarines or destroyers that could be built in the next decade and Chinese investments and acquisitions allowed for a relatively rapid increase in its blue-water naval capabilities, it is difficult to argue that the United States would be better off. A more effective approach would be for the United States to play to its strength and exploit its advantages rather than simply attempting to develop an in-kind response to China's asymmetric advantage in one specific area.

Given the global interests of the United States, the development of a new generation of theater missiles in response to China's missile threat seems short-sighted and premature. To devote resources during a period of constrained defense budgets to a capability that is likely to be truly relevant in only one region—albeit an important one—seems to place a major proportion of America's eggs in one basket. As the discussion above makes clear, there are several feasible, cost-effective alternative programs that could enhance US offensive capabilities in the Western Pacific and also support national security interests in any other region on the planet. Conventional theater missiles would seem to be an expensive and highly limited solution to a single pressing challenge. In political and diplomatic terms, this military solution seems almost completely divorced from the current political realities of the East Asian region. Barring an emergence of a Cold War relationship with China, the deployment of theater missiles to the region seems disproportionate to the perceived threat and highly provocative on the part of the United States. Even without considering the potentially dramatic diplomatic and political-military implications of a withdrawal from the INF Treaty, it is difficult to envision the expected military benefits of a new generation of US conventional IRBMs outweighing the costs. 

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Demystifying Conventional Deterrence

Great-Power Conflict and East Asian Peace

Jonathan F. Solomon

Current conventional wisdom seems to hold that US options for deterring Chinese aggression in East Asia range from ineffectual to irresponsible. Some assert China's surging theater military capabilities herald the eventual impossibility of securing deterrence through a credible conventional defense of US East Asian allies. This invokes a need to switch to deterrence derived from a latent threat of "mutually assured economic destruction" and/or punishing long-range conventional strikes against the Chinese mainland.¹ Others passionately argue that any such strikes, regardless of their purpose, blindly risk inciting Chinese nuclear retaliation.²

These pessimistic views share a common shortcoming in that they misinterpret, if not ignore, central elements of long-standing, widely accepted conventional deterrence theory. Such oversights should hardly come as a surprise. The US military's conventional dominance over the past two decades, its counterterrorism and counterinsurgency-centric operations of the past decade, and China's restraint from aggressively challenging the East Asian security order have generated little demand from US policymakers for analytical attention to great-power-level conventional deterrence issues. However, these conditions are clearly changing. China's rapidly improving regional military clout, the erosion of US military power due to domestic fiscal pressures and political discord, and the increasing friction between US and Chinese interests in East Asia highlight how critical it has become that US strategists revisit conventional deterrence principles. A US grand strategy for East Asian security that is decoupled from those principles gravely risks cultivating the very conditions that may make a ruinous Sino-US war more likely.

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To understand how conventional deterrence theory can best be applied within this context, one must first review its core elements and prerequisites then assess their immediate implications for US military strategy and operational concept development, particularly in light of publicly available apparent Chinese military doctrine tenets. This article also assesses the implications for a coercive blockading strategy, which is a prime alternative China might employ for aggression or the United States for retaliation. It explores the importance of reassuring an opponent that visible implementation of a deterrence policy reflects defensive and not aggressive aims, as well as the potential utility of Sino-US military-centric confidence-building measures (CBM) toward those ends. The inseparability of nuclear deterrence from the deterrence of great-power conventional war is examined to identify some of the specific dangers that might characterize notional Sino-US confrontations and observe how they might either strengthen or weaken overall deterrence. After dissecting the nature of the East Asian security dilemma and alliance dynamics, the article proposes how a viable and credible US conventional deterrence policy might be configured.

Conventional Deterrence Dynamics

Dating back to the late Cold War, there has been a general consensus among deterrence theorists that conventional deterrence does not necessarily require convincing a potential adversary that any military aggression it might embark upon would be handily repulsed. Though such defensive capacity represents an ideal, defenders can obtain conventional deterrence by denial if an opportunistic antagonist is convinced that the defender possesses conventional forces of sufficient capability, quantity, readiness, and proximity to the contested area to ensure any conceivable conventional offensive by the antagonist stands an unacceptable chance of degenerating into a costly, risky, protracted, and indecisive conflict. The core element of conventional deterrence credibility stems from the prospective aggressor's perceptions of the defender's resiliency in the face of a withering conventional first strike across multiple warfare domains. The defending force must not only be able to absorb this attack, but also quickly reconstitute itself so that it stands a reasonable chance of neutralizing or destroying enough of the aggressor's forces and supporting military infrastructure, even at a potentially painful cost in

troops and materiel, to slow the aggressor's offensive progress and deny it relatively easy, cheap attainment of its political objectives. The defender's posture is predicated on permanently deploying adequate forces within the contested theater, as the prospective aggressor's calculus takes into account the likelihood that reinforcements from outside the theater, not to mention the defender's overall national military-economic potential, cannot be sufficiently mobilized in mass and time—even if it recognized and rapidly acted upon strategic warning of war (a historical rarity)—to prevent the aggressor's first moves from securing either a formidable operational advantage or a *fait accompli* decision.³

This does not mean transoceanic airlift and strike assets cannot play important roles in buttressing the defender's in-theater deterrent, but the tyrannies of distance, fuel, payload volume, and time grant in-theater forces far greater credibility for denying desired spoils. Relatedly, movements of token forces toward the crisis zone to signal resolve, or the use of token "tripwire" forces in the crisis zone for the same purpose, are unlikely to do much to enhance credibility if the potential aggressor perceives at least one conventional option exists that the defender's overall in-theater forces do not appear capable of foreclosing.⁴ Conversely, it is unlikely to be lost on a potential aggressor that a defender possessing in-theater forces with the quantities, capabilities, and other attributes necessary to blunt an offensive campaign by the former is also likely to possess a high relative degree of military self-confidence and therefore be more likely to exhibit political resolve with respect to implementing latent deterrent threats in support of articulated major interests.

Conventional deterrence theory, however, includes several significant caveats. A denial-centric policy may prove insufficient against desperate political leaders who fear their comprehensive power is facing permanent and inevitable decline relative to the defender and that the passage of time is irrevocably diluting any chance of retaining the grand strategic benefits or perceived margin of security granted by the current balance.⁵ Deterrence may also fail if the opponent's decision makers become desperate due to intense domestic political pressures such as surging popular passions, discontent with the leadership, or intra-leadership factional infighting. Yet another failure source is led by paranoid ideologues convinced the defender itself is actually biding time before unleashing decisive aggression. Lastly, deterrence failures may result if the aggressors incorrectly assess the military balance; believe their strategy, doctrine,

operational plans, and capabilities can negate the defender's deterrent; do not accurately dissect the defender's interests and thereby fail to appreciate the stakes and associated degree of commitment; or believe the defender is feckless and will not resist for long or otherwise escalate if attacked.⁶

Policies based on latent threats of conventional punishments offer even less hope for stable deterrence, especially when applied against risk-tolerant opponents.⁷ Such opponents can reasonably conclude any retaliatory conventional punishment will be neither logistically nor politically sustainable over long time frames, might present greater strategic risks for the punisher than for the transgressor, and may not even impose enough pain on the right pressure points to counterbalance their desired political objectives. If the opponent is driven to act against the status quo by desperation or fear, a latent threat of conventional punishment will provide no more of a barrier than a latent threat of denial. It follows that these considerations also apply to latent threats of economic and diplomatic punishments, and deterrence policies centered on these kinds of punishments will likely only prove viable when an opponent assigns a particular political objective, a relatively low value, or its popular passions are not heavily engaged.⁸

These theoretical tenets therefore make it seem extremely unlikely that emerging US conventional-deterrence-supporting concepts such as Air-Sea Battle are intended to implement Cold War-style deterrence, let alone compellence, by punishment. Indeed, the few official pronouncements describing Air-Sea Battle consistently declare its sole purpose is to enable US forces to gain and maintain theater access despite robust opposition-in-depth.⁹ Punitive countervalue strikes against targets such as civil or economic infrastructure would contribute little or nothing at the operational or tactical levels toward helping restore US theater access, let alone arresting an adversary's offensive campaign.

The strong implication is that the core role of long-range conventional strikes in Air-Sea Battle would be to help suppress or destroy theater-level maritime denial capabilities as well as pressure intratheater lines of communication (LOC).¹⁰ Given East Asian geography, these roles would likely be necessary to support timely reestablishment of LOCs between joint and combined forces as well as their relative freedom of maneuver both to and within the Western Pacific in the aftermath of a Chinese war-opening offensive—something that US and allied operations away

from the main contested area could certainly help support but would not be capable of achieving on their own. Electronic warfare (EW) and cyberspace operations would almost certainly augment conventional strikes in attaining these campaign objectives and, under some circumstances, might even be more appropriate and effective for that end.¹¹

Air-Sea Battle's latent threats of conventional as well as nonkinetic strikes should therefore be interpreted as a means of augmenting US conventional deterrence first and foremost by overall credibility of denial, as they directly increase the challenges and uncertainties a potential aggressor must confront. This deterrence might not only be interwar, but also intrawar. For example, if a Chinese offensive campaign began as a blockade or similar limited action rather than a massive first strike against US or allied military infrastructure, credible and survivable long-range conventional strike capabilities held in reserve could be viewed as a tool for deterring Chinese conventional escalation against that infrastructure lest equivalent Chinese military infrastructure become fair game as well.¹² A notional Sino-US conflict might remain limited in size and scope under these circumstances, with both sides enjoying deep operational-strategic rearward sanctuaries unless political objectives of either side eventually compelled escalation. This kind of conflict would stand a fair chance of becoming prolonged, with all of the associated costs and uncertainties—the prospects for which, as perceived during peacetime, might reinforce interwar deterrence in the first place.

Whether and where any US conventional or cyber-electronic warfare counterforce attacks would fall in a notional conflict would depend on US political objectives. It cannot be overemphasized that a central consideration shaping those objectives would be the precedential nature and scope of the aggressor's actions that triggered the US response, especially in how deeply those actions incited the passions of the American and allied publics. In the event of a People's Liberation Army (PLA) conventional first strike against US military forces and resources stationed on regional territories, for example, there is reasonable likelihood the afflicted nations would popularly view the attacks as defense treaty-invoking acts of war. This would be even more likely if US and allied forces were comingled such that it would be incredibly difficult, if not impossible, for the PLA to attack one nation's assets without also damaging the other's. PLA conventional strikes against US forces in Guam, Hawaii, or even at sea would certainly constitute direct attacks against

sovereign US territory.¹³ PLA cyber attacks or offensive EW conducted against US military sensors, networks, or space-based assets would similarly shape the “escalatory precedent” and, if executed prior to open hostilities, might trigger US full-spectrum rules of engagement relaxations. The chief consequences of Chinese attack options, especially if their first strike combined more than one of them, would be to set precedents that politically justify, if not popularly compel, US counterstrikes against equivalent Chinese targets as operationally necessary.

This makes it highly unlikely that notional long-range strike operations as conceived by Air-Sea Battle would be automatically preemptive vice reactive.¹⁴ Any US doctrine predicated upon executing a conventional first strike would severely risk undermining deterrence by incentivizing preemption in a crisis.¹⁵ A reactive doctrine grounded in force resiliency may actually be stronger from a grand strategic perspective, as the political task of justifying the US conventional response or the need for a prolonged conflict to US and international publics is vastly simplified and the risk of political-moral divides within those societies vastly reduced if the United States and its allies are generally viewed as the victims of a first strike.

Regrettably, potential US adversaries often chauvinistically confuse the American people’s decreasing resolve over time during the Vietnam, Afghan, and Iraq conflicts—along with the various 1980s and 1990s interventions—as a cultural “casualty squeamishness” that fails to account for their demonstrated passions, willingness to sacrifice, and political demands for decisive retribution following the Pearl Harbor and 11 September 2001 attacks.¹⁶ As any discerning reader of Thucydides and Clausewitz will note, honor and fear have enormous effects on popular passions in any country. Chinese restraint in potential future crises consequently might be cultivated if China’s leaders and international relations’ elites can be helped via consistent multichannel diplomatic outreach to better comprehend how popular passions have historically influenced US and allied political objectives and resolve. This will be particularly important with respect to the PLA’s apparent doctrinal belief that carefully tailored first strikes using conventionally armed theater-range missiles, special forces, cyber attacks, and electronic warfare have the potential of securing rapid strategic victories with “minimum” force, and may even be able to generate enough damage, shock, confusion, and fear to deter, if not preclude, an opponent’s retaliation or escalation.

In fact, while publicly available PLA doctrine seems to recognize that the military means employed in a contingency must be configured such that they do not generate excessively escalatory and provocative effects that in turn endanger Chinese political objectives, it does not seem to thoroughly dissect the contradiction between careful escalation management and its operational-strategic goal of decisively seizing the initiative.¹⁷

Blockades and Conventional Deterrence

A first strike is not the only gateway to a conventional fait accompli. A coercive blockade against a geographically or politically isolated country, once implemented, can be extremely difficult to dislodge quickly without either escalation or concession. As demonstrated by the US naval “quarantine” during the 1962 Cuban missile crisis, this is especially true when the blockade is limited to embargoing only a limited set of items or is targeted against an easily isolated country located close to the blockader’s homeland.

Blockades can be attractive from an escalation management perspective, as they can elevate the sense of danger, inflict tangible yet measured and largely reversible pain, and provide time and space for the involved parties to continue diplomatic negotiations. However, a blockade’s probability of success is likely to be much less certain than that of a traditional military offensive. After all, a blockade cannot achieve its political objectives if the defender maintains strong popular and thus political resolve. This is especially likely if there are sufficient resources within or transportable by third parties into the blockaded area to support prolonged resistance through rationing. The blockader also may not be able to fully surround the defender due to geographic constraints such as border terrain that is difficult to physically control indefinitely, long—thus porous—maritime borders, or adjacent third-party countries that refuse to formally honor the blockade. A defender may also find readily available substitutes for embargoed resources and may even be willing to tolerate extensive deprivations. Most significantly, a blockade does not necessarily place the defender in a situation where it either must fire the precedent-setting “first shot” and gamble on war or otherwise concede to the blockader’s terms. The defender can easily maneuver the blockader into a situation where the latter must choose between firing that precedent shot or compromising the blockade’s integrity.

