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Nancy W. Gallagher

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Re-thinking the Unthinkable: Arms Control in the Twenty-First Century

Nancy W. Gallagher

ABSTRACT

Since the end of the Cold War, arms control proponents tried to make the case for deep nuclear reductions and other forms of security cooperation as necessary for strategic stability. While different versions of strategic stability analysis did sometimes produce innovative proposals, constructive negotiations, and successful ratification campaigns in the past, this analytical framework has become more of a hindrance than a help. Treating arms control as a predominantly technical way to make deterrence more stable by changing force structure characteristics, military operations, relative numbers of weapons on either side, or total number of nuclear weapons gives short shrift to political factors, including the fundamental assumptions about world politics that inform different arms control logics, the quality of political relations among leading states, and the political processes that affect negotