

Dragon in the Room: Nuclear Disarmament's Missing Player

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Abstract

At the turn of the twenty-first century, several scholars characterized China as the “forgotten nuclear power.” This label derived from the opacity surrounding China’s nuclear force and the assumed innocuousness of China’s force developments. Over the past decade, however, the tone of the conversation has changed as China has increased its transparency and capabilities. China is now the fourth-largest nuclear weapon state, and if it continues on its present trajectory, it will surpass France to become the third. It also has recently developed a credible nuclear triad. Many scholars argue that the increasing size and sophistication of China’s nuclear force should draw the attention of other nuclear weapon states and evoke calls for China’s participation in the disarmament conversation. This article explores what such cooperation might look like by highlighting the conditions likely to elicit Chinese participation.

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When the world’s most powerful nuclear weapon states signed and ratified the Nuclear Nonproliferation Treaty (NPT), they committed themselves to one day pursuing nuclear disarmament. That day has come for four of the five nuclear powers. Over the past two decades, Britain has reduced its force by half, France has decreased its force by one-third, and the United States and Russia have worked bilaterally to cut their forces by 90 percent. China, meanwhile, has continued to increase its nuclear arsenal, with the justification that its force levels remain far below those of the two nuclear superpowers. According to its leaders, it is not yet time for China to cooperate, since it is the responsibility of the nuclear superpowers to lead the way.

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Seven bilateral treaties over four decades indicate that the United States and Russia also recognize this fact. The New Strategic Arms Reduction Treaty (START), signed in 2010, is the most recent iteration of the two states' bilateral force reductions. Though brief in comparison to its predecessor, New START is no less impressive in its intended outcomes. The treaty commits both countries to a 50 percent reduction in deployed strategic nuclear delivery vehicles and launchers and a 30 percent decrease in operational strategic warheads by 2018. Pres. Barack Obama hoped it would be a harbinger of greater global disarmament. Others were less sanguine.

Among the many critiques lobbed at the treaty was its failure to address the dragon in the room: an expanding and modernizing Chinese nuclear arsenal.¹ Critics argued that China should not be left out of the conversation on the credulous assumption that it would remain satisfied with the status quo. Such warnings proved prescient when China responded to the election of Pres. Donald Trump by publically acknowledging its desire for a larger nuclear force.² "The situation has changed," said one report. "Our judgment of the world must change accordingly. . . . China must have 'enough' nuclear weapons so that the United States would have serious concerns if it wanted to take a tough military stance against China."³

Though China stated it will abstain from engaging in a "nuclear competition" with the United States, it admits that the "global strategic competition" has shifted away from Russia and the United States and toward the United States and China.⁴ China is not yet a nuclear competitor with the United States, but there has also been little cooperation between the two powers. How large and how loud must China be before the US considers engaging it in a disarmament dialogue? What conditions are most likely to facilitate Chinese participation? Answering these important questions will help identify areas of potential Sino-US cooperation and compromise.

Though definitive data on Chinese nuclear weapons is sparse, experts estimate that the Chinese strategic nuclear force hovers around 260 strategic weapons. A logical retort might well be that this constitutes a fairly small "dragon," especially in comparison to the strategic forces of the United States and Russia. At the same time, however, China has acquired increasingly sophisticated weapons in recent years, and evidence indicates that the Communist Party intends to accelerate its nuclear buildup in

the years to come. China is among the elite nuclear powers in its ability to base nuclear weapons on land, sea, and in the air. It is also developing advanced countermeasures to US missile defense as well as its own missile defense system. Such developments are not lost on the states in the region. It is well known that India keeps a keen eye on China's military developments and Pakistan watches India. This presents the very real possibility of what Gregory Koblentz calls a "cascading effect" in South Asia, where Chinese nuclear buildup prompts buildup by India, which prompts Pakistan to do the same.⁵ Such regional instability would obviously run counter to US security interests, but even absent this effect, Chinese nuclear proliferation could have implications for US-Sino relations.

The United States and China strike a delicate balance on most fronts, and there are several flashpoints that could embroil the two in conflict. These include China's aggressive territorial claims in the East and South China Sea, its presumed predominance over Taiwan, its continued devaluation of the Chinese yuan, and its increasing use of cyberattacks against the US government and US companies. Though ostensibly China demarcates between nuclear and conventional conflicts, this distinction has become increasingly tenuous in recent years. It is thus possible that these conflicts could escalate and take on a nuclear dimension. For this reason, it is imperative that one consider the conditions under which China would be more likely to engage in nuclear disarmament.

Most scholars generally recommend delaying multilateral disarmament negotiations until after the United States and Russia have promised to cut their forces further. Such advice sits well with China, due to the long-held view that Russia and the United States have a unique obligation to spearhead the nonproliferation movement. Ostensibly China accepts some responsibility to disarm, though it is unclear as to when this is likely to go into effect.⁶ In their 2013 article for *Strategic Studies Quarterly*, Lt Gen Frank G. Klotz and Oliver Bloom argue that it is unlikely to be anytime soon due to the dubiety surrounding China's nuclear force and use doctrine.⁷ These are obstacles not easily overcome, and thus while maintaining the status quo of additive bilateral reduction agreements is "far from ideal," in their view, it is the best and most feasible option.

Gregory Koblentz presents a contrasting viewpoint, saying that the prospect for such an arrangement, at least in the near term, appears "bleak."⁸ The time has come, he says, for the US to abandon the

perspective that Russia is *primus inter pares* among nuclear states.⁹ For the sake of strategic stability, the US needs to acknowledge and work with other nuclear players. More specifically, Koblentz suggests that the US take the lead in shaping “the second nuclear age” by engaging all seven nuclear weapon states across multiple military domains, including antiballistic, antisatellite, cyber, and conventional precise strike weapons. This can be done, he says, through the P5 nuclear dialogue and a newly created Strategic Stability Working Group, to include India and Pakistan. Koblentz’s ambitious proposal is a welcome break from the box of bilateralism, but his widened scope suggests that China is not of particular concern.

An advanced model of future nuclear exchanges between the US, China, and Russia suggests otherwise. A model constructed by Prof. Stephen Cimbala shows that the nuclear levels and relations among these three states are such that US and Russia can no longer afford to pursue bilateral reductions absent any disarmament commitment on the part of China. Consequently, Cimbala recommends that US policy makers and scholars think critically about how to include China in trilateral or multilateral nuclear negotiations going forward.¹⁰

Li Bin is at the forefront of those who take on the challenge of examining what this might look like. In his 2011 article, Li suggests that China would likely agree to keep its warheads and missiles separate in exchange for continued strategic force reductions by the US and Russia. Li further claims that such reductions might give China the confidence to establish a ceiling on its own strategic forces. Alexei Arbatov’s analysis similarly advocates for force limits, but he suggests that narrowing the focus to intermediate- and long-range land-based ballistic missiles might be the best approach.¹¹

The difficulty with such analyses is their strained applicability in the present political climate. After President Obama’s Prague speech in 2009, many policy makers and scholars were imbued with optimism and felt that it was an appropriate time to discuss next steps. The voices contributing to this conversation have understandably waned over time, as US-Russian relations have become increasingly tenuous and the actions of new nuclear and near-nuclear actors have seemingly overtaken the nonproliferation agenda. Those discussing China’s role have also become quieter. And since the election of Donald Trump, the conversation has almost come to a halt.

What is the point of discussing disarmament when the current US president seems to recommend the opposite course of action? If Trump indeed believes that the US should “greatly strengthen and expand its nuclear capability,” as he tweeted prior to taking office, then isn’t US-led disarmament an anachronism? Are we to prepare ourselves for a new multi-player arms race? This analysis cautions against such conclusions. While Trump has indeed denounced New START and rejected the possibility of the treaty’s renewal, his actions up to this point have not indicated that he is against making other disarmament deals.¹² Similarly, while Trump refused to join other nations in a conversation toward banning nuclear weapons, it is not obvious that he opposes disarmament in general.¹³ The key is in reframing the conversation. If neither New START nor a nuclear weapons ban is seen as an elixir for peace, then perhaps a more practical approach is in order, one that is not so narrow as to ignore critical actors, but also one that is not so broad as to lose effectiveness. It may now be time to engage China specifically.

Reframing the Conversation

The question of how to include China in disarmament negotiations often assumes that the logical next step is a trilateral or multilateral conversation including China, Russia, and the United States—a kind of follow-up and expansion of New START. It is possible, though, that more can be achieved by the US and China having separate bilateral talks, at least initially. Such an approach has the benefit of recasting China as a peer leader in global nonproliferation and satisfying China’s desire to engage in a “new type of major-country relations” with the United States.¹⁴ It also has the advantage of using and capitalizing upon over a decade’s worth of lower-level dyadic discussions on disarmament.

While the US and China have had only minimal engagement at the highest levels regarding nuclear weapons, Chinese and US nuclear experts and officials have convened in an unofficial capacity for the past decade. These meetings are sponsored by the Center for Strategic and International Studies (CSIS) and take place annually in Beijing and Hawaii. Both venues allow participants to discuss their views of US-Sino nuclear dynamics without fear of attribution. The intent is to allow for candor and provide a platform for enhanced bilateral cooperation, with the ultimate aim of escalating the talks to official bilateral dialogues. These meetings have progressed from so-called Track 2 dialogues, which include only

academics and experts, to Track 1.5 dialogues, which include government and military officials acting in their unofficial capacities. Track 1 is the name given for formal dialogues between state and military officials.

The participant list of the Track 1.5 dialogues has expanded over the years to include people who more directly influence their country's nuclear policy. This has been achieved incrementally with the conference organizers attempting to ensure that discussants from each country are evenly matched in terms of position and expertise. The most recent meeting, held in March 2017, brought together over 50 Chinese and US academics plus state and military officials. There have been over 20 such dialogues in the past 20 years.¹⁵ The present analysis relies heavily upon the published reports of these meetings as well as quoted officials and experts in the Chinese state-run media outlets. By analyzing the words of Chinese officials and scholars in public and private settings, one can craft policy recommendations that are better suited to the US-Sino nuclear dynamic rather than recommendations adapted from a previous context.¹⁶ Thus the argument here presents a less common viewpoint by isolating the unique challenges and opportunities facing the US-Sino nuclear dynamic, without presuming that such a conversation would necessarily take place in a trilateral framework or be a continuation or adaptation of the negotiations between the US and Russia. In fact, I argue that starting with START is in many ways a non sequitur, due to the current US president's disapproval of the treaty as well as several critical differences between the Chinese and Russian perspective and experience. This analysis will explore these differences and then discuss the unique pathways available for Chinese cooperation.

Looking Past the Numbers

The most direct solution to stopping Chinese nuclear proliferation is to have a treaty that effectively places a ceiling on Chinese strategic nuclear weapons in exchange for further reductions in US and Russian strategic (and likely nonstrategic) forces. A treaty of this sort would seemingly benefit all involved by advancing the purported disarmament goal of all three countries, lessening the security "trilemma" between the three countries, and legitimizing China's commitment to a "lean and effective" deterrent. This is the kind of solution that most scholars recommend, and while it flows logically from the framework of US-Russian

disarmament, such a posteriori reasoning is unsuitable to the Chinese context for several reasons.

The first reason is that we do not know for certain the number of Chinese nuclear forces. Any disarmament proposal having to do with hard capabilities will require a certain degree of a priori knowledge. In the case of a treaty dealing with Chinese nuclear force levels, effective implementation would require the Chinese to disclose (and other signatories to verify) the number and nature of its nuclear capabilities. To date, China has been very protective of such information. According to many in China, this is because minimum deterrence requires relative opacity when it comes to the state's nuclear capabilities—increasing transparency increases China's vulnerability.

An additional obstacle to Sino-US disarmament is the increasing irrelevance with which the Chinese view quantitative limits. From the Chinese perspective, the ongoing modernization programs of the nuclear superpowers have allowed both states to maintain the artifice of meeting disarmament obligations while retaining relative nuclear superiority. Some even argue that the focus on numbers is meant to divert international attention and provide the international community with a false sense of security.¹⁷ This has caused many in China to claim that a strict quantitative approach to nuclear disarmament is no longer sufficient.¹⁸ After all, what does it matter if there are fewer nuclear weapons if these weapons are upgraded to increase the likelihood of their use? Can one claim, as some have in China, that “the nuclear arms race has changed from one based on quantity to one based on quality?”¹⁹ If this is the case, then quantitative disarmament agreements are not enough.