Consider, for example, the issues discussed by Pres. John F. Kennedy and his advisors during the Cuban missile crisis. Kennedy noted the US Navy might have to fire at Soviet cargo ships to force them to stop, perhaps even sinking them. He also noted the possibility that US Navy crews might need to use deadly force when boarding and inspecting these ships. As the crisis wore on, Kennedy and his advisors went to great lengths to defer the first boarding until “the last possible moment” to avoid the risk of a firing incident, in general, as well as to ensure if one were necessary, it would involve Soviet forces located in Cuba as opposed to merchantmen at sea. Kennedy correctly chose to maximize flexibility on blockade implementation to provide time and space for (coercive) diplomacy.¹⁸ It is not clear similar flexibility would be available in an opponent’s own region thousands of miles from the United States, over different stakes, and involving different conflict characteristics and dynamics.

Any one or more of the above pressures may force the blockader to limit the embargo’s scale and scope such that its only chance at successfully coercing concessions is if it can be protracted to the extent that cumulative pain compensates for its relative inability to inflict severe immediate pain. A blockade’s duration therefore can become increasingly counterproductive in that maintaining enforcers on station is materially expensive and lack of coercive progress in turn can quickly become politically expensive. This is amplified by the immense diplomatic-economic problems of blockade enforcement. If the defender is a major trade partner for neutral countries, the blockader risks damaging the economies of and relations with those countries. The same problem applies if much of the defender’s trade is conveyed using neutral-flagged vessels and the blockader is determined not to grant any exceptions from interdiction. These circumstances may force the blockader to make extensive grand strategic accommodations to ensure affected third party countries remain fully neutral at minimum throughout a protracted embargo or conflict. Further, if a neutral vessel refuses to halt, the blockader must decide whether to forcibly interdict it and thereby risk horizontal escalation. Lastly, if the defender can maintain cross-border overland trade flows with a third party country whose airports and harbors can absorb its rerouted external trade, the blockader must decide whether to horizontally escalate by extending the embargo against the third party country or risk the blockade’s abject failure. Neutrals in a blockade present a

critical strategic issue and if mismanaged threaten to complicate a coercive campaign or war effort, much as the British embargo on US trade with Napoleonic France was one of the prime causes of the War of 1812.

These considerations provide the defender a wide set of countermeasures. Although a blockade is internationally recognized as an act of war, the defender may use diplomatic, economic, and information warfare to politically subvert the cordon, much as Iraq did during the 1990s and early 2000s.¹⁹ The defender may also use plausibly deniable methods of force such as covert action or nonescalatory force such as mine countermeasures to temporarily neutralize, incrementally weaken, or politically subvert the blockade.

A risk-tolerant defender may attempt to maneuver the blockader into a position where the latter must attack a blockade runner (and/or its military escort) and thereby risk triggering an “ill-controlled” escalation. The defender may even employ asymmetric blockade-running methods the blockader cannot easily counter. The 1948–49 Berlin airlift’s mass movement of supplies over a ground blockade while daring Soviet in-flight interdiction exemplifies the combination of these tactics.

A blockade’s final weakness is that it conveys unambiguous warning of war to the defender, thereby triggering mobilization and making it far less likely a later “surprise” conventional first strike could achieve decisive effects. Bottom line, just as the possibility of becoming bogged down in a prolonged war may make an aggressor unwilling to hazard a limited conventional offensive, the possibility that a blockade might take considerable time to achieve its desired coercive effects or that it might risk a broader and protracted war may work as a deterrent. The defender’s ability to field forces that can neutralize a blockade’s coercive effectiveness while preserving latent options for escalation consequently enhances conventional deterrence.

This logic is a double-edged sword. Just as it applies to scenarios in which China might seek to coercively blockade US allies or partners in East Asia, it also applies to any conceptual US or allied deterrence policy that rests primarily on threatening China with a maritime blockade should it intimidate its neighbors.²⁰ Any of the factors that work against blockades, and certainly a combination of them, would render such a deterrence policy noncredible—especially if the political objectives and any pressures driving Beijing to pursue military aggression were weighted greater by Chinese leaders than external economic considerations.

This is not to say such a blockade would not be strategically desirable, useful, or necessary in a notional Sino-US crisis or conflict. It is quite possible that a distant blockade paired with increasing the readiness of in-theater defensive forces might be the most strategically effective and least short-term escalatory military response to a Chinese maritime blockade against a US ally or partner, or perhaps to Chinese seizure of an isolated and unpopulated remote territory, if the PLA does not also directly attack the ally's (or forward-deployed US) forces and bases. Note that if such measures became necessary, the threat of a US blockade as a deterrent would have failed, while the major campaign-fighting credibility of in-theater US and allied forces would still be critical for deterring further Chinese escalation. A peripheral blockading campaign in a protracted major war likewise might meaningfully contribute toward pressuring China's war economy, but rolling back any PLA forces bombarding or occupying allied territories would inherently require conventional sequential campaigns. It therefore is difficult to envision how blockading could ever meet its advocates' claims of a credible core for deterrence, let alone a strategic panacea.

Balancing Deterrence with Confidence-Building

One of the greatest challenges for any deterrent is that it can be interpreted as equally useful for aggressive as for defensive operations. An aggressor may interpret reinforcement of a deterrent as proof a conflict is diplomatically irreconcilable.²¹ Assets necessary for defense often have direct offensive applications or can be used to support offensive operations.²² Even purely defensive assets are often interpreted by one side as means by which the other seeks to reduce its vulnerability to deterrence. An opponent may also be provoked if it perceives it is less able to successfully threaten or employ military force for grand strategic compellence due to the defender's improved denial or punishment capabilities. Inadequate geographic buffering between the two sides further reduces any "margin for error."²³ It is simply impossible for deterrence to avoid arousing some degree of fear or resentment in a potential adversary.

A deterrent can appear quite provocative from Western perspectives without triggering further instability during peacetime or even escalation within a war. If a deterrence policy is deemed excessively provocative by political leaders, opinion elites, or the general public within the

defender's or allied states, this may affect its political viability or sustainability; however, the only perspectives that matter are those of the opponent's leadership.²⁴ Complicating this, opposition leaders may or may not openly, clearly, and accurately articulate their perceptions of the deterrence policy. In fact, they have every incentive to attempt to weaken the defender's deterrence by propagandizing it as highly destabilizing to the peace. Deterrence policy must therefore be designed to allow the defender's government to clearly and convincingly articulate its justification to its own citizens as well as to friendly and neutral foreign audiences to build a critical mass of popular and elite support for—or at least tacit acceptance of—the policy.

The continuous crafting and updating of a deterrence policy inherently demands the deterrent's military credibility and manipulation of the opponent's risk tolerances be balanced with reassuring the opponent that it will not be used to support offensive purposes. The defender must identify key opponent strategic decision makers and understand their calculus sufficiently well to calibrate the deterrence policy. This requires attaining a deep and reasonably confident understanding of their unique geostrategic and domestic-political circumstances, including how they define their national and their personal interests and objectives, and likewise how they perceive the defender's interests and objectives.²⁵ Their ideology, strategic culture, perceptions, personalities, mind-sets, and decision processes also must be understood with confidence.²⁶ Based on these assessments, the defender must articulate what opponent actions or behaviors are to be deterred, provide a tailored mix of clarity and ambiguity regarding how the latent deterrent threat might be enforced, convey an appropriate degree of political resolve regarding its willingness to implement that threat, and strive to calibrate its strategic messaging and behavior to reassure the opponent that the fielded deterrent will only be used to uphold the articulated threat. The defender must continually assess whether the opponent understands and internalizes this deterrence communication as intended.²⁷ All this clearly signifies that a deterrence policy risks disastrous failure if the theories are not tempered by the specifics of a given opponent's leaders and the geostrategic situation.²⁸

Given the consequences of critical knowledge gaps, misinterpretations, or misperceptions throughout this process, deterrence planners must employ extensive risk-mitigation measures to account for uncertainties

and ambiguities that might cause their policy to provoke vice deter.²⁹ One such measure might be fielding a less militarily efficient deterrent at the margins than might otherwise be preferred in terms of capabilities, positioning, posturing, or action at a given point in time. This might be sensible if there is adequate evidence such restraint would help reduce or prevent excessive anxiety within the opposition leadership while still maintaining deterrence credibility. A deterrent would fail, after all, if it led the competitor to perceive that aggression out of fear or desperation might be marginally less costly to its interests in the long run than inaction.

Confidence-building measures can offer additional mitigation tools for promoting mutual reassurance with respect to capabilities and intentions. CBMs are especially useful for addressing specific fears, legitimate needs, or weaknesses in ways verbal guarantees cannot.³⁰ They are often executed via political agreements between national leaders or even between armed forces rather than as formal treaties to narrow the number of entities on both sides that are parties to negotiation, ratification, and implementation. CBMs can include commitments by each side to announce the purpose and duration of military activities in or near a contested area; accept the other's on-demand, in-person observations of military exercises, as well as inspections of fielded force concentrations, within a given theater under defined terms; institute procedures for mutually managing forces when in close proximity; and institute cooperative processes for restraining "civilian activists." They can also be structured to provide selective transparency regarding force structures, weapons inventories and deployed payload configurations, decision-making processes, and even force doctrine to mitigate the risks that excessive ambiguities might lead to extraneous peacetime arms racing or perhaps hasty, unnecessarily escalatory or even preemptive actions in a crisis. It follows that these "information exchange" CBMs, combined with activity notification and on-demand-inspection CBMs that support verification, can greatly contribute toward mitigating the crisis instability risks created when one or both sides field weapon systems whose employment characteristics and effects make them appear well-suited to first strikes.³¹ These reassurances can moderate the military edge within grand strategy by providing a bridge between deterrence policies and engagement policies with the objective of further incentivizing the competitor's preference of security cooperation over confrontation.³² More importantly, they can

also provide both sides with critical mechanisms for mitigating the risk a mutually-undesired crisis might spiral into a war.

The United States and its East Asian allies would be wise to continuously advocate adoption of a codified military-centric CBM regime with China, perhaps modeled on elements of the Organization for Security and Cooperation in Europe (OSCE) Vienna document series or the Cold War-era US-Soviet Incidents at Sea (INCSEA) agreement, as a tool for encouraging reciprocal reassurance at minimum and establishing new East Asian security norms at maximum. Military-centric CBMs might actually provide a more politically viable first step toward the proposed South China Sea Code of Conduct and other diplomatic-economic CBMs that encompass broader national activities in the East Asian maritime. If one side fails to honor military-centric CBMs during mounting tensions, they can even aid deterrence by providing the other side with a political, if not strategic, warning for war—assuming the warning is accepted and adequately acted upon, of course.

CBMs can only be successfully negotiated when neither side believes it has a decisive military advantage because of mutual deterrence's sustainable credibility and when both sides agree to refocus their competition into less dangerous spheres because both perceive the costs of accidental war as making further destabilization undesirable.³³ China's reluctance to negotiate even rudimentary incident-prevention and escalation-mitigation CBMs is consistent with its apparent strategic culture core aspect that favors manipulating crisis instability to coerce opponents and attain political objectives without war.³⁴ As discussed in the next section, aggressive embrace of such tactics by contemporary Chinese leaders indicates they may not fully appreciate the lessons of major Cold War crises, including one in which China's overconfident brinkmanship not only backfired dangerously, but contributed to its being the side that ultimately conceded. It may be quite some time before patient diplomacy, geostrategic trends, US and allied efforts to rebalance the regional conventional balance of power, or in the worst case a major incident or crisis that deeply shakes Chinese confidence in their abilities to predict reactions, control events, and manipulate risks will incentivize their desire for codified CBMs of any kind.³⁵ In the interim, their disinterest in CBMs provides the United States and its East Asian allies with a powerful—and so far underutilized—public and private diplomatic-informational counter-

argument against China's claims that East Asian and US strategic hedging actions conducted to date are in fact unjustifiable and malicious.

Nuclear Deterrence and Preventing Great-Power Conventional War

Despite their potential utility for reassurance, CBMs are unlikely to do much to help a conventional deterrence policy restrain an extremely desperate, anxious, or overconfident opponent. Nor is conventional deterrence alone sufficient against a potential adversary that implies its nuclear arsenal may shield its homeland-based military apparatus from conventional and cyber-electronic counterattacks even as it freely uses that apparatus to execute or support conventional strikes against US and allied defensive forces or territory.³⁶ Regardless of how one interprets China's declaratory nuclear no-first-use policy thresholds, just about any form of US intervention that successfully thwarts Chinese objectives in a major East Asian contingency carries the inherent risk of eventually precipitating some form of Chinese nuclear escalation.³⁷ Types of targets can matter—in the West at least there is a perceived difference between counterforce and countervalue strikes. Beyond notional US and allied strikes against, or imminent threats to strike, the latter target types, China's core escalatory triggers during a notional conventional war could conceivably end up as anything that jeopardizes the state's physical integrity as its leaders define it or the Chinese Communist Party's continued rule.³⁸ If Chinese leaders commit major political capital to achieving a specific grand strategic objective by force, the only difference between successfully grinding their offensive into stalemate via US and allied direct conventional defense (with or without counterstrikes against select mainland PLA targets), via cumulative distant blockade or peripheral counteroffensive campaign(s), or via economic or information warfare is the relative amount of time before they might feel compelled to explore nuclear escalation.

None of this should be interpreted as asserting Beijing would inevitably, let alone deliberately, escalate a Sino-US war to the nuclear threshold. There is an English-language scholarly consensus at present that “no first use” remains strongly ingrained in Chinese strategic culture and nuclear policy. No scholars have uncovered evidence current Chinese political leaders embrace nuclear escalation under the aforementioned

circumstances. These observations do signify, though, that the specifics of a notional future confrontation at a certain point in time could shape their nuclear calculus in ways that are inherently unpredictable at present. Although national strategic culture and political traditions will heavily guide any leader's approach to dealing with a given situation, their evolving perceptions of situational stakes—and the crisis-psychological factors acting upon them or their immediate subordinates—may be just as, if not more, influential on their decision making.

It follows that China's political objectives in a notional war and the degree of commitment its leaders cumulatively incur to achieve them are central. Even if both sides absorb significant cumulative attrition of their conventional military potential, including assets located within their respective homelands, it is entirely possible that their objectives and commitments might remain sufficiently limited for mutual nuclear deterrence to prevail indefinitely. In actuality, so long as neither side becomes existentially endangered by the conflict, this limited conventional war could continue until they become sufficiently exhausted to seek a political settlement, whether temporary or permanent.

Even if one coldly chooses to discount the probable catastrophic human and economic costs of a purely conventional great-power clash, the nuclear risk alone makes it unwise for either side to blindly assume that its counterpart does not presently view a specific political objective or issue as existential, that this interest prioritization would be static and not dynamic amid prolonged direct hostilities, and that an initially limited conventional campaign could therefore be indefinitely kept limited.

This genuine risk of extreme danger, though, can reinforce deterrence. Deterrence credibility does not depend on a state explicitly threatening that it will "go nuclear" if it cannot conventionally hold the line in a given scenario. As deterrence theorist Thomas Schelling observed during the Cold War, credibility is instead established by convincing the other side that fog and friction inherent in direct conflict might inadvertently lead—via iterative reactive rational decisions on both sides—to either side making the first nuclear release at whatever scale and that the other side would assuredly feel compelled to match this action. While their respective nuclear policies and doctrines as well as conventional actions might affect the escalatory characteristics and flow, there would be no way to guarantee neither side would ever perceive itself as being pressed to make a nuclear choice. The first release could conceivably be

a preemptive response based on the initiator becoming convinced that the other side imminently intended a nuclear first strike, or it could be a theater-level action based on fear that the other side's conventional progress would soon cause irrevocable harm to the initiator's survival interests. The fact that both sides deeply want to avoid crossing into nuclear warfare at each iteration of this decision-making sequence would be immaterial, as the ill-controlled process the original attacker initiated would risk carrying them against their strategic—and personal—preferences into the abyss.³⁹

With respect to a notional Sino-US crisis or conflict, and regardless of what their actual nuclear policies or doctrine may be, one can imagine any number of inadvertent or accidental escalations committed by one or both sides that could trigger a cascading cycle of action and reaction.⁴⁰ For example, publicly available PLA doctrine suggests that Chinese nuclear forces might be elevated to a higher readiness posture or take other field actions to support deterrence operations during their conventional missile campaign.⁴¹ Consider, then, what might occur following US detection of possible PLA launch preparations or actual launch of a DF-21 medium-range ballistic missile strike. An observable increase in Chinese nuclear force readiness, combined with the DF-21's dual nuclear and conventional capabilities, make it likely that US political leaders would at minimum raise their strategic forces to a higher readiness posture as a precaution as well as to reinforce US deterrence. Observable evidence of the US posture change might then be interpreted by Chinese leaders as an indication and warning of possible US preparations for a strategic first strike, with the Chinese reaction serving as the next iteration of the vicious cycle.

A similar cycle might occur following a large-scale Chinese cyber-electronic attack against US theater-level command, control, and communications (C3) systems and networks—and almost certainly would if either side's C3 strategic systems and networks came under intentional attack or incidental disruption. Indeed, targeting errors and unpredictable second- or third-order effects in any warfare domain can serve as potent catalysts for a rapid, vicious escalatory cycle. Alternatively, a vicious cycle might spiral far more slowly—perhaps imperceptibly until too late—as the conventional fight either degenerated into an incremental tit-for-tat competition in escalation or US and/or allied conventional

progress-induced Chinese leaders to explore signaling actions or even battlefield intervention using nuclear forces.⁴²

The logical utility of the “ill-controlled process” as a deterrent may therefore depend upon Chinese and US leaders educating each other about their respective escalatory threshold perceptions and escalation management concerns.⁴³ It will be particularly important to convince Chinese political and military leaders that modern C3 technologies offer no panacea for overcoming fog and friction. Chinese perceptions of information-age warfare appear largely rooted in theory and in lessons-learned from field exercises and experiments rather than from actual warfare experience.⁴⁴ Any ingrained idea that network-centric warfare can provide “perfect” battlespace situational awareness and control over forces invites misperceptions. These might include interpretation of certain military actions as operational-strategic indications and warnings, or otherwise as deliberate political signals, when they are not; a belief that what is displayed by the C3 system reflects ground truth when it does not; or faith that one’s own units will at all times be connected to and finely controllable via the system. Such misperceptions could prove incredibly dangerous in a crisis or a direct conflict.

This danger is amplified by historical evidence that Chinese strategic culture encourages manipulation of crisis instability without due appreciation of a given situation. In the nearly five decades since China joined the nuclear club, only in the 1969 Sino-Soviet border crisis were Chinese leaders pressured by the combination of opposing forces in very close proximity, a heightened threat of catastrophic national damage, and great-power prestige stakes. The crisis began with a Chinese small-unit ambush of a Soviet border patrol in March 1969 and descended over the following months into a series of periodic tit-for-tat skirmishes by both sides. There is evidence, though, that by the summer of 1969 the Soviet force redeployments to the region, diplomatic messages to other global parties, and increasingly strident rhetoric had convinced Chinese leaders that continued skirmishing might eventually grant the Soviets an excuse to initiate a preventive war, that Beijing’s overwhelming inferiority in strategic nuclear forces meant the Soviets could easily devastate China with impunity, and that Chinese diplomatic conciliation was therefore necessary.⁴⁵

It is important to stress that the nature of the crisis allowed for a gradual evolution in Chinese risk perceptions, as neither side faced im-

mediate, compressed decision-making time lines. Both sides recognized China's then lack of long-range strike capabilities meant its leaders had no incentives to unleash massive and crippling conventional—let alone nuclear—preemption. Though Chinese leaders may have been concerned that on-scene PLA commanders might inadvertently act or react in ways that provided the Soviets a justification for preventive war, this is not quite the same as the problem of maintaining confident political control over military forces in a fast-moving crisis when both sides have preemption incentives. Even at a peak point in the crisis, Chinese leadership deliberately shut down its primary means of direct communication with its Soviet counterparts. This may have been intended to heighten uncertainty and risk as a means of coercion but also may have had the deliberate or unintentional secondary effect of humiliating Soviet leadership. Either way, it was an unforced mistake that may have fed the Soviet escalation that ultimately coerced Chinese agreements to forswear border provocations and to resume negotiations.⁴⁶

It is correspondingly unclear whether Chinese strategic culture contains an experience equivalent to or as sobering as the Cuban missile crisis, or even superpower maneuvers during the Yom Kippur War when Soviet and American strategic forces were near-parity. These crises indoctrinates the leaders and international relations experts on the difficulty of maintaining positive control in a fast-moving crisis as well as the criticality of direct communication to avoid an undesired war.⁴⁷ This represents a very important topic for future US scholarly study of Chinese strategic culture. Since any such gap within Chinese strategic culture might pose a severe risk to crisis stability and therefore to deterrence, it must become a central focus for exploration via US multitrack diplomacy. On this issue in particular, dialogue with China's strategic studies elites in academia may be just as important as dialogue with its political and military leaders.

It follows that multitrack diplomacy with China should convey US concerns that even limited direct conventional aggression against an East Asian ally would gravely risk unleashing ill-controlled escalatory processes. These channels must make clear that the United States is striving to establish a mutual understanding and appreciation of how such a process risk is an inherent condition of nuclear-age conflict management and that it in no way represents US policy. Messaging would need to emphasize the fundamental and historically proven difficulty of precisely

tailoring and controlling uses of national power at all levels of contact with the opponent in a crisis or direct conflict such that those actions and behaviors are not misinterpreted by the opponent, do not have unforeseen and destabilizing effects, and do not ultimately place either side in a situation where escalation becomes perceived as the “least bad option.”⁴⁸ Situational conveyance of varying forms of this message to buttress deterrence, even by the Soviets themselves, was not uncommon during the Cold War.⁴⁹

Assuming this diplomatic communication is ultimately successful, one might think the ill-controlled-process logic means nuclear deterrence by punishment renders conventional deterrence by denial redundant. As the United States learned during the 1950s, nothing could be further from the truth. Credible conventional deterrence by denial remains necessary, because even a risk-averse nuclear-armed opponent may rationally calculate that a defender’s relatively weak in-theater conventional defenses and ambivalent political resolve offer an enticing opportunity for coercive brinksmanship. The opponent might also see a window for rapidly accomplishing limited objectives, such as selective seizure of isolated territories or neutralization of in-theater forces, using conventional methods that seemingly limit “direct” contact between the two sides in time and space. Nuclear-centric deterrence of conventional war therefore risks spectacular failure, because the opponent may believe its strategy, doctrine, operational plans, and capabilities adequately mitigate vertical escalation risks.⁵⁰ Should nuclear-centric deterrence fail to prevent a war, the conventional forces necessary to implement the situationally appropriate mix of intrawar pure and deterrent defenses over the course of a prolonged conflict are generally the same ones that would otherwise be necessary for prewar deterrence by denial.⁵¹

Sufficiently sized and deployed conventional forces also provide the defender’s leadership with wider and more flexible options for escalation across multiple warfare domains, which might increase the potential adversary’s uncertainties as well as its appreciation of the room for chance. This in turn could make the ill-controlled-process logic more credible, especially since the scenario most likely to lead to a direct test of nuclear deterrence is a local failure of conventional deterrence.⁵² Conventional equilibrium can also increase nuclear stability as, if conventional deterrence fails, the immediate pressure to nuclear escalation would likely be low.⁵³ Given that an opponent’s risk tolerances are inherently dynamic

over time in response to ever-changing domestic and international political environments, successful deterrence of great-power conventional war requires mutually reinforcing conventional and nuclear deterrence to cover the spectrum of conceivable contingencies. It follows that the true “last clear chance” to avoid a cataclysmic outcome—from which neither side can hope to emerge with a “better” domestic or geostrategic situation than if there had been no war—belongs to the side contemplating conventional aggression in the first place.

Nevertheless, Chinese leaders may erroneously believe their US counterparts are the ones facing the “last clear chance” by virtue of the decision Washington would face on whether to intervene in a contingency. They might also consider themselves, and not the United States, as the guardian of the status quo regarding a specific regional issue.⁵⁴ This strongly argues for consistent and continuous multitrack diplomacy to ensure both sides understand and appreciate how their counterparts perceive the circumstances and stakes surrounding East Asian security issues. For US leaders and their representatives, this means asserting a firm position on what constitutes the status quo and accordingly emphasizing that the US deterrence policy articulated will be upheld. To reinforce this certainty, US political and military leaders might need to increase the degree of overt, predeclared “automaticity” in their deterrent posture such that a PLA attack on US forces in East Asia would trigger a predefined response that effectively binds the United States to intervene with automation achieved by predelegating execution authority to the appropriate in-theater commanders. An example might include tit-for-tat submarine-launched cruise missile attacks against campaign-critical PLA air and naval base infrastructures and their supporting air and missile defenses following a first strike against US Air Force and Navy bases in Japan. As noted earlier, the comingling of US and allied forces and military infrastructure at host-nation bases would also be especially useful for establishing automaticity.

Conventional Deterrence and the East Asian Security Dilemma

Notwithstanding these discussions of theory, to what extent do US political leaders really have reason to fear and therefore strive to deter even a limited Chinese conventional offensive against one or more US

East Asian ally in the intermediate future? After all, China has successfully wielded “civilian” activists, coast guard–like forces, and economic influence in recent years to achieve significant strategic revisions in contested western Pacific waters without resorting to blunt military force. Its financial and industrial clout have proved just as effective in incentivizing greater Taiwanese economic integration with the mainland as well as restraining direct moves by Taipei toward formal independence.

While these observations are accurate, they implicitly overlook the fact that the US forward-deployed conventional deterrent in East Asia has contributed in no small way over the past six decades to Chinese leaders pursuing primarily negative political objectives in the region, namely preventing formal Taiwanese moves toward independence as well as major changes in the Korean peninsula status quo. In contrast, China’s pursuit of positive political objectives—for now mostly limited to contesting the sovereignty of water space and peripheral territories in the East Asian maritime—has increased over the past decade in rough proportion to its perceptions of an increasingly favorable balance of in-theater military power. Indeed, even though Chinese political objectives during the 1995–96 Taiwan Strait crisis may have been limited to deterring Taipei’s continuation of a pro-independence diplomacy campaign and to influencing Taiwanese elections, the fact that Chinese leaders executed an aggressive military coercion campaign in spite of China’s dependence on trade with the United States and its East Asian allies for domestic economic growth indicates the shortcomings of economic integration as a deterrent. US conventional-deterrence posture shifts during the March 1996 portion of the crisis were ultimately necessary to convey to Chinese leaders the inherent risks of further escalating or prolonging their direct coercion.