The proceeding analysis examines each of these obstacles, in turn, beginning with the problem of transparency. The argument here is that future disarmament negotiations between China and the United States are unlikely to resemble those between the US and Russia. We cannot begin with START, nor can we use previous negotiations as a template for a new situation. Instead, we must work diligently to uncover new conditions for cooperation. While the US may appease China by continuing to decrease its strategic weapons through bilateral agreements with Russia, other areas of concessions are likely to make more of an impact in the Sino-US nuclear dynamic, including written clarification of US intent regarding nuclear use and the use of its prompt long-range

conventional weapons and restrictions on certain qualitative advancements in its nuclear force.

Seeing Opportunities for Cooperation

US officials are usually the first to argue that China's opacity vis-à-vis its hard capabilities impedes disarmament cooperation. Chinese officials often counter that the US is equally opaque when it comes to intent. Even if China reveals the structure and scope of its strategic nuclear arsenal, they argue, China needs reassurance that the United States will not use its knowledge of China's nuclear force to employ its strategic nuclear weapons or its advanced conventional weapons in a preemptive strike. Chinese leaders would thus want to have knowledge of and confidence in US nuclear intent before disclosing specific information relating to its nuclear capabilities.

This is why China wants the US to sign a formal no first use (NFU) agreement, in which the US commits only to use nuclear weapons in response to nuclear attacks and not in response to large-scale conventional, chemical, biological, or cyberattacks. It would also foreclose the possibility of America providing extended deterrence to its nonnuclear allies.²⁰ This is a move the US has never been willing to make. The closest step it took in this regard was the considerable debate that ensued around the topic under the Obama administration prior to the 2010 nuclear posture review. Ultimately, however, the US decided against adopting an NFU policy. It also rejected a more limited no first *strike* (NFS) policy, which would have prevented the US from carrying out a preemptive nuclear attack (usually aimed to eliminate an adversary's nuclear capabilities or arsenal).²¹

The possibility of the US adopting either a no first use or a no first strike policy under Trump seems even less likely.²² Just as President Trump does not want to restrict US nuclear capabilities, he also strongly disfavours limiting the options available regarding US nuclear use.²³ A fortiori, it is now less likely that the United States will appease China and adopt either an NFU or an NFS policy. This is not to say, however, that other options are not available. A logical antecedent to such agreements could be written clarification of US conditions of nuclear use in the upcoming nuclear posture review.

Specifying Conditions of First Use

The United States has always preferred to pursue a policy of first-strike ambiguity, and this did not change under President Obama. While more restrictive than its predecessors on conditions of US nuclear use, the 2010 nuclear posture review (NPR) nonetheless did not rule out the possibility of the US launching a preemptive nuclear strike in “the most extreme circumstances.” This worries China—especially in light of the superiority of US hard capabilities. The United States could mitigate this threat by specifying the circumstances under which it would consider a nuclear first strike. In fact, according to Scott Sagan, this is precisely what a state’s declaratory nuclear policy is supposed to do: provide transparency and promote confidence.²⁴ What this would look like in practice may vary, but the next nuclear posture review presents a logical platform to provide clarification.

Since 1994, the Department of Defense has reviewed its nuclear posture three times, with the process triggered each time a new president assumes office. This time is no different. Trump has authorized the review and will likely make changes. The new NPR provides Trump with an opportunity to clarify his position and set the stage for nuclear cooperation with China.

In the 2010 NPR, the US pledged to “reduce the role of nuclear weapons in deterring non-nuclear attacks, with the objective of making deterrence of nuclear attack on the United States or our allies and partners the sole purpose of U.S. nuclear weapons.”²⁵ In light of this objective, the report for the first time specified that certain states would be considered outside the purview of US nuclear use, including all non-nuclear states that are party to the NPT and compliant with its conditions. Other states had fewer guarantees, as the report indicated that the US reserved the right to use nuclear weapons if and when these other states are perceived to threaten “the vital interests of the United States or its allies and partners.”²⁶

In China’s case, this presents a wide array of possible attack scenarios. Narrowing the scope of such possibilities and clarifying US strategic intent in the next report could thus be a positive move toward cooperation. One way the US could achieve this would be to eliminate the NPR’s negative security assurance and the vague language relating to US “vital interests” and to insert a statement specifying that any non-conventional attack or large-scale conventional attack waged by an actor

outside the NPT risks US nuclear retaliation.²⁷ Such a statement is a long cry from an NFU statement and is less committal than a no first strike policy, but it nonetheless might be welcomed by China because it lessens the overall ambiguity of US nuclear use vis-à-vis China. Such language, for instance, would imply that the United States is primarily (though not solely) concerned with attacks waged by actors outside the NPT. Of course, many disarmament advocates are likely to see such a statement as going in the “wrong direction,” because it broadens the range of US nuclear options, but this direction is much more likely to be accepted by the Trump administration than others.

Another option, likely to be even more agreeable to the United States, would be to alter the statement so as to widen further the scope of states at risk. The United States could thus include wording to the effect that any nonconventional attack or large-scale conventional attack waged by a nuclear or nonnuclear actor risks US nuclear retaliation. This statement would not mitigate the concerns of other states vis-à-vis conflict escalation, but it might send a favorable signal to China, because it seemingly provides less room for preemptive nuclear action. Such language, for instance, would foreclose the option of the US launching a preemptive nuclear attack on China to stymie the aggrandizement of Chinese nuclear and/or conventional forces.²⁸ It instead would outline a specific condition for US nuclear retaliation, and China would know not to cross this line. To be clear, it is nowhere near an NFS statement, yet the omission of such an option in an explicit list of use conditions could be perceived as an implicit acknowledgement that a first strike is not intended or anticipated. It is also possible that China will sympathize with the US position in this regard, since many Chinese actors who advocate for the abrogation of China’s NFU policy do so on the grounds that China must consider using its nuclear weapons to deter large-scale conventional attacks.

A third option would be to take the conversation out of the NPR and to engage China directly. If preemption is still on the table for certain nuclear or near-nuclear actors and the US would want to make this clear, then words conscripting US nuclear action in the NPR could be seen as inappropriate. It might thus be more advantageous for the US to discuss with China the possibility of a bilateral NFS agreement. Both China and the US would agree that their nuclear forces are meant only for retaliation and not for preemptive strikes against one another. Such

an agreement would still allow the US the preemptive option for so-called rogue nations but would provide China with the confidence that the US does not intend to strike China first. Another potentially favorable feature of such an agreement would be the door it would open to China vis-à-vis abandoning NFU.