It is not clear, though, how much longer the variables that have enabled this relative peace can remain balanced. The flammable combination within China of decelerating sustainable economic growth, simmering domestic political pressures, growing political as well as popular confidence in the PLA’s ability to wage modern war, perceptions of repeatedly stung national pride in the face of international pushback against certain domestic and foreign policies, and latent nationalist desires for regional revisionism gives added meaning to the investor maxim that “past performance should not be considered indicative of future returns.”

Until very recently, active Chinese coercion in the East and South China Sea maritime disputes did not directly escalate to involve PLA units.⁵⁵ It is hard to be confident that military-on-military incidents will remain rare the longer the disputes remain unresolved and national passions correspondingly elevated. There is real risk that a localized skirmish between the PLA and a US ally's military over these disputes could cascade into a broader, albeit initially limited, war. China could also conceivably use these disputes to manufacture a conflict that serves as a front for quickly seizing isolated and relatively undefended territories in the Ryukyus Islands, Taiwan Strait, or South China Sea from one or more US allies, with the ostensible political objective being improvement of Beijing's geostrategic position. It is similarly difficult to discount the omnipresent risk of a Chinese attempt to directly settle the Taiwan question, or that in a major Korean peninsula crisis, China might intervene militarily on behalf of Pyongyang.

These risks are exacerbated by pressures placed on the US defense budget by continuing fiscal imbalances. The United States will face increasing difficulty in maintaining the force structure needed to simultaneously sustain conventional deterrence credibility in multiple theaters, thereby forcing Washington to make difficult strategic tradeoffs regarding its risk tolerances. This credibility may suffer further over the next two decades as greater portions of the joint force's capital-intensive equipment approach the end of their programmed lifecycles without one-for-one replacement. Electronics can be periodically upgraded to provide expanded platform capabilities, networking can enhance individual platforms as well as total force capabilities, and routine intensive maintenance, including periodic overhauls, can preserve materiel readiness across decades. Nonetheless, advanced electronic suites and force networking cannot indefinitely compensate for the fact that individual platforms can only physically sustain so many years of high operational tempo before the cost of the maintenance needed to sustain readiness, if not forestall obsolescence, becomes untenable—even more so in a constrained budgetary environment. A single platform, regardless of the force networking resources available to it, is only able to physically cover or influence one area at a time. With the possible exception of heavy ground forces, current US grand strategy all but guarantees that its high military operational tempos over the past decade will not be decreasing anytime soon. Any grand strategy that assumes the United

States can quickly fill any gaps in forward-deployed deterrent forces by repeating the late 1930s experience of initiating a timely rearmament effort upon recognized political warning of war ignores the fact that modern armaments are far more complex and the US defense industry's production capacities far less able to rapidly expand than was the case eight decades ago. US political willingness to continue investing in defense at levels that sustain if not improve in-theater conventional force capabilities, quantities, and readiness may be regarded by allies, partners, and potential adversaries alike as a leading indicator of a political resolve over the near-term, and the annual budget's resultant effects on programmed force structure cannot help but imply what US political resolve might be in the intermediate and long terms.

Formal US alliances can partially mitigate any force structure shortfalls in East Asia, but only on a case-by-case basis. Although armaments technology cooperation, coordinated development of doctrine and contingency plans, and routine combined force exercises are excellent methods for improving US-allied interoperability, they do not change the likelihood that over at least the intermediate term, it will remain politically impossible to establish an automated mechanism similar to the North Atlantic Treaty that politically draws all of America's most militarily capable Asia-Pacific allies into any East Asian security crisis.⁵⁶ This greatly complicates US force structure planning, as each ally's political, territorial, material, and military involvement in a given crisis in which they are not inherent parties and are not bound by the terms of their bilateral defense treaties with the United States becomes an open political question. The roles/responsibilities allocation and access rights agreements between the United States and any given East Asian ally may very well apply only to contingencies in which that ally would inherently be a party and therefore may not contribute much to supporting US in-theater force structure design optimization across all other conceivable regional contingencies. This may not be as great of an issue in notional contingencies involving Japan or South Korea, given their formidable force structures, but will very much be an issue in notional contingencies involving Taiwan, the Philippines, or other East Asian states in the event Japan or South Korea are unwilling to employ their forces or otherwise lend their military infrastructures in even indirect support of a US intervention.

US Conventional Deterrence Credibility in East Asia

Given that the burden of maintaining a credible conventional deterrent in East Asia will largely fall upon the United States, and given the fiscal pressure that deeply limits the resources available to support defense investment, the United States will need to focus its declining resources over the next decade on developing the force-level capabilities, postures, and doctrinal precepts that deterrence theory suggests are most likely to be effective.⁵⁷ Assuming China's political leaders remain risk-averse over the intermediate term, it follows that conventional deterrence at the high end of the conflict spectrum must be designed so that Beijing loses confidence in direct PLA conventional offensive operations against US-allied territories, or regional lines of communication could enable rapid, decisive attainment of political objectives at low relative cost and risk. This translates into a policy of conventional deterrence by denial.

The force-shaping military tasks derived from this policy relate to the regional geographic nature and the need to forestall Chinese attainment of predictable political objectives in notional contingencies. Joint and combined forces will need to be structured for and possess war-gamed and field exercise-tested doctrine supporting decentralized, mutually supporting, and potentially simultaneous execution of tasks such as localized maritime area control and denial; defense against airborne/amphibious assault upon friendly territory, including agile pre-hostilities defensive force insertion or reinforcement in isolated forward areas; forcible reentry of adversary-occupied friendly territory; logistical support of forward forces while under opposition; and transoceanic/intratheater mass air- and sealift under opposition. Complicating matters further, all of these tasks will need to be performed within contested cyber-electromagnetic environments.

Concepts of operations for executing these tasks will likely need to increase emphasis on countertargeting and force-level damage mitigation through agile dispersal, not only in terms of where units and groups operate from during contingencies, but also the formations and tactics they employ and correspondingly address the force coordination and logistics challenges generated by dispersal. Austere dispersed forward bases on land, in fact, have great potential for supporting joint and combined operations in contested maritime areas.⁵⁸ Nonetheless, it is particularly critical that doctrine, force structure and posture, network architectures, and operational plans be predicated on assumptions that US and al-

lied leaders will probably not receive, let alone recognize and act upon, “timely” strategic warning of war, and that their forward forces will likely absorb significant damage and degradation from a PLA conventional and cyber-electronic first strike across multiple warfare domains. Any defensive force not designed to promote resilience in a first strike’s aftermath may broadcast provocative weakness and correspondingly erode deterrence credibility.⁵⁹

Conversely, if its resilience can effectively parry a first strike at the operational and strategic levels, if not also at the tactical level, the defending force might actually gain significant military and diplomatic leverage. This is doubly useful in the event a potential adversary’s leaders precipitate a crisis under the mistaken impression that the associated risks are controllable. This latent resiliency can generate crucial diplomatic space for trying to convince the potential adversary’s leaders of their miscalculations if they do not come to such conclusions on their own. Likewise, it is undesirable for the defender in a crisis to be forced to take actions that can reinforce the other side’s erroneous perceptions, and defensive resilience can provide the defender’s leaders with options that maintain high multi-warfare domain readiness, and thus deterrence credibility, without necessarily requiring actions that might be misperceived as hostile.⁶⁰ Lastly, if these measures are unsuccessful and the opponent does in fact execute a first strike, successful resilience creates new facts on the ground in that the defender’s surviving in-theater forces would retain considerable conventional offensive and defensive capacity whereas much of the other side’s best weapons—plus the one-time effects of strategic surprise—would have been expended for little gain. Given the intense Chinese political objectives and interests that would likely drive such an attack, the possibility should not be overlooked that a failed PLA first strike might entice Chinese leaders to seek deescalation.

New technologies and evolved material solutions will be necessary to execute these tasks. They will include expanded layered theater air and missile defenses that use active as well as passive measures, resilient information and communications system/network architectures that enable “fighting through” debilitating cyber and electronic attacks, enhanced offensive and defensive EW capabilities with emphasis on systems that can support deception and concealment, and cyber-attack capabilities that can manipulate or disrupt nonstrategic C3 and logistics systems. These will also include distributed undersea warfare sensors and weapons

(including increased attention to defensive as well as offensive mine warfare), persistent wide-area surveillance and reconnaissance systems that can support targeting, increased technical capabilities for forward area rearmament and refueling of maritime forces, and expanded fire support as well as long-range conventional strike capabilities against targets at sea and ashore. All of these must be supported by improved joint and combined C3 interoperability at the theater and tactical levels. Individual service tactical data networks that enable a firing unit to launch and guide weapons against targets using sensor data provided either initially or solely by separate units, such as the US Navy's Cooperative Engagement Capability, will likewise need to become more interoperable with other services' and allies' equivalent networks.

As alluded in the earlier examination of Air-Sea Battle, long-range conventional strike systems in particular might play a disproportionate role in reinforcing deterrence credibility by making Chinese leaders much less certain about the utility of a PLA conventional first strike. This is because first-strike logic hinges not only on whether it can inflict a massive and painful blow against the defender's forces and C3 systems, but also on whether the attacker can quickly capitalize operationally on that blow. In other words, even if the attacker incapacitates a significant portion of the victim's forces in a conventional first strike, if it cannot take advantage of this window of opportunity to achieve critical offensive objectives before the victim's surviving forces rally to reestablish a grinding defense, then the first strike would have only served to ignite a more protracted conflict.

Long-range conventional strike systems could fill two roles very early in a conflict to blunt notional Chinese post-first-strike operations. First, they could partially compensate for suppressed or destroyed friendly in-theater forces by conducting strikes or mine laying against the PLA expeditionary and naval forces performing offensive operations within the contested zone, not to mention the logistical forces supporting those operations. These attacks could either be conducted in direct support of surviving in-theater forces or on an opportunistic basis.⁶¹ Second, long-range conventional strike systems could be used in a "second strike" against campaign-critical infrastructure at PLA air, naval, and perhaps even cruise and short-range ballistic missile force bases directly supporting the Chinese offensive; land-based sensors that figure prominently in its wide-area surveillance of the contested zone (but not in early warning

for their strategic forces); and the theater air and missile defenses that protect the above or otherwise screen PLA forces participating in the offensive.⁶² Again, the precedent established by the Chinese first strike and the principle of reciprocity would strongly shape initial US counter-strike target sets; the same logic would apply following any subsequent Chinese escalations.

Although execution of these roles would not enable long-range conventional strike systems to singlehandedly defeat a PLA offensive, they and complementary cyber-electronic operations would likely help suppress its tempo. Additionally, they would be pivotal in providing combined arms support to relatively more vulnerable friendly forces operating in and near the contested zone, thereby helping create the conditions in theater necessary for defensive resiliency. All these contributions might grant the United States and its allies reasonable chances for denying a Chinese *fait accompli* and ensuring any conflict would be neither quick nor cheap. Even if a conflict opened without China conducting a first strike, as discussed earlier a latent US long-range conventional strike capability could still be quite useful at minimum for intrawar deterrence.

The question of what types of current or new-technology long-range conventional strike systems might best fill the above roles should be resolved by war gaming and other campaign-level analysis. It seems reasonable, however, to assert that there would need to be a mix of systems fielded to balance between responsiveness, survivability, payload deliverability, and the ability to mitigate inadvertent escalation as well as crisis instability risks within the overall capability portfolio.⁶³ Nonetheless, it must be understood that long-range conventional strike systems will neither be able to achieve their full operational potential nor avoid wasting scarce rounds in the absence of high-confidence target detection and classification support from surveillance and reconnaissance assets operating across multiple warfare domains.⁶⁴ Nor will aircraft-centric strike systems in many cases be able to reach deep within a contested zone, let alone attack targets within China's borders if necessary, without aerial refueling and EW support.⁶⁵

Beyond the implicit deterrence messages generated by force design and capability development efforts, the United States and its allies must also selectively display their fielded capabilities and doctrine for performing the previously discussed tasks to Chinese leaders. Joint and combined force exercises are a particularly important means for com-

municating political and military credibility, as the frequency, methods, and apparent realism of training are all either directly observable or can be selectively disclosed.⁶⁶ US armaments development and testing efforts, as well as armaments cooperation with allies, foreign military sales to allies, and coordination of military-diplomatic initiatives and messaging with parallel allied efforts, are also very useful tools for communicating political and military credibility.

All this must be balanced, however, with disciplined efforts to identify and limit overt demonstration of certain capabilities, doctrine, tactics, and planning details that would simplify China's job of "designing around the deterrent."⁶⁷ This is hardly a new risk management task facing US military leaders and planners, and the only differences from current exercise and system test procedures might be to more closely integrate their planning with deterrence policy planning. The more challenging risk management task will be continuously assessing demonstration plans against the East Asian geopolitical environment and the evolving US understanding of Chinese leaders, as it might be just as unduly provocative to conduct a given exercise or force movement in a given location under some circumstances as it would be to cancel a previously announced exercise or implicitly rule out certain widely anticipated force movements in that same location under others.

This is not to say the more readily observed and measured force attributes of proximity, quantities, and readiness are not just as, if not more, important to deterrence credibility than displays of capabilities and doctrine. Although unlikely, it is possible that no amount of capability and doctrine demonstrations will communicate a deterrent's credibility to a potential adversary unable or unwilling to interpret the messages as the defender intends. The potential adversary may not fully comprehend the defender's way of war, may not fully appreciate the range of capabilities of a given system or force organization within a combined arms context, or may possess excessive confidence in its own. In contrast, major aspects of force readiness posture can be observed remotely, the raw distances between force concentration areas and contested zones can be compared against known or readily estimable platform performance attributes, and sheer quantities of units present in theater can make an impression—provided the potential adversary appreciates the most basic capabilities of those units when comparing them to its own force structure and weapons inventories. Perhaps most importantly, it must be un-

derstood that independent of all other forms of deterrence messaging, an opponent may interpret the defender's force proximity, quantities, and readiness attributes as the clearest indicators—whether intentional and accurate or otherwise—of political resolve.⁶⁸

A further problem is that credible high-end conventional deterrence incentivizes an intelligent competitor to use incremental salami-tactic probes to test the defender's resolve and perhaps also achieve limited political objectives.⁶⁹ Whereas high-end conventional deterrence centers on static military latent capabilities, low-end conventional deterrence against salami-tactic escalation often requires dynamic employment of constabulary forces. These forces normally consist of coast guards, gendarmeries, or other national law enforcement or border control agencies.