China could agree to a bilateral NFS statement and keep its unilateral commitment to NFU unchanged, or it could adopt an NFS policy in place of NFU. The latter could be perceived two ways in the US: some Americans are sure to think that China switching from an NFU to an NFS policy would be a negative development, since it would effectively widen the scope of Chinese nuclear use. Others, however, are likely to see such a switch as a positive indicator of Chinese transparency. This group would comprise those in the US who already believe China has abandoned NFU but not been upfront in saying so. On the Chinese side, replacing its unilateral NFU policy with a joint Sino-US NFS statement has the added benefit of giving it a clear, low-risk alternative to a unilateral abandonment of NFU. China could accept the US NFS invitation and know that in so doing it would not surprise the US or send a signal of ill intent but instead send the signal that China intends to be transparent in its strategic shift and cooperate with others in this transition.

If a joint NFS policy is off the table, the US could consider proposing a “no first use of force” (NFUF) policy, where both states agree to limit the targets of their conventional weapons, specifically stating that neither state will use its conventional weapons to target the other state’s nuclear force. This policy would not be perceived in the US as allowing China to shift its standing policy on nuclear use, and it would go a long way in assuaging Chinese concerns regarding the changing role of US conventional weapons.

Specifying Targets of US Conventional Prompt Global Strike

The rules governing warfare under conventional weapons were significantly disrupted with the advent of the atomic bomb. In fact, many argued that this new technology fundamentally changed the nature of warfare.²⁹ The qualitative difference in the means of destruction, they argued, necessitated a strategic shift in desired ends. Put in terms of a “revolution,” the assumption was that this change was permanent—and

so were the weapons that brought it about. A decade later, Paul Nitze provided a compelling counterargument. Certain advances in US conventional weapons, he argued, made nuclear weapons effectively moot. Their obsolescence would not prohibit the US from meeting its military objectives.³⁰ Though nuclear weapons remain, Nitze's words proved a prescient prelude to what we now know as conventional prompt global strike.

Conventional prompt global strike (CPGS), as the name implies, involves the use of conventional long-range, high-speed, and accurate weapons to strike distant enemy targets. The concept became fashionable long before the military supplied it with an acronym. In fact, the US began focusing on such weapons soon after the fall of the Soviet Union, when it began retracting many of its forward military bases. No longer eye-to-eye with a familiar and singular foe, many US officials argued that the United States should bulwark itself against future security threats by expanding its strike capability. The idea was that the US should be prepared to strike anyone at any time and with the utmost speed.

This aim, however nebulous, was first codified in the 2001 nuclear posture review, which mentioned the tandem use of prompt and precise long-range conventional weapons alongside US nuclear weapons in offensive operations. It also specified that the ideal timeframe was less than one hour.³¹ It wasn't until later that the name "prompt global strike" appeared in an Air Force mission need statement. Subsequently, Congress provided funds to specific Air Force and Navy PGS projects. This money was consolidated in 2008 when Congress explicitly allocated money for the research and development of a CPGS program.³²

Though the program now has dedicated funding, it remains unclear which weapons are most suitable to accomplish the task. Among the various options available, the option to "downgrade" US land- and sea-based intercontinental ballistic missiles and equip them with conventional warheads is among the most worrisome. This recommendation, endorsed by the Pentagon's Defense Science Board, has the advantage of repurposing nuclear weapons cut by US-Russian disarmament efforts and the distinct disadvantage of increasing the potential of miscalculation caused by the indeterminacy of weapon payload.³³

Intercontinental ballistic missiles (ICBM) and submarine-launched ballistic missiles (SLBM) traditionally carry nuclear warheads, and it is thus reasonable for states seeing such weapons en route to fear and

prepare for the worst. With little time to fully evaluate the situation, it is possible that a state might misperceive the situation and believe it is under nuclear attack when, in fact, the incoming weapons are conventional. Though China's NFU policy indicates it would strike only after sustaining a nuclear attack, it is prudent to consider a scenario where China might consider launching its nuclear weapons while under attack.³⁴ If carried out, this strategic shift would increase the possibility that China could accidentally respond to a conventional attack with nuclear force. Another possible scenario with devastating consequences could be the Chinese deployment of nuclear weapons in response to what is perceived to be a nuclear attack on China but what is actually a nuclear or conventional attack on North Korea.

Both scenarios are moot if one believes China will firmly adhere to its NFU commitment in all scenarios. Many US experts, however, doubt this to be the case. In fact, it is known that US development of CPGS has galvanized debate in China on the continued utility of the country's NFU policy.³⁵ If, for instance, China believed the US intended to use its long-range conventional ballistic missiles to strike China's command and control centers or its land-based nuclear weapons, might it feel justified in deploying its nuclear weapons? Alternatively, if such attacks were confirmed and China had remaining nuclear forces, might it use them to discourage another (possibly nuclear) US strike? Several Chinese scholars have answered these questions in the affirmative.

A joint NFUF statement would help lessen the doubt on both sides and subsequently decrease the chance of miscalculation. For China's part, it would have a written commitment by the US that American CPGS forces are not meant for this kind of mission. China would also know that it had communicated to the US in signing an NFUF agreement the severe consequences of such a strike. If the US is not amenable to adopting either a unilateral or bilateral NFUF policy, other options are available, options more narrowly tailored to allay Chinese concerns relating to CPGS.

The primary concern relating to conventional prompt global strike, both in China and the US, is the lack of clarity surrounding the program's mission and targets. The mission needs statement produced by the US Air Force in 2003, for example, states only that the US desires the ability to strike "high-value, difficult-to-defeat targets when most vulnerable." Subsequent reports, however sporadic, have provided little

clarification. It is thus suspected that the US reserves the right to use its conventional high-speed missiles to target, among other things, other states' nuclear weapons pursuant to the aims outlined in the quadrennial defense report and nuclear posture review. Precisely what "other" states the US intends to target/deter has often been left ambiguous, but the quadrennial defense report and NPR have consistently positioned certain "rogue states" and "regional adversaries" at increased risk. Nonetheless, without written clarification, China is likely to assume—and prepare for—the worst.

Reading Chinese military manuals makes this clear. According to the 2013 volume of *Science of Military Strategy*, "Once [US CPGS] has functional capabilities, it will be used to implement conventional strikes against our nuclear missile forces and will force us into a disadvantaged, passive position."³⁶ The reports released from the Track 1.5 dialogues reveal similar reservations.³⁷ The US could easily lessen this perceived threat by making an explicit written statement that Chinese nuclear forces are not among the intended targets of US CPGS. This could be a stand-alone statement or, even more effectively, it could be incorporated into a larger declassified global strike report. Another move likely welcomed by the Chinese would be clarification on the role of US hypersonic missiles. The US also has an interest in clarifying China's intent in this regard.

Limiting Warheads of Hypersonic Missiles

One of the proposed alternatives to using ICBMs and SLBMs for the purposes of US CPGS is to use hypersonic conventional missiles. Since such missiles fly at speeds between Mach 5 and Mach 19, they can certainly achieve the program's objective of striking a target anywhere on earth in a short amount of time. The method of doing so varies: one can choose from the boost-glide variety or the powered-flight cruise missile. The former uses a rocket to launch a glider high into space while the latter uses a rocket only initially and then relies upon a supersonic scramjet for the rest of its flight. The US has tested both weapons to varied success, and while it remains unclear as to whether such weapons will be used for CPGS, the US maintains that they will certainly be limited to conventional missions. China has not provided the same assurance.

Whereas China's primary concern is whether US hypersonic conventional missiles can be used to strike Chinese nuclear targets (a fear

mitigated by a transparency agreement specifying targets), the US is concerned that China will equip hypersonic missiles with nuclear warheads to contravene US missile defense. With their fast speed and shallow trajectory, such missiles are well suited for the task. To date, China has conducted six tests of its hypersonic glide vehicle, the DF-ZF (previously referred to as the WU-14).³⁸ Like the US, these tests have had varied success. China is also reportedly working on a hypersonic cruise missile, though a test has not been confirmed. It is unclear whether China plans for these missiles to take on a conventional or nuclear role, but considering the obstacle presented by US missile defense, the latter would certainly have appeal.

It is thus beneficial to have a conversation about the weapons' strategic utility now, while these technologies are still in their infancy. Banning such weapons or implementing a test moratorium is certainly an option, but if the US were to spearhead such a ban, it would likely be seen by China as just another move meant to maintain US nuclear superiority. If the US refuses to limit its missile defense capabilities, it cannot reasonably assume that China will limit its potential countermeasures. It is also unreasonable to cease testing when the technology can be used by both states for civilian purposes. An alternative approach might be to limit hypersonic missiles to carrying conventional warheads. A requirement of this type admittedly impacts China more than it does the United States, since China is the only one seeming to consider a nuclear hypersonic option. It is thus unlikely to work as a stand-alone request. Instead, one might envision an agreement that links China's hypersonic capabilities with US CPGS capabilities.

Chinese leaders are not pleased with the US CPGS program; they fear that US ICBMs or SLBMs loaded with conventional warheads or US conventional hypersonic missiles will be used to target Chinese nuclear facilities and/or command and control centers. They are also concerned that they will not know if an incoming US ballistic missile is conventional or nuclear. The US has a similar concern with regard to China's hypersonic weapons. It thus might behoove both countries to discuss an agreement delineating which weapons serve which roles. Perhaps, for instance, if China agrees to limit its hypersonic missiles to carry conventional warheads, then the US can agree to do the same and to limit its CPGS weapons to conventional targets. A logical corollary would be for both countries to distinguish their missile bases.

Distinguishing Missile Bases

Currently, China stores some of its conventional and nuclear missiles at the same missile bases. Additionally, some of China's missiles, like the DF-21, are dual capable, meaning they can be loaded with conventional or nuclear warheads. Both of these scenarios present problems. First, the coupling of China's conventional and nuclear forces can make it difficult for adversaries to appropriately recognize and respond to an incoming Chinese missile. They might, for instance, mistake a Chinese conventional missile for a nuclear missile and respond with what they perceive to be a second strike but what is in reality a first strike. Second, the collocation of China's missiles could cause a state meaning to strike China's conventional forces to accidentally strike its nuclear forces—again resulting in a de-facto first strike. Both scenarios increase the possibility of inadvertent escalation.

This issue is not entirely unlike the US CPGS dilemma, and it presents both states with an additional opportunity for cooperation. In particular, both states could benefit from distinguishing their missile bases. Some bases would be designated for conventional weapons only, and others would be reserved for nuclear weapons. Ideally, these bases would be a great distance from one another and the agreement would specify a circumscribed range for mobile missiles. In this scenario, both types of bases and missiles would need to be distinguishable via satellite imagery to abet verification of treaty compliance. The rules on "deployment zones" set forth in the START and New START treaties provide a useful example.

While increased transparency increases China's vulnerability to a first strike, the gains of such an agreement could offset this disadvantage. In particular, such an agreement seemingly supports a long-held strategic principle of China: that conventional and nuclear weapons should constitute unique and separate spheres of warfare. Evidence of this position is replete in both Chinese scholarship and Track 1.5 dialogues. When discussing the truths governing China's nuclear strategy, for instance, Chinese nuclear expert Sun Xiangli stated, "Conventional weapons and nuclear weapons cannot be uttered in the same breath."³⁹ Similarly, Tsinghua University Prof. Li Bin says no state should accept "fuzzy boundaries" between its conventional and nuclear forces.⁴⁰ Though Li was oblique in his reference, other sources have explicitly admonished the US and its CPGS program in particular, for "blurring the lines between nuclear and conventional weapons."⁴¹ If the Chinese leadership

genuinely holds these beliefs, then they might welcome an agreement that creates space (both geographically and strategically) between US CPGS forces and nuclear forces.

Confirming Targets of US Missile Defense

US CPGS is particularly troubling to China when considered in conjunction with advancements in US missile defense. From the Chinese perspective, these two programs are analogous to the “sword and shield,” where US missile defense “shields” the US from Chinese nuclear retaliation and thus disrupts the two countries’ mutual deterrence.⁴² The US has attempted on numerous occasions to assuage such concerns, but to little avail. Many in China remain skeptical.