China's achievements at Scarborough Shoal against the Philippines in spring 2012 demonstrate it does not take many Chinese constabulary personnel, or alternatively "civilian activists," to take de facto control of a small, isolated, and contested island, atoll, or reef—particularly when they are implicitly supported by PLA forces serving as an "over-the-horizon" anti-intervention deterrent.⁷⁰ From the perspective of US East Asian allies and partners, the strategic consequences to them are the same regardless of whether the Chinese salami tactics observed thus far were the result of China's explicit policy direction to—or tacit tolerance of bureaucratic competitions among—its maritime constabulary organizations.

Low-end dynamic conventional deterrence within the East Asian maritime is predicated on US allies deploying sufficient, sustainable quantities of constabulary forces to contested areas over long periods to protect isolated territories, water-space usage rights, and freedom of navigation as defined by international laws and norms.⁷¹ Since constabulary forces cannot be everywhere within a given maritime area at once, persistent wide-area surveillance and reconnaissance systems will be necessary for cueing their operations. These forces must also be equipped with multiple nonlethal options—as well as delegated authority for national law enforcement—for neutralizing the activities of, and potentially even physically apprehending, nonmilitary transgressors. The delegated legal authority point is particularly important, as notwithstanding the desire to avoid the escalatory and diplomatically questionable step of placing traditional military forces in direct contact with an opponent's constabulary forces or civilians, there are political and legal reasons why a nation might prefer not to assign its military, let alone an ally's mili-

tary or constabulary forces, a domestic law enforcement role.⁷² Lastly, recording and rapidly transmitting sensor or audiovisual documentation of an encounter may buttress future deterrence if it can be successfully used to diplomatically shame the other side for violating internationally accepted behavioral norms or international law.⁷³

Nevertheless, dynamic low-level conventional deterrence using constabulary forces will lack credibility if any over-the-horizon PLA supporting forces are not matched by equivalent allied over-the-horizon forces. If China is to be dissuaded from pressing its incremental salami-tactic campaign, its leadership needs to be confronted with the probability that PLA intervention against US allies' constabulary forces would bring the PLA into direct contact with their militaries, and with it, the risk that follow-on escalation would likely trigger US commitments under bilateral defense treaties.⁷⁴

Deterrence and the Price of Peace

Concern for future East Asian peace boils down to a central dilemma: when one state applies persistent, incremental power to bring a contested object under its political control, the other state(s) must choose whether to concede and risk inviting future coercion directed against other valued objects and interests or confront and thereby increase the risk of war. Notwithstanding their own needs to answer domestic demands for national pride and prestige, US East Asian allies presently have no basis for confidently believing Chinese regional ambitions are limited to currently contested objects. The absence of a reciprocated CBM regime and the omnipresent danger of any and all parties misperceiving intentions certainly amplify this problem, but the core factor driving the risk of war is and will continue to be the lack of a foundational political consensus between China and its neighbors on regional security principles. Indeed, China and its East Asian neighbors may very well be viewing the region's security dilemmas from mutually exclusive philosophical and ideological standpoints. If this is the case, it does not bode well for accommodation on these issues, let alone for grand strategic reassurance. Such a philosophical-ideological divide likely indicates a heightened risk for grand strategic confrontation and a lowered likelihood for regional security cooperation through at least the intermediate term.⁷⁵

Furthermore, it is an analytical mistake to grant current and future Chinese leaders credit for military-strategic decision-making procedural coherency—let alone wisdom—not yet demonstrated in a rapidly unfolding, dynamic, and chaotic regional crisis with major domestic and international political implications. It is intellectually reckless to rationalize away why they would not commit seemingly irrational, destabilizing, and precedent-setting escalatory acts under such circumstances. Chinese strategic culture's lack of experience navigating fast-moving crises and waging modern war combines with the limited open-source information on PLA doctrine to generate a concern that Chinese leaders may be overconfident in their abilities to positively control forces and events during heightened tensions. Should Chinese leaders additionally underrate how Clausewitzian popular passions may influence their competitors' military-strategic decision making, Sino-US crisis stability will face an even greater danger.

Deterrence cannot be obtained cheaply. The difference between what is defensively optimal and what is fiscally affordable generates a credibility risk that US political leaders must address within their deterrence policy and overall grand strategy. It bears repeating that the opponent's perceptions are the critical variables in estimating a deterrence policy's chances for success. US political leaders and opinion elites may consider a given deterrence policy to be elegant and enlightened, but if it does not impact a potential adversary's calculations in the intended way, it invites disaster. Beyond considerations related to US communications of resolve through nonmilitary means, theory only makes clear that deterrence credibility in East Asia depends upon in-theater stationing and preemption-resistant configuration of sufficient US forces and materiel to cause Chinese leaders to question the chances that any notional PLA offensive will secure a rapid, low-cost, and decisive victory. Theory alone cannot indicate whether a marginal dollar allocated toward specific improvements in capabilities, quantities, positioning, or readiness will improve credibility more than if allocated toward any one of the others. All four of these attributes are central to conventional deterrence, and shortcomings in one or more of them in terms of defensive efficacy or implied political resolve can at best only be partially compensated for by the others.

Choosing which tradeoffs to accept requires a cyclical, adaptive process built around continuous detailed net assessments of the Sino-US

strategic balance, the ever-evolving understanding of Chinese objectives and perceptions discussed earlier, and disciplined war gaming and experimentation.⁷⁶ One must understand that unlike nuclear deterrence, an opponent can “design around” a conventional deterrent once its outlines are evident. Sustaining conventional deterrence credibility therefore requires continuous investment of budgetary resources and political will to adapt in response to countermoves until the underlying political issues separating the two sides are resolved.⁷⁷ None of this should be interpreted as an assertion that current US conventional deterrence in East Asia is improperly sized, positioned, postured, or outfitted, but rather as an assertion that its evolution must be firmly rooted in conventional core principles if it is to succeed.

US leaders must ultimately decide whether the interests in East Asia they wish to uphold justify the cost of deterrence, and if not, accept the strategic consequences of commitment redefinition or extrication. These consequences, however distasteful, remain vastly preferable to having a relatively unambiguous US deterrent threat revealed by a crisis to be a bluff. Similarly, a deterrence policy must be but one element of a coherent US grand strategy that applies all elements of national power to address relations with China, the security of allies, and East Asian stability; it cannot substitute for such a strategy.⁷⁸ Unless hope is to be surrendered that East Asian players can peacefully find mutually acceptable solutions for the region's security challenges if granted enough time and strategic space, US political and military leaders must better understand and implement conventional deterrence principles as well as secure the American people's enduring support for the requisite commitments and investments. ■■■

Notes

1. For example, see James Dobbins et al., *Conflict with China: Prospects, Consequences, and Strategies for Deterrence* (Santa Monica, CA: RAND Corp., 2011), 5–7, 8–10. The authors correctly advocate for building defensive capacities of US East Asian partners as a means of deterrence and attempting to promote reassurance by finding areas for cooperation in which mutual interests align. However, their implied definitions of *deterrence by denial* and *deterrence by punishment*, as well as their evaluations of the relative utilities of both approaches under varying strategic circumstances, do not seem consistent with the extant body of work on conventional deterrence theory.

2. For examples, see Greg Jaffe, “U.S. Model for a Future War Fans Tensions with China and Inside Pentagon,” *Washington Post*, 2 August 2012, http://www.washingtonpost.com/world/national-security/us-model-for-a-future-war-fans-tensions-with-china-and-inside-pentagon/2012/08/01/gJQAC6F8PX_story.html; and Raoul Heinrichs, “America's Dangerous Battle Plan,” *Diplomat*, 17 August 2011, <http://thediplomat.com/2011/08/17/america%E2%80%99s-dangerous-battle-plan/>. The *Washington Post* article implicitly acknowledges that US contingency planning for long-range conventional strikes against

limited military targets on Chinese soil is not guided by a strategy or doctrine rooted in preemption, but is rather conceived as a means of supporting restoration of US operational-strategic access to East Asia following a Chinese conventional first strike. Nevertheless, the article focuses on the escalatory risks that might be heightened by US conventional counterstrikes. Also of interest is Joshua Rovner, "Policy Brief 12: Air-Sea Battle and Escalation Risks," University of California Institute on Global Conflict and Cooperation, January 2012. Although Rovner examines many of the deterrence-undermining escalation dynamics examined in this essay, he does so solely within the context of notional long-range conventional strikes rather than the general context of a Sino-US war. Rovner also does not propose any alternative deterrence concepts that would present fewer or "more acceptable" escalatory risks.

3. See Alexander George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974), 537; Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39 (Autumn 2009): 36–40; Paul K. Huth, *Extended Deterrence and the Prevention of War* (New Haven, CT: Yale University Press, 1998), 56–84; John J. Mearsheimer, *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983), 24, 63–64, 203, 207–8, 211; and Edward Rhodes, "Conventional Deterrence," *Comparative Strategy* 19 (Fall 2000): 222–23, 230, 242–47. For excellent discussions on why a defensive strategy or operational plan's success cannot be predicated on recognizing and rapidly acting upon warning of war, see Richard K. Betts, *Surprise Attack* (Washington: Brookings Institution, 1982), 87–141, 155–56; and George and Smoke, *Deterrence in American Foreign Policy*, 572–80. The latter observe that decision makers need not be rendered impotent by ambiguous warning; there are many measures they can prudently take to incrementally increase defensive readiness, thoroughly reevaluate the costs and risks of various actions (or inaction), clarify commitments, and otherwise enhance deterrence in such a situation. However, there is a difference between a crisis providing decision makers with the inherent time and space to safely take such measures and the psychological and political factors Betts highlights that can increase decision-making friction and result in an impotent defensive response.

4. George and Smoke, *Deterrence in American Foreign Policy*, 532.

5. See Janice Gross Stein, "Deterrence and Reassurance," in *Behavior, Society, and Nuclear War*, vol. 2, eds. Philip E. Tetlock et al. (New York: Oxford University Press, 1991), 16; and Robert Jervis, *The Meaning of the Nuclear Revolution* (Ithaca: Cornell University Press, 1989), 137, 139–40.

6. See Gerson, "Conventional Deterrence in the Second Nuclear Age," 41–42; Mearsheimer, *Conventional Deterrence*, 209–12; Rhodes, "Conventional Deterrence," 223–26, 236; Stein, "Deterrence and Reassurance," 29; and Richard Ned Lebow, "Conclusions," in *Psychology and Deterrence*, eds. Richard Jervis, Lebow, and Janice Gross Stein (Baltimore: Johns Hopkins University Press, 1985), 207–10, 212, 214–17.

7. For the purposes of this article, *punishment* is defined as the use of one or more forms of national power to inflict damage upon a transgressor who violates the defender's deterrence threshold. This damage can be against fielded military forces and their infrastructure, industrial infrastructure supporting military production, civil and economic infrastructure, governmental institutions and authorities (potentially including leaders themselves), and/or civil populations. The duration can range from a one-time blow to a series of blows or pressure over a protracted period. Deterrence by punishment therefore is geared around the latent threat of inflicting a degree of damage that a potential adversary deems unacceptable, which in turn restrains that potential adversary from taking the proscribed action.

8. See Gerson, "Conventional Deterrence in the Second Nuclear Age," 38; and Rhodes, "Conventional Deterrence," 225, 248. This would not seem to bode well for successful deterrence using the concept of "mutually assured economic destruction" if opposition leaders judge the probable costs of inaction, or the value of a desired political object, to exceed the estimated costs of incurred economic damage.

9. The most authoritative of these include Gen Norton A. Schwartz, USAF, and ADM Jonathan W. Greenert, USN, "Air-Sea Battle: Promoting Stability in an Era of Uncertainty," *American Interest*, 20 February 2012, <http://www.the-american-interest.com/article.cfm?piece=1212>; CAPT Philip DuPree, USN, and Col Jordan Thomas, USAF, "Air-Sea Battle: Clearing the Fog," *Armed Forces Journal*, May 2012, <http://www.armedforcesjournal.com/2012/05/10318204>; *Air-Sea Battle Doctrine: A Discussion with the Chief of Staff of the Air Force and the Chief of Naval Operations* (Washington: Brookings Institution, 16 May 2012), <http://www.brookings.edu/~media/events/2012/5/16%20air%20sea%20>

battle/20120516_air_sea_doctrine_corrected_transcript.pdf; and Gen Mark Welsh, USAF, and ADM Jonathan W. Greenert, USN, "Breaking the Kill Chain: How to Keep America in the Game When our Enemies are Trying to Shut Us Out," *Foreign Policy*, 16 May 2013, http://www.foreignpolicy.com/articles/2013/05/16/breaking_the_kill_chain_air_sea_battle.