“We’re not idiots in China who think you are transparent in your BMD intentions,” said one Chinese participant at the 2011 US-China Strategic Dialogue. “It is incredulous to assume that the US BMD efforts are solely targeted at Iran and North Korea.”⁴³ Others argue that the amount of money America has invested in the system is disproportionate to the threat it is supposedly thwarting and thus reveals that China is the intended target.⁴⁴ These statements indicate that US verbal assurances regarding missile defense are not enough. In the words of the Chinese media, the facts on the ground directly refute the “soothing political statements” offered by the US, making its “declarations seem pale and powerless.”⁴⁵

The structure of the system lends credence to China’s criticisms. At present, the three US Air Force early warning radars (located in California, Massachusetts, and Greenland) and the Cobra Dane Radar (located in Alaska), as well as the sea-based X-band radar (SBX) in the Pacific, are likely to detect any incoming ballistic missile from China. If the US follows through on its plan to deploy an additional SBX in the Pacific, this likelihood increases further. Once detected, a Chinese missile is likely to encounter an American ground-based missile interceptor. At present, the US has 36 of these based in Alaska and California, and it plans to increase this number to 44. This puts the Chinese in a precarious position vis-à-vis their second-strike capability. If the US ground-based interceptors were efficient in striking down incoming missiles, then China’s forces would be outnumbered.⁴⁶ (China is currently estimated to have 40 warheads capable of reaching the United States.⁴⁷)

The protracted offense-defense balance between US-Chinese forces is a well-worn topic at US-China Track 1.5 dialogues, and many on the Chinese side believe that US missile defense is not meant to protect the US homeland from so-called rogue nations as much as it is meant to expand the range of offensive military action the US can pursue with impunity. “The intentions of ‘Uncle Sam’ are very clear,” claims Tian Yuan, “to do the same old thing in a new guise and, on the basis of absolute superiority, to build a missile defense system to ensure that it is equipped with both spear and shield, thus reaching its aim of ‘winning without fighting.’”⁴⁸ The Chinese anticipate that this fight is meant for China. The recent deployment of the terminal high-altitude area defense system in South Korea has seemingly bolstered this belief.⁴⁹

The time of the antiballistic missile treaty has come and gone, and there is no indication the US will accept constraints on its defense system. There is also evidence to suggest that the Chinese would not be satisfied with limits that only involved interceptors.⁵⁰ Calls to this end from US and Chinese experts thus appear futile. In this case, while the US has been explicit in identifying the system’s intended “targets,” Chinese leaders have had significant doubts as to the veracity of these statements. Both countries appear at an impasse.

One way to move forward in this area—if even slightly—is to include a statement of intent regarding US missile defense in a bilateral “transparency agreement” between the US and China. Such an agreement would reiterate what the US has already said in other platforms, like the NPR, but it could potentially increase the weight of US declarations. This might especially be the case if such a statement were to be used to assure China on a variety of fronts, including its conditions of nuclear use, its conditions of CPGS use, and its intended CPGS targets. This move would also signal to China that the US is seriously committed to “strategic stability” between the two countries, is capable of considering concerns beyond hard capabilities, and acknowledges that “transparency” is multifaceted. This has particular normative value, because it tacitly disrupts the longstanding Western assumption that China’s nuclear opacity is a major impediment to nuclear cooperation. In this scenario, the US would obviously be making more concessions than the Chinese at first; however, research indicates that such a bold move is necessary to promote mutual de-escalation. Once the US makes the first move, China can follow with greater confidence, and cooperation can move beyond the rhetorical.

Conclusion

Until now, the primary tenor of the disarmament conversation has been quantitative, and the contours of the conversation have been shaped by the US-Soviet experience during the Cold War. Today, however, as we engage with new actors, a new focus is necessary. China, in particular, has made it known that it sees no reason to reduce the number of its nuclear weapons until the sizes of the US and Russian nuclear arsenals are similar to its own.⁵¹ One can conclude from this statement that the US and Russia must work on another disarmament treaty before engaging with China. Such a presumption, however, would be ill founded. As this article has shown, other areas of cooperation exist outside of numeric ceilings and apart from the US-Russian context.

The perceived credibility of the promising actor is paramount in this case. If China cannot trust the United States, then any verbal or written assurance it makes is moot. This is true even if verification mechanisms are in place (such as in agreements limiting hard capabilities), since cheating remains an option. For an agreement to work, each of the parties involved must have confidence that the other is unlikely to defect on the deal.

Rational choice theory suggests that this kind of confidence is formed and fostered through iterative interactions. More specifically, cooperation based upon reciprocity becomes more likely the more states interact.⁵² This rationale was the underpinning of Pres. Ronald Reagan's push for increased communication with the Soviets beginning in 1984. Emphasizing the two states' common interests and shared responsibility as nuclear superpowers, Reagan sought to foster a mutual reduction in nuclear arms through multiple high-level talks. These talks eventually led to the establishment of the Anti-Ballistic Missile Treaty and served as a precursor to subsequent arms control treaties.

While the framework of START and New START might not be appropriate to apply to the Chinese context, one can glean lessons from the US-Soviet experience in terms of building trust.⁵³ President Reagan, for instance, repeatedly emphasized that cooperation hinges upon communication. China and the United States have not yet established official nuclear dialogues, but communication is taking place at lower levels, and much of the information coming out of these conversations can abet the US in facilitating higher-level exchanges. If the US remains committed to lessening the number of nuclear weapons globally and if it desires to lessen the possibility of a nuclear conflict, it has a responsi-

bility to engage China in discussions surrounding conditions of cooperation. This article has outlined several areas where the United States and China have common interests derived from the particular dynamics of the Sino-US relationship, not from the US-Soviet/Russian framework. The hope is the two states will also share common solutions. **SSQ**

Notes

1. This was epitomized by the resolution advanced by John Boehner (R-OH), Ileana Ros-Lehtinen (R-FL), Joe Wilson (R-SC), and Mike Pence (R-IN) in December 2009. See United States Cong., House, *No title*, 111th Cong, 1st Sess. H. Con. Res 217 (2009) (unenacted), <https://www.congress.gov/111/bills/hconres217/BILLS-111hconres217ih.pdf>.

2. "Reciprocity Key to Dealing with Trump's US," *Global Times*, 8 December 2016, <http://www.globaltimes.cn/content/1022482.shtml>.

3. "Why Is the U.S. More Arrogant toward China than toward Russia? China Has Too Few Nuclear Weapons!," *Global Times*, 24 December 2016, <http://military.people.com.cn/n1/2016/1224/c1011-28974094.html>.

4. "Reciprocity Key to Dealing with Trump's US."

5. Gregory D. Koblentz, "Strategic Stability in the Second Nuclear Age," Council on Foreign Relations, November 2014, https://www.cfr.org/report/strategic-stability-second-nuclear-age?cid=otr-marketing_use-nuclear_stability_report/&sp_mid=47456958&sp_rid=a2Rhdmlkc29uQGNmci5vcmcS1.

6. In his keynote speech before the 2009 UN Security Council Summit on Nuclear Non-proliferation and Disarmament, Chinese president Hu Jintao said that China would consider pursuing nuclear arms reductions along with the other powers when the time and conditions were right.

7. Frank Klotz and Oliver Bloom, "China's Nuclear Weapons and the Prospects for Multilateral Arms Control," *Strategic Studies Quarterly* 7, no. 4 (Winter 2013): 3–11, http://www.airuniversity.af.mil/Portals/10/SSQ/documents/Volume-07_Issue-4/2013winter-Klotz.pdf?ver=2017-01-23-121439-620.

8. Koblentz, "Strategic Stability," 32.

9. To be clear, Koblentz is not against the continuation of US-Russian nuclear disarmament, and he does not foreclose the possibility of later cooperation. He merely suggests that in the interim the United States consider expanding its focus to include other nuclear weapons states.

10. Stephen Cimbala, "China's Strategic Nuclear Arms Control: Avoiding the 'Thucydides Trap,'" *Military and Strategic Affairs* 7, no. 3 (December 2015): 79–92, <https://www.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/resources/docs/INSS-Military%20and%20Strategic%20Affairs,%20Vol%207,%20No%203.pdf>.

11. Alexei Arbatov, "Engaging China in Nuclear Arms Control," Carnegie Moscow Center, 9 October 2014, <http://carnegie.ru/publications/?fa=56886>.

12. In January 2017, for instance, Trump suggested that the United States would end its economic sanctions against Russia in exchange for additional nuclear weapon reductions. See Guy Faulconbridge and William James, "Trump's Offer to Russia: An End to Sanctions for Nuclear Arms Cut—London Times," *Reuters*, 16 January 2017, <http://www.reuters.com/article/us-usa-trump-russia-arms-deal-idUSKBN14Z0YE>.

13. Trump has, on several occasions, mentioned his support for a “nuclear-free world,” though he seems to believe it is unrealistic. See Laura Smith-Spark, “Trump: US Must Be ‘Top of the Pack’ in Nuclear Weapons Capability,” CNN, 24 February 2017, <http://www.cnn.com/2017/02/24/politics/trump-interview-nuclear-weapons/>.

14. Admittedly, one could see this move in terms of relative rather than absolute gains, where China’s status elevation is achieved at the expense of the United States’ reputation. The risk here is that China uses the talks as a platform to further highlight the inadequacy of US disarmament efforts vis-à-vis other countries.

15. Though all the dialogues are conducted under the umbrella of the Center for Strategic and International Studies (CSIS), technically the Hawaii talks (labeled the “US-China Strategic Dialogues”) take place under CSIS’ Pacific Forum, and the Beijing talks (labeled the “US-China Strategic Dialogue Nuclear Dynamics”) take place under CSIS’ International Security Program.

16. Though these reports often include their own set of recommendations, not every report is easily accessible or made available to the public in full. The present analysis was informed by a thorough reading of all published reports accessed via public platforms and private request.

17. Jin Yanan, “What Is the Destination of US-Russian Nuclear Disarmament?” Jiefangjun Bao (27 May 2002).

18. Zhang Chongfang, Wang Xiaojun, and Liu Jiang, “US-Russia May Improve Nuclear Weapons Despite Signing Disarmament Treaty,” Xinhua, 11 April 2010.

19. Jin, “What Is the Destination of US-Russian Nuclear Disarmament?”

20. Extended deterrence generally contradicts no first use, because it commits a state to consider nuclear force in response to an armed attack on another state’s territory. The United States first employed extended deterrence during the Cold War to protect fellow NATO members against Soviet invasion. This commitment continues today alongside additional bilateral security guarantees the United States has entered into with Japan, South Korea, and Australia.

21. The debates surrounding conditions on US nuclear use actually delayed the release of the 2010 nuclear posture review. For more information on this distinction, see Michael S. Gerson, “No First Use: The Next Step for US Nuclear Policy,” *International Security* 35, no. 2 (Winter 2010): 7–47, <http://doi.org/dswxrn>.

22. This assessment is supported by the stalled progress of H.R. 669 and S. 200, introduced in January 2017 in the House and Senate. The identical bills did not prohibit the US from conducting a nuclear first strike but required the president to seek and receive congressional approval before doing so. Both bills have been referred to committee, but no further action has been taken.

23. This point is less clear, since Trump provided equivocating statements at the September 2016 presidential debate, saying both that he “would certainly not do first strike” and he “can’t take anything off the table.” See Robert Burns, “Trump’s Stance on Nuclear Restraint Is Ambiguous,” Associated Press, 28 September 2016, <https://elections.ap.org/content/trumps-stance-nuclear-restraint-ambiguous>.

24. Scott D. Sagan, “The Case for No First Use,” *Survival* 51, no. 3 (June 2009): 163–82, <http://doi.org/fgdf5v>.

25. Department of Defense (DOD), *Nuclear Posture Review Report* (Washington, DC: 6 April 2010), 17, https://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

26. DOD, *Nuclear Posture Review Report*.

27. This language leaves open the possibility of countering a cyberattack with nuclear force—something likely to appeal to US strategic interests vis-à-vis China in particular.

28. A fear of such a possibility is evident in Chinese writings; see, for instance, Jen Hui-wen, "Causes Underlying the Rise of China's International Strategic Status," *The Hong Kong Economic Journal*, 11 August 2006.

29. Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989).

30. Paul Nitze, "A Threat Mostly to Ourselves," *New York Times*, 28 October 1999, <https://nyti.ms/2pUp4Nw>. A similar argument was famously made in 2007 by the so-called gang of four. See George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "A World Free of Nuclear Weapons," *Wall Street Journal*, 4 January 2007, <https://www.wsj.com/articles/SB116787515251566636>.

31. The "pitch" for conventional prompt global strike (CPGS) often includes the claim of striking targets anywhere in the world (hence the "global" in the name), but the advanced hypersonic weapons and other weapons being tested for this purpose do not have this range. See James M. Acton, "Prompt Global Strike: American and Foreign Developments" (testimony before the House Armed Services Subcommittee on Strategic Forces, 8 December 2015), <https://armedservices.house.gov/legislation/hearings/prompt-global-strike-american-and-foreign-developments>.