10. For the definition of *maritime denial* (as well as *maritime control*) as used in this article, see Jonathan F. Solomon, "Maritime Deception and Concealment: Concepts for Defeating Wide-Area Oceanic Surveillance-Reconnaissance-Strike Networks," *Naval War College Review* 66, no. 4 (Autumn 2013), 107–8. Additionally, the term *long-range conventional strike* as used herein covers any capability that can deliver a conventional strike weapon against a target at a distance exceeding roughly 1,000 nautical miles (nm). The rationale for this range is the approximate effective distance a notional future contested zone may extend from China's coast. Deep strike systems obviously would be capable of maximum ranges well in excess of this threshold, but the likelihood that these systems will be more expensive than theater-range systems suggests there will probably be a larger inventory of the latter. Strike timeliness—particularly a system's ability to execute a mission fast enough to hit a fleeting target or provide tactically meaningful response times when supporting other friendly forces—also suggests that the strike systems' relative proximity to the fight will be an important campaign-level consideration. Consequently, theater-range systems require a range of at least 1,000 nm if they are to strike contested inner sections if not an adversary's homeland bases and military infrastructure located close behind its borders. Current long-range conventional strike systems include penetrating bombers armed with short-range ordnance, standoff bombers armed with cruise missiles, and submarines armed with cruise missiles. Future systems might include strike fighters armed with longer-range versions of current standoff weapons, submarines armed with theater-range ballistic or hypersonic missiles, standoff bombers armed with hypersonic missiles, or even land-based transoceanic hypersonic missiles. For an examination of current development, potential employment, and escalation risk considerations, as well as arms control treaty issues involving these future systems, see James Acton, *Silver Bullet: Asking the Right Questions About Conventional Prompt Global Strike* (Washington: Carnegie Endowment for International Peace, 2013). Regarding the operational capability and crisis stability tradeoffs among legacy and potential future strike systems, see Forrest E. Morgan, *Crisis Stability and Long-Range Strike: A Comparative Analysis of Fighters, Bombers, and Missiles* (Santa Monica: RAND, 2013). It is also important to note that the 1987 Soviet-US Intermediate-Range Nuclear Forces (INF) Treaty prohibits the production of ground-launched ballistic missiles with ranges between 500 and 5,500 kilometers, meaning that any US theater-range missile developed for conventional strike that would follow a ballistic trajectory for most of its flight path would need to be sea-based so long as the treaty remains in effect. See "Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-Range and Shorter-Range Missiles (INF Treaty)," US Department of State, 8 December 1987, <http://www.state.gov/t/avc/trty/102360.htm>.

11. For an authoritative acknowledgement that EW and cyberspace operations might, under specific circumstances, be more appropriate and effective than conventional land-attack strikes, see Welsh and Greenert, "Breaking the Kill Chain." For examples of how EW and cyberspace operations might fill these roles, see Solomon, "Maritime Deception and Concealment," 87–116.

12. There is some historical evidence Chinese political leaders limited the PLA's use of force when they were concerned about escalatory risks. Of particular interest are the cases where use of PLA aerospace power was restricted, perhaps in part to avoid setting escalatory precedents. That said, these historical restraints occurred under different geostrategic circumstances, involved a different generation of Chinese leaders with different political objectives, and involved a much-less-capable PLA, so it is difficult to assert their applicability to current and future cases. See Forrest E. Morgan et al., *Dangerous Thresholds: Managing Escalation in the 21st Century* (Santa Monica: RAND, 2008), 188–94. As Clausewitz might have predicted, the scope, scale, and forms of force Chinese leaders would be willing to authorize in a given contingency would no doubt be derived from how they valued their political objectives at that time. This, combined with historical evidence of Chinese self-restraint, generates some hope that multitrack diplomatic outreach well prior to any potential crisis might help Chinese leaders appreciate the extreme escalatory dangers and probable consequences if the PLA were ever directed to implement

its apparent conventional and cyber-electronic first strike doctrine. The same dialogue would be very useful for Chinese leaders to communicate their escalatory threshold perceptions relative to potential US or allied military actions.

13. For an overview of the historical precedents and associated variables that might drive how strongly the United States would respond to a first strike directed solely at US naval forces, see Jonathan F. Solomon, "Defending the Fleet from China's Anti-Ship Ballistic Missile: Naval Deception's Roles in Sea-Based Missile Defense" (Master's thesis, Georgetown University, 2011), 73, <http://gradworks.umi.com/1491548.pdf>.

14. In fact, none of the official public descriptions of Air-Sea Battle even imply the concept embraces preemption. Conversely, the aggressor's precedent-setting is almost universally overlooked in the Western debate over Air-Sea Battle.

15. See Jack Snyder, "Perceptions of the Security Dilemma in 1914," in *Psychology and Deterrence*, 179; and Stein, "Deterrence and Reassurance," 17.

16. Douglas McCready, *Crisis Deterrence in the Taiwan Strait* (Carlisle, PA: US Army Strategic Studies Institute, November 2003), 26–27.

17. For detailed explanations of apparent first-strike advocacy in publicly available PLA doctrine, see Dean Cheng, "Chinese Views on Deterrence," *Joint Force Quarterly* 60 (1st Qtr. 2011), 92–101; Ron Christman, "Conventional Missions for China's Second Artillery Corps," *Comparative Strategy* 30, no. 3 (July 2011): 198–228; Roger Cliff et al., *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States* (Santa Monica: RAND, 2007), 13–15, 23, 28–43, 47–50; James C. Mulvenon et al., *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense* (Santa Monica: RAND, 2006), 46–47; and Larry Wortzel, *China's Nuclear Forces: Operations, Training, Doctrine, Command, Control, and Campaign Planning* (Carlisle, PA: US Army Strategic Studies Institute, May 2007), 8–14, 36. For a compelling description of reasons why Chinese leaders might be willing to accept the escalatory risks inherent in unleashing conventional first strikes against core US bases in Japan and Guam, see David Shlapak, "Projecting Power in a China-Taiwan Contingency: Implications for USAF and USN Collaboration," in *Coping with the Dragon: Essays on PLA Transformation and the U.S. Military* (Washington: Center for Technology and National Security Policy, National Defense University, December 2007), 91–92. For an assessment of apparent gaps in publicly available PLA doctrine regarding the tension between escalation management on one hand and decisively seizing the operational-strategic initiative on the other, see Morgan et al., *Dangerous Thresholds*, 49–51, 54–57, 68–71, 77–81, 181–86. For excellent discussions of the basic incentives driving an inferior power to strike first against a superior power, see Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), 234–35; and Jervis, *Meaning of the Nuclear Revolution*, 164–73. Note in particular that Jervis's discussion pertains primarily to nuclear first strikes, but many of the factors he identifies are also extensible to conventional first strikes.

18. Ernest R. May and Philip D. Zelikow, *The Kennedy Tapes: Inside the White House during the Cuban Missile Crisis* (Cambridge, MA: Harvard University Press, 1997), 327, 334–36, 406–14, 424–25, 433, 435–37, 448–49, 615–16.

19. Meghan L. O'Sullivan, *Shrewd Sanctions: Statecraft and State Sponsors of Terrorism* (Washington: Brookings Institution Press, 2003), 109, 113–17, 120–22, 133–37, 142–43, 145–48, 150, 153–54, 157.

20. The leading example of a conventional deterrence policy aimed at China that rests upon economic blockade is "offshore control." T. X. Hammes, *Offshore Control: A Proposed Strategy for an Unlikely Conflict* (Washington: Institute for National Strategic Studies, National Defense University, June 2012); Hammes, "Strategy and AirSea Battle," *War on the Rocks*, 23 July 2013, <http://warontherocks.com/2013/07/hammes-strategy-and-airseabattle/>; and Hammes, "Sorry, AirSea Battle Is No Strategy," *National Interest*, 7 August 2013, <http://nationalinterest.org/commentary/sorry-airsea-battle-no-strategy-8846>. For additional arguments highlighting offshore control blockading concept's strategic limitations and risks, see Elbridge Colby, "Don't Sweat AirSea Battle," *National Interest*, 31 July 2013, <http://nationalinterest.org/commentary/dont-sweat-airsea-battle-8804>.

21. See Rhodes, "Conventional Deterrence," 241; and Stein, "Deterrence and Reassurance," 17.

22. Mearsheimer, *Conventional Deterrence*, 25–27.

23. Stein, "Deterrence and Reassurance," 17. It is not clear such a thing as a geographical barrier even exists in the age of long-range aerospace strike.

24. This observation was summed up excellently in a US Navy officer's memo during development of the 1980s US Maritime Strategy: "We must continuously reinforce in the Soviet mind the perception that it could not win a war with the United States, both before a war, to enhance deterrence, and at all phases of the war should it occur . . . the key point here is that the desired prospect must be as perceived and measured in Soviet terms." See John B. Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977–1986*, Newport Paper 19 (Newport, RI: Naval War College Press, 2004), 54.

25. Note that adversarial leaders are likely to place far greater stock in their conclusions about the defender's interests and objectives than in any deterrence commitment signaled by the defender. Their own interests, objectives, and fears also quite possibly may override even the defender's most credible commitment, signal, or deterrent force-in-being. See George and Smoke, *Deterrence in American Foreign Policy*, 560–61; and Lebow, "Conclusions," 212–17, 231–32.

26. Understanding their risk tolerances within these contexts is especially critical to crafting a deterrence policy. See George and Smoke, *Deterrence in American Foreign Policy*, 505.

27. Rhodes, "Conventional Deterrence," 234–35, 241. For a definitive theoretical foundation of what shapes opponent leaders' innate deterrability, given their interests and perceptions, see George and Smoke, *Deterrence in American Foreign Policy*, 503–613. For a more detailed discussion of issues surrounding the relative clarity or ambiguity of deterrent threats, see Glenn Snyder, *Deterrence and Defense* (Princeton: Princeton University Press, 1961), 246–49.

28. Lebow, "Conclusions," 232.

29. *Deterrence Operations Joint Operating Concept*, version 2.0 (Washington: Department of Defense, 2006), 45–52.

30. Stein, "Deterrence and Reassurance," 31–56.

31. For more on these aspects of CBMs, see Christopher A. Ford, *Information-Based Arms Control and Sino-American Trust* (Washington: Hudson Institute, December 2012), 5–8; and Acton, "Silver Bullet," 134–38.

32. George and Smoke, *Deterrence in American Foreign Policy*, 591.

33. Stein, "Deterrence and Reassurance," 41, 44–45, 51.

34. Abram N. Shulsky, *Deterrence Theory and Chinese Behavior* (Santa Monica: RAND, 2000), 38–40. Of note, CBMs are most likely to succeed when an opponent's primary strategic motivation stems from safeguarding its own security vice seeking to revise the status quo for its benefit at others' expense. See Stein, "Deterrence and Reassurance," 58.

35. For background on the lack of progress in negotiating maritime CBMs with China through 2010, see Peter J. Brown, "US and China Can't Calm South China Sea," *Asia Times*, 4 June 2010, <http://www.atimes.com/atimes/China/LF04Ad01.html>; and Alexander Martin, "Tokyo Seeks Military Hot Line to Beijing," *Wall Street Journal*, 13 February 2013, http://online.wsj.com/article/SB10001424127887324162304578301372138755346.html?mod=rss_whats_news_us.

36. Gerson, "Conventional Deterrence in the Second Nuclear Age," 36.

37. See Wortzel, *China's Nuclear Forces*, 14–18, 26–30; Baohui Zhang, "The Taiwan Strait and the Future of China's No-First-Use Nuclear Policy," *Comparative Strategy* 27, no. 2 (April 2008): 164–82; Thomas J. Christensen, "The Meaning of the Nuclear Evolution: China's Strategic Modernization and US-China Security Relations," *Journal of Strategic Studies* 35, no. 4 (August 2012): 447–87; Peng Guangqian and Rong Yu, "Nuclear No-First-Use Revisited," *China Security* 5, no. 1 (Winter 2009): 83; M. Taylor Fravel and Evan S. Medeiros, "China's Search for Assured Retaliation: The Evolution of Chinese Nuclear Strategy and Force Structure," *International Security* 35, no. 2 (Fall 2010): 48–87; and Morgan et al., *Dangerous Thresholds*, 61–68, 80. Though Fravel and Medeiros, as well as Morgan et al., conclude based on their analyses of historical Chinese nuclear policy and publicly available PLA doctrinal works that "no first use" is unlikely to be revoked, they agree that the policy allows for significant ambiguities. They do make a compelling point that contemporary PLA doctrine does not describe how nuclear weapons might be used operationally other than as retaliation for an actual or seemingly imminent nuclear first use by an adversary or perhaps in retaliation for a conventional first strike against PLA

nuclear forces. Nevertheless, they seem to agree that the internal Chinese debate surrounding “no first use” means the standing absolutist interpretation of the policy might not be permanent. It is important to observe that nuclear escalation does not necessarily mean the actual launching of nuclear weapons; the deliberate manipulation of nuclear force postures and positioning for coercive purposes can also be considered a form of escalation.

38. See Christensen, “Meaning of the Nuclear Evolution,” 478–79; and Michael S. Chase et al., “The Future of Chinese Deterrence Strategy,” *Jamestown Foundation China Brief* 9.5, 4 March 2009, http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=34661&tx_ttnews%5BbackPid%5D=459&no_cache=1.

39. Schelling, *Arms and Influence*, 44–45, 94–104. Also see George and Smoke, *Deterrence in American Foreign Policy*, 527–28; and Jervis, *Meaning of the Nuclear Revolution*, 21–22, 74–99. Note in particular that the conditions resulting from the ill-controlled process are consistent with Jervis’s description of “Mutually Assured Destruction.”

40. For an excellent overview of inadvertent and accidental escalation issues, see Morgan et al., *Dangerous Thresholds*, 23–28.

41. See Christman, “Conventional Missions for China’s Second Artillery Corps,” 210, 212; Christensen, “Meaning of the Nuclear Evolution,” 477, 482; Brad Roberts, “Strategic Deterrence beyond Taiwan,” in *Beyond the Strait: PLA Missions Other than Taiwan*, eds. Roy Kamphausen, David Lai, and Andrew Scobell (Carlisle, PA: US Army Strategic Studies Institute, Spring 2009), 179–80, 196–200; and Morgan et al., *Dangerous Thresholds*, 54–55, 65.