32. Prior to 2008, Congress had allocated funds to separate Navy and Air Force PGS programs.

33. This hints at the bureaucratic self-interest involved in Defense's promotion of CPGS. DOD, *Report of the Defense Science Board Task Force on Future Strategic Strike Forces* (Washington, DC: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, February 2004), 5-1, <https://fas.org/irp/agency/dod/dsb/fssf.pdf>.

34. In this scenario, the first "use" of nuclear weapons would be interpreted to mean deployment and not necessarily detonation.

35. For an extended discussion of this debate, see Susan Turner Haynes, *Chinese Nuclear Proliferation: How Global Politics Is Transforming China's Weapons Buildup and Modernization* (Lincoln: University of Nebraska Press, 2016), 136–48.

36. Michael S. Chase, "Nuclear Policy Issues in the 2013 Edition of the Science of Military Strategy: Part I on Nuclear Policy, Strategy, and Force Modernization," *China Brief* 15, no. 11 (2015): 4–8, https://jamestown.org/wp-content/uploads/2015/05/China_Brief_Vol_15_Issue_11_2.pdf?x87069.

37. Michael Glosny and Christopher P. Twomey, "U.S.-China Strategic Dialogue Phase V: 'Connecting Long Term Goals to Contemporary Policy,'" *Strategic Insights* 9, no. 2 (Fall 2010): 86, <http://edocs.nps.edu/npspubs/institutional/newsletters/strategic%20insight/2010/GlosnyM10.pdf>; Michael Glosny, Christopher Twomey, and Ryan Jacobs, *US-China Strategic Dialogue: Phase VII Report, Report no. 2013-005* (Monterey, CA: Naval Postgraduate School Center on Contemporary Conflict, May 2013): 8, <https://www.hSDL.org/?view&did=739908>; "8th China-US Dialogue on Strategic Nuclear Dynamics: Key Findings and Recommendations," *Issues & Insights* 14, no. 1 (November 2013): 3, <https://www.csis.org/analysis/issues-insights-vol-14-no-1-8th-china-us-dialogue-strategic-nuclear-dynamics>; and Ralph A. Cossa, Brad Glosserman, and David Santoro, "Reaching an Inflection Point? The Tenth China-US Dialogue on Strategic Nuclear Dynamics US Perspectives," *Issues & Insights* 16, no. 20 (December 2016): vi, <https://www.csis.org/analysis/issues-insights-vol-16-no-20-reaching-inflection-point-tenth-china-us-dialogue-strategic>.

38. See Acton, "Prompt Global Strike."

39. Sun Xiangli, "China's Nuclear Strategy: Nature and Characteristics," *World Economics and Politics* 9 (2006): 23–28, http://caod.oriprobe.com/articles/20203470/China_s_Nuclear_Strategy__Nature_and_Characteristics.htm.

40. Li Bin, "China's Potential to Contribute to Multilateral Nuclear Disarmament," *Arms Control Today* 41, no. 2 (2011): 22, <http://www.jstor.org/stable/23629068>.

41. Tan X, "Strategic Nuclear Review: New Change, Old Mentality," *Xinhua*, 20 March 2002.

42. Chris Twomey, Michael Glosny, Diana Wueger, and Ryan Jacobs, *China-US Strategic Dialogue, Phase IX Report* (Monterey, CA: Naval Postgraduate School, December 2016), 5, <http://hdl.handle.net/10945/51930>.

43. Eben Lindsey, Michael Glosny, and Chris Twomey, *Conference Report: US-China Strategic Dialogue, Phase VI* (Monterey, CA: Naval Postgraduate School, November 2011), 12, <https://www.hsdl.org/?view&did=709606>.

44. Michael Glosny and Chris Twomey, *Conference Report: US-China Strategic Dialogue, Phase V* (Monterey, CA: Naval Postgraduate School, October 2010), 88, <http://hdl.handle.net/10945/828>.

45. Lu Yansong, "How the Russians View the Nuclear Shield and Radar Stations," *Renmin Wang*, 24 December 2002.

46. Chinese experts plan against an optimized US missile defense system, but the current success rate of the system hovers around 55 percent (with interceptors hitting and destroying their intended targets in 10 out of 18 tests). As a result, the Pentagon has estimated that five interceptors would be necessary to assure the destruction of an incoming missile.

47. This includes 10 single-warhead DF-5 ICBMs (designated DF-5A) and 10 DF-5 ICBMs uploaded with three warheads each (designated DF-5B). (See Hans M. Kristensen and Robert S. Norris, "Chinese Nuclear Forces, 2016," *Bulletin of the Atomic Scientists* 72, no. 4 (2016): 205–11, <http://doi.org/f8xpvx>.) This does not include China's MIRVed DF-41 believed to be in development or very recently deployed. Reports of deployment emerged 24 January 2017, though this has yet to be independently confirmed. If true, this will substantially increase the number of warheads China has that are capable of reaching the United States.

48. Tian Yuan, "History Will Ask the Question," *PLA Daily*, 28 June 2001.

49. US-China Dialogue on Strategic Nuclear Dynamics, "Key Findings" (symposium, Washington, DC, 22–23 March 2017), 2, <https://www.csis.org/events/us-china-dialogue-strategic-nuclear-dynamics>.

50. A Chinese participant at the December 2016 dialogue noted that the "[BMD] system itself, rather than current number, is key to the problem." See Glosny, Twomey, Wueger, and Jacobs, *US-China Strategic Dialogue, Phase IX Report*, 7.

51. Michael Nacht, "The Global Nuclear Environment," in *Routledge Handbook of Nuclear Proliferation and Policy*, ed. Joseph F. Pilat and Nathan E. Busch (New York: Routledge, 2015), 21.

52. This follows rational choice theory. See Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984); and John K. Setear, Kenneth W. Abbott, Peter Arenella, and Stephen Yeazell, "An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law," *Harvard International Law Journal* 37 (Winter 1996), <http://faculty.virginia.edu/setear/cv/hilj.pdf>.

53. This is not to say that the US-Soviet experience provides a perfect model. In fact, research indicates there were many missed opportunities for cooperation. See Deborah Larson, *Anatomy of Mistrust: US-Soviet Relations during the Cold War* (Ithaca, NY: Cornell University Press, 2000).

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