42. For other possible actions that could initiate a vicious escalatory cycle, see Christensen, “Meaning of the Nuclear Evolution,” 468–72, 479–80, 482–83. For an excellent discussion of how decision makers under severe psychological strain in a crisis may interpret the opposing side’s behaviors as inherently hostile and not consider less-menacing alternative explanations, see Jervis, *Meaning of the Nuclear Revolution*, 152–57. Note, though, that a “tit for tat” escalatory approach—combined with firm but flexible diplomatic outreach to the adversary—actually may offer the best chance for ultimately deterring the adversary from further escalation. Tit-for-tat signifies that any escalation by the adversary would be matched by equivalent escalation. The complementary diplomatic approach would involve offering the adversary “off-ramps” that allow the defender to achieve its vital political objectives and the adversary to save face. See Huth, *Extended Deterrence*, 74–84. The adversary’s perceived value of their political objectives, of course, would dictate the point at which they might evaluate the costs and risks of further escalation as too great to merit continuation, and therefore might begin searching for off-ramps.

43. Morgan et al., *Dangerous Thresholds*, 25–26. War gaming could play a major role in shaping US talking points and agenda items for such a dialogue by identifying previously unrecognized or underappreciated inadvertent (and perhaps even accidental) escalation risks.

44. For context on Chinese C3 architectural goals, see Cortez A. Cooper, “Joint Anti-Access Operations: China’s System of Systems Approach,” Testimony Presented before the U.S. China Economic and Security Review Commission, 27 January 2011, 6–7. It is not clear from this and the few other English-language open-source analyses on this topic whether Chinese political leaders understand the real-world capabilities and limitations of advanced C3 or whether they mirror-image C3 doctrine and capabilities as providing US political leaders with a degree of direct situational awareness and control over US forces similar to what they apparently seek to attain over PLA forces.

45. To understand how US leaders contemporaneously viewed the geopolitical motives of both sides in the crisis, see “Intelligence Note: Peking’s Tactics and Intentions along the Sino-Soviet Border,” US State Department, Bureau of Intelligence and Research, 13 June 1969, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB49/sino.sov.6.pdf>. For a summary of the crisis itself, as well as the Chinese decision for conciliation, see “Sino-Soviet Border Talks: Problems and Prospects,” Office of Current Intelligence, US Central Intelligence Agency, 10 November 1969, 7–10, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB49/sino.sov.26.pdf>. A fantastic collection of official Chinese documents tracing the trajectory of Chinese thinking during the crisis is found in Chen Jian and David L. Wilson, eds., “‘All under Heaven is in Great Chaos’: Beijing, the Sino-Soviet Border Clashes, and the Turn towards Sino-American Rapprochement, 1968–69,” *Cold War International History Project Bulletin* 11 (Winter 1998): 155–75.

46. See “Zhou Enlai’s Report to Mao Zedong and Mao’s Comments, 22 March 1969,” in Jian and Wilson, “‘All under Heaven is in Great Chaos,’” 162; and Shulsky, *Deterrence Theory and Chinese Behavior*, 12, 76. This Chinese decision to avoid direct communication with the other side in an escalating crisis and instead employ diplomatic ambiguity and other measures intended to increase crisis instability for coercive purposes and/or enhance operational-tactical military impact in a war’s opening moves is consistent with their actions immediately prior to several of their historical direct military conflicts. Unlike apparent Chinese operational plans during the Sino-Soviet crisis as described within the Zhou report to Mao and several other documents in Jian and Wilson, though, many of these conflicts involved a Chinese conventional offensive first move in mass. See Shulsky, 55–61, 64–72, 75–77.

47. See Roberts, “Strategic Deterrence beyond Taiwan,” 189–90; and Morgan et al., *Dangerous Thresholds*, 49–51. There may be some circumstantial evidence supporting hope on this front, though. See Morgan et al., 188–94; and Andrew Chubb, “Radar Incident Obscures Beijing’s Conciliatory Turn toward Japan,” *Jamestown Foundation China Brief* 13.4, 15 February 2013, [http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=40462&tx_ttnews\[backPid\]=25&ccHash=f0dc74bbb5b2591002ea8abc2f576f05](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=40462&tx_ttnews[backPid]=25&ccHash=f0dc74bbb5b2591002ea8abc2f576f05).

48. For talking points US diplomats could use to overcome any Chinese reluctance toward establishing such a dialogue, see Christensen, “Meaning of the Nuclear Evolution,” 483–84. Tying this into far broader Sino-US discussions encompassing the conventional balance of power, space and cyber warfare, respective force doctrine, and military-to-military management (not resolution) of specific regional security issues may also increase the likelihood of success. See James Acton, “The Dragon Dance: U.S.-China Security Cooperation,” Carnegie Endowment for International Peace, 29 November 2012, <http://carnegieendowment.org/globalten/?fa=50148>.

49. This message was perhaps most famously conveyed in Nikita Khrushchev’s “Letter to Kennedy, October 26, 1962,” in Laurence Change and Peter Kornbluh, eds., *The Cuban Missile Crisis, 1962* (New York: New Press, 1998), 198. It was also conveyed following lesser incidents, such as false warnings of nuclear attacks, to highlight the implications of C3 system fallibility not only with respect to preventing accidental war when tensions were relatively low, but also with respect to situational awareness and positive control over forces in an actual crisis. For example, see “Message from Brezhnev to President on Nuclear Attack False Alarm,” US Department of State, 14 November 1979, <http://www2.gwu.edu/~nsarchiv/nukevault/ebb371/docs/doc%202%2011-14-79.PDF>.

50. Huth, *Extended Deterrence*, 206–7. It is important to note that while this condition may exist, as posited by the “stability-instability paradox,” it may not always be the case. Glenn Snyder, an early articulator of the paradox, points out that the interplays between context, specific circumstances, and chance are the keys to its real-world application. In his view, a Soviet conventional offensive against NATO or Japan would have had vastly greater ramifications to US interests and prestige, and therefore more risk of unleashing inadvertent escalatory processes, than one against countries in which US interests were peripheral. Robert Jervis agreed, noting that Schelling’s ill-controlled escalatory process meant nuclear equilibrium hardly created any margin of safety for major conventional provocations or wars. See Snyder, *Deterrence and Defense*, 225–26; Glenn Snyder, “The Balance of Power and the Balance of Terror,” in *Balance of Power*, ed. Paul Seabury (San Francisco: Chandler Publishing Co., 1965), 199; and Jervis, *Meaning of the Nuclear Revolution*, 21–22, 105. Nevertheless, it is the defender’s inability to confidently know whether the stability-instability paradox will work for or against deterrence efforts at a given point in time that drives the need for a conventional hedging force capable of denying the opponent’s potential fait accompli attempts.

51. Gerson, “Conventional Deterrence in the Second Nuclear Age,” 38. For a description of the distinctions between pure and deterrent defenses, see Schelling, *Arms and Influence*, 78–79.

52. Huth, *Extended Deterrence*, 206–7.

53. Snyder, “Balance of Power and the Balance of Terror,” 194, 199. Snyder points out, however, that just as nuclear stability may not necessarily breed conventional instability, conventional stability can breed nuclear instability. This is because an adversary may interpret the defender’s efforts to establish conventional equilibrium as an attempt to create an alternative to having to “go nuclear” first to implement its deterrent threats. The adversary may therefore become more willing to challenge the defender

conventionally based on the perception that the latter's resolve was shaky. While this logic is sound, it seems likely that if the adversary recognizes Schelling's ill-controlled-process logic as a real danger and accepts Snyder's and Jervis's other arguments regarding the stability-instability paradox, Snyder's initial observation regarding conventional equilibrium contributing to nuclear stability would be more likely to prevail.

54. As such, they might perceive that they are reacting to revisionist attempts by the United States and its allies, and that therefore the United States is the one risking initiation of the ill-controlled process. See Christensen, "Meaning of the Nuclear Evolution," 452, 463–66, 472–75, 481–82.

55. See Yuka Hayashi, Jeremy Page, and Julian Barnes, "Tensions Flare as Japan Says China Threatened Its Forces," *Wall Street Journal*, 5 February 2013, <http://online.wsj.com/article/SB10001424127887324445904578285442601856314.html>; and Chubb, "Radar Incident Obscures Beijing's Conciliatory Turn toward Japan."

56. Part of this is due to East Asia's twentieth-century history, namely the legacy of the Japanese Empire prior to 1945. Geography and military-strategic circumstances, though, also play major roles. The size of West European states meant that a Soviet ground thrust into West Germany would inherently imperil its neighbors through rapid follow-on military conquest or eventual coerced political "Finlandization." This threat was self-evident to Western Europe's politicians and peoples of the late 1940s. As the Second World War had also devastated their economies, militaries, and civil infrastructure, standing alone could not provide a viable deterrent.

These geographic and military-strategic circumstances do not apply in today's East Asia. It is hard to politically envision East Asian states seeking a binding collective security architecture absent a Chinese military threat to their sovereignties that is so ominous it overcomes the Japanese imperial legacy issue for some and nonalignment preferences of others. It should be noted that the imperial legacy issue includes Japan's own need for constitutional amendments to make participation in a collective security architecture possible.

The critical piece, however, would come down to how Japanese and South Korean political leaders evaluate their dependencies on the rest of East Asia for trade and security. They are likely to remain satisfied with their respective bilateral defense treaties with the United States so long as they do not individually perceive their security has become critically dependent upon that of other East Asian states. Should Japan and South Korea perceive their respective interests would be gravely jeopardized if other East Asian states were to fall within China's orbit via coercion or conquest, though, they would likely become the chief advocates of a formal architecture that commits the United States to collective security.

57. The relative probable efficacy of a deterrence policy option should be evaluated based on whether there is sufficiently rigorous analytical evidence that it provides "the most promising means by which an adversary's decision calculus is moved toward deterrence and away from coercive action or attack." See *Deterrence Operations Joint Operating Concept*, 52–53.

58. This is a central point of the new US Navy and Marine Corps "Single Naval Battle" concept. See Maj Gen Kenneth McKenzie Jr., USMC, "Naval Power and the Future of Assured Access," *Armed Forces Journal*, January–February 2013, <http://armedforcesjournal.com/2013/01/12842317>. That said, US and allied preparation and use of dispersed forward operating bases (FOB) on land—however austere, remote, and transient—may generate domestic political challenges for the host nation during peacetime as well as war. Sites that a host nation is willing to allow the United States to use in contingencies involving its direct defense might not be politically available in those that do not. Though peacetime diplomacy can establish the terms of US access to potential FOBs on a given nation's soil, these terms can easily change based on political circumstances. Doctrine developers and operational planners must take these risks into consideration.

59. Betts, *Surprise Attack*, 19–20, 22–23, 56. For examples of how Chinese doctrine aims to deny the United States strategic, if not tactical, warning of war, see Christman, "Conventional Missions for China's Second Artillery Corps," 209–10.

60. Huth, *Extended Deterrence*, 202–3.

61. Strikes along these lines would fit nicely into friendly combined arms maritime denial operations in the contested zone. See Solomon, "Maritime Deception and Concealment," 98.

62. The PLA's fielding of robust integrated air defenses in support of these kinds of bases and sensor sites, not to mention these systems' extensibility for supporting offensive operations near China's borders, strongly suggests Chinese leaders deem all of these target types as legitimate for US conventional strikes in a major conflict. See Colby, "Don't Sweat AirSea Battle."

63. Standoff bombers and strike fighters could attack relatively fixed and not heavily hardened PLA targets whose neutralization would slow down, if not significantly weaken, a Chinese offensive campaign. Standoff strike aircraft could also "open the door" for strikes by penetrating aircraft. Penetrating bombers and strike fighters would be necessary to attack more-hardened PLA targets, as well as for general follow-on strikes once standoff-range weapons inventories were inevitably depleted. The high combat potency of strike aircraft, though, suggests most would normally need to be based outside the contested zone to mitigate crisis instability risks and also provide expanded escalation management options; bombers would obviously be based much further away than fighters. The greater an aircraft's basing distance from the contested zone, though, the less it would be able to respond quickly to fleeting tactical needs or opportunities. In contrast, submarines' high survivability within a contested zone means they would not be vulnerable to preemptive attack and that this forward positioning could compensate somewhat for the strike aircraft basing-distance problem. Strike missile-armed surface combatants may contribute as well, albeit from the outer areas of the contested zone. It follows that sea-launched cruise (or future theater-range ballistic) missiles could be quite useful against the same target types as standoff aircraft, which in turn suggests their potential role as the leading edge of an assured conventional second strike and similar time-critical follow-on strikes. Their limited potency and the time-consuming (and currently vulnerable) logistics of reloading their launchers, however, means these missiles must still be complemented within the portfolio by strike aircraft. Dispersed FOBs for strike fighters within the contested zone (if available) and aircraft carriers operating from the periphery (as possible) can help in this regard. For analysis supporting these assertions, see Morgan, "Crisis Stability," 31–32, 38–50, 99–123.

64. Solomon, "Maritime Deception and Concealment," 94–96. Though the logic expressed in that article is specifically applied to the launch of a standoff-range strike against maritime forces, it is just as extensible to any attacker-defender dyad. Also see Acton, "Silver Bullet," 83–84, 88, 100, 146.

65. Mark A. Gunzinger, *Sustaining America's Strategic Advantage in Long-Range Strike* (Washington: Center for Strategic and Budgetary Assessments, 2010), 4, 32–39, 51, 53.

66. Note that exercises do not necessarily need to demonstrate the actual approach US and allied forces would follow in a war. An exercise's core military purpose is to help participating forces become more proficient in executing doctrine and tactics. Beyond this objective, exercises can be—and historically were—designed to shape a potential adversary's perceptions of how US and allied forces would fight. Typically, this involves selectively disclosing certain capabilities deemed likely to impress the potential adversary. Another application might be to "prove" to the opponent something it already believes is true about US and allied forces, plans, or strategy. Exercises designed with these secondary purposes in mind can be particularly useful for reinforcing deterrent credibility. Doctrine, tactics, and capabilities deemed too war-critical to risk peacetime exposure to the opponent can be exercised using unit-level and force-level synthetic training systems. See Solomon, "Maritime Deception and Concealment," 103, 105–7; and Christopher A. Ford and David A. Rosenberg, *The Admirals' Advantage: U.S. Navy Operational Intelligence in the Second World War and Cold War* (Annapolis, MD: Naval Institute Press, 2005), 97.

67. Rhodes, "Conventional Deterrence," 228, 235.

68. In this light, it is important to note that the much-referenced 2012 Center for Strategic and International Studies (CSIS) study on US Asia-Pacific force structure options primarily examined the geopolitical, domestic-political, material, and fiscal feasibility of each option. The unclassified, publicly released main body of the study did not seem to examine the operational-tactical war-fighting efficacy of each option within the operational-strategic context of a direct Sino-US conflict. Nor did it examine those options within the context of deterring a Chinese attempt to militarily achieve a *fait accompli*. It is not clear whether the judgments on force structure sufficiency were in part informed by war gaming the options within these contexts using known and anticipated Chinese capabilities, doctrine, and force structure as well as US and allied doctrines and peacetime postures in the near and intermediate-terms as

reference points. It is similarly unclear whether the force structure options were thoroughly “red teamed” from apparent Chinese perspectives, especially in terms of what these possible estimates of operational-tactical efficacy might imply about US political resolve. As a result, while the study has great utility for assessing force structure political and fiscal viabilities, it does not seem to address the critical questions of how each option might affect Chinese decision-making calculus. See *U.S. Force Posture Strategy in the Asia Pacific Region: An Independent Assessment* (Washington: CSIS, 27 June 2012).

69. For a detailed description of the “salami tactics” concept, see Schelling, *Arms and Influence*, 66–69, 77–78. For an explanation of why such tactics are particularly attractive per the stability-instability paradox, see Snyder, *Deterrence and Defense*, 231–38. In fact, Snyder argued the paradox applies more to incentivizing forms of conflict beneath the major conventional war-level than to incentivizing conventional war itself.

70. Note that China’s maritime “salami tactics” are consistent with the ones they employed prior to the 1969 Sino-Soviet border crisis. See “Intelligence Note: Peking’s Tactics,” 1–2.

71. For an example of the constabulary force structure and operational tempo demands needed to sustain deterrence within the context of the Japan Coast Guard, see Yuka Hayashi, “Island Spat Tests Japan’s Coast Guard,” *Wall Street Journal*, 12 December 2012, <http://online.wsj.com/article/SB10001424127887324339204578170733637585700.html>.

72. The exception to this is use of one’s own air forces to intercept aircraft that violate national airspace. Though constabulary air arms can also be used for this purpose, long-standing international norms widely accept use of military airpower for protection of national airspace.

73. Prospects do not seem high for a public shaming approach succeeding with China in the near term, though. See Oriana Skylar Mastro, “Signaling and Military Provocation in Chinese National Security Strategy: A Closer Look at the Impeccable Incident,” *Journal of Strategic Studies* 34, no. 2 (April 2011): 219–44. Thoroughly disseminating documentation of such encounters may end up being more important for establishing and sustaining popular support within US, allied, and partner societies as well as appealing to neutral states.

74. Huth observes that defender’s pairing of tit-for-tat escalation with firm but flexible diplomatic outreach may be particularly useful under such salami-tactic conditions. A potential aggressor may not have committed itself to use of direct military force at the start of a confrontation, as a probing action might have gotten out of hand. See Huth, *Extended Deterrence*, 201. The positioning of credible military forces over the horizon from the constabulary forces they backstop is consistent with Huth’s recommendations.

75. See Christopher A. Ford, “Sinocentrism for the Information Age: Comments on the 4th Xiangshan Forum,” *New Paradigms Forum*, 13 January 13, <http://www.newparadigmsforum.com/NPFtestsite/?p=1498>.

76. For more on deterrence experimentation, see *Deterrence Operations Joint Operating Concept*, 54.

77. Rhodes, “Conventional Deterrence,” 229.

78. George and Smoke, *Deterrence in American Foreign Policy*, 506.

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Book Review

***The Unseen War: Allied Air Power and the Takedown of Saddam Hussein*,**
Benjamin S. Lambeth. Naval Institute Press, 2013, \$40.85.

Most books on modern warfare tend to be overly land-centric by design or default; the role of airpower is often underestimated, unappreciated, ignored, or undercommunicated. The majority of studies on the main combat phase of Operation Iraqi Freedom follow this pattern; they focus almost exclusively on the land component's role in toppling the Iraqi regime. Ben Lambeth's *The Unseen War* sets the record straight by telling the full story of the allied air contribution, from the initial attack on 19 March 2003 to the capture of Baghdad on 9 April and Pres. George W. Bush's declaration of an end of major combat operations on 1 May.

Dr. Benjamin S. Lambeth, a top-notch defense analyst with extraordinary insight into airpower, is uniquely qualified to write such a book. He joined the Center for Strategic and Budgetary Assessments as a senior fellow in 2011 after 37 years at the RAND Corporation. His many publications include *The Transformation of American Air Power* (2000), *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (2001), and *Air Power against Terror: America's Conduct of Operation Enduring Freedom* (2005).

Lambeth's latest book does not downplay the spectacular ground advance to Baghdad or claim "victory through airpower." Instead, he presents a carefully constructed and balanced thesis demonstrating that the major combat phase of Operation Iraqi Freedom "was a true joint and combined campaign by American, British, and Australian air, land, and maritime forces to bring about a decisive end to Hussein's regime." The author's analysis of events in *context*, deftly balancing *breadth* and *depth*, makes this clear, accurate, and valuable book the most comprehensive analysis of the campaign to date.

Lambeth puts his assessment of the air-land offensive in proper *context* through a framework in which the first chapter sets the political-military stage ("The Road to War"), while the last chapter looks "Toward a New Era of Warfare." The reader gains knowledge of the behind-the-scenes planning that took place in the White House, the Pentagon, and various military headquarters in the months and weeks prior to combat, including GEN Tommy Franks' "lines and slices matrix." The concluding chapter then places the results of the campaign into a wider perspective, including thoughts on the problems that surfaced as soon as the United States sought to turn a decisive military victory into a nation-building process—an effort that remains unfinished 10 years after the collapse of the Baath regime and the capture of Saddam Hussein.

The *breadth* of the study stems from Lambeth's comparison of the air-land offensive with previous wars, with particular attention paid to Operations Desert Storm and Enduring Freedom. Lambeth examines the strategic, operational, and tactical levels of war, demonstrating the utility of kinetic and nonkinetic airpower. In the process, he both describes key achievements well beyond "sorties flown and bombs dropped" and identifies where airpower fell "short of expectations." He points out strengths and shortcomings for the full spectrum of missions: control of the air; intelligence, surveillance, and reconnaissance (ISR); maneuver (transportation and airlift); and strike. Although Operation Iraqi Freedom was a US-led operation, the author highlights key British and Australian contributions, not only in the political sphere but also in terms of military leadership and overall combat performance.

The *depth* of the book lies in the detailed treatment of *concepts*, *technology*, and *leadership*, all key elements of the Airman's profession. Unlike Operation Desert Storm, the initial phase of Operation Iraqi Freedom involved concurrent and synergistic, rather than sequential, actions by land and air forces. Lambeth takes readers through the three weeks of high-intensity combat, discussing the operational *concept*, which was based on functional effects rather than on destruction or attrition. He examines the logistical challenges, discusses the importance of intelligence as an integral part to the operational plan, and highlights the unprecedented level of coordination among air, maritime, and ground components.

The *technological* aspect is tremendously important in helping readers understand how the war was fought. This study shows just how technologically complex, time-sensitive, interdependent, and interoperable warfare has become. The author avoids the trap of focusing on targeting alone despite its obvious importance when planning, leading, and executing a campaign of this size and scope. The powerful coming together of concepts and technology is illustrated in the notion of "parallel operations": airpower can operate against virtually all of the centers of gravity directly related to military-strategic objectives, regardless of their location, and in a very compressed period of time.

The study also provides considerable insight into the operational command and *leadership* of Lt Gen Michael "Buzz" Moseley, emphasizing the importance of personal relations when conducting joint and combined operations with other services and other countries and reminding readers of the need for trust and respect at all levels of the chain of command.

This is an important book, providing a solid counterpoint to the ground-centric literature of major combat operations and detailing significant lessons on the application of modern warfare. Lambeth's critical analysis combines the big picture with necessary specifics on achievements and deficiencies. The book also delivers a useful reminder that if a campaign's overarching goal is to supplant an existing regime, then plans for stabilization, nation building, and defense and security sector reform must receive as much attention as the campaign plan for major combat operations—or even more. Lambeth teaches the sobering lesson that "every war must end" and that exit strategies and transition plans should be

Book Review

in place prior to military engagement. Replacing an existing regime with a functioning and accountable authority in line with Western principles of democracy, individual liberty, rule of law, and human rights requires a focus that extends well beyond the battlefield.

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Book Review

The Rise of China vs. the Logic of Strategy, Edward N. Luttwak. Harvard University Press, 2012, 310 pp., \$17.97.

In a few short decades, China has risen from poverty to the world's second-largest economy and is likely to overtake the United States for the top spot by 2016. This economic growth has funded significant investments in new weapons and capabilities for the People's Liberation Army that threaten the ability of the United States to deploy forces to intervene in conflicts in the Western Pacific. The future seems bright for China to retake its traditional role as East Asian hegemon and a leading global power.

In *The Rise of China vs. the Logic of Strategy*, Edward Luttwak, a senior associate at the Center for Strategic and International Studies, offers a more measured view of China's future. Approaching the problem "as a strategist and not as a sinologist," Luttwak applies what he calls the "universal logic of strategy" to the rise of China.

While taking pains to deny that he is a realist, Luttwak makes essentially a realist argument. The growth of the Chinese economy, its military, and its global influence will inevitably produce balancing behavior from other states. The rise of Chinese power, as Luttwak and many realists predict, would provoke this reaction even if China were a democracy or a state that maintained amicable relations with its neighbors. Recent Chinese foreign policy behavior, however, has only served to exacerbate the threat felt by other states in the Asia-Pacific region. While for decades Chinese leaders sought a "peaceful rise" and settled most of their outstanding territorial disputes with their continental neighbors, over the last decade China has taken a more aggressive approach, particularly regarding its maritime claims in the East and South China Seas. Luttwak offers a comprehensive catalog of instances of China's "premature assertiveness" and the backlash it has produced among its neighbors.

Luttwak attributes this assertiveness to pathologies in Chinese strategic culture, the exploration of which is the most valuable portion of the book. The main driver is "great power autism," Luttwak's term for a tendency of national leaders to focus their attention on domestic problems and give short shrift to foreign policy and the sensitivities of other nations. While such "autism" is also a feature of US and Russian foreign policy, the scale of the domestic demands placed on China's leaders and the influence of Chinese imperial history make China a far more difficult case. In its traditional role as regional hegemon, Luttwak suggests, China was isolated from peer states, and its foreign policy limited the receipt of tribute from smaller states and the management of barbarians, leaving current Chinese leaders less capable of navigating the modern Westphalian international system.

History has misshaped Chinese strategic culture in other ways. Ancient military thinkers such as Sun Tzu have had a lasting influence on how Chinese

leaders conduct foreign policy. The insights of these classical strategists, while successful in the context of China's distant past, translate poorly into the contemporary international environment. Classical Chinese strategy recommends the betrayal of allies and the frequent changing of sides in a conflict to prevent another state from becoming too powerful, provokes crises to force other states to the negotiating table to resolve disputes, and relies heavily on deception and surprise. While these methods were perhaps more viable in China's Warring States period, this behavior is likely to breed suspicion and distrust among neighbors in the contemporary context. Despite the often inappropriate lessons of China's classical strategists, these ideas are embedded deeply in the minds of the Chinese elite, which Luttwak contends prevents China from developing a strategic culture that would be less threatening to its neighbors.

Luttwak's treatment of Chinese strategic culture is, if somewhat cursory, delightfully provocative. One wishes that he had further developed his insights about the "strategic unwisdom of the ancients" with a greater exploration of Chinese history and strategic thought along the lines of his *Grand Strategy of the Byzantine Empire*.

In response to China's increasingly aggressive foreign policy, other states in the Asia-Pacific have begun to rebuild old security ties, develop new alliances, and invest more heavily in their militaries. Luttwak rightly suggests that a purely military effort would prove to be both an inadequate and unwise strategy in the long term given China's unfettered economic growth. He suggests a geo-economic strategy that would contain Chinese growth, and in turn its military potential and global influence, by restricting its access to resources and foreign markets. While Luttwak detects the stirrings of such a reaction in the form of restrictions on Chinese land purchases in Latin America and on government purchases of Chinese goods in the United States, he does not provide a clear picture of what form a deliberate geo-economic strategy would take. A more expansive treatment of this subject would provide a useful guide for policymakers grappling with the rise of China.

The Rise of China is a worthwhile read for anyone concerned with the challenge of China's rise. Luttwak offers a provocative take on Chinese strategic culture and the weaknesses of China's classical military thinkers as well as a thorough assessment of recent Chinese foreign policy. The weaknesses in the book derive from its brevity. While Luttwak offers a number of interesting ideas about the nature of Chinese decision making and strategies for coping with China's rise, the breadth of the topic he addresses in a relatively short book does not allow the space to develop them as fully as needed. One hopes, and expects, Luttwak will return to the problem of China and continue to explore these ideas in the future.

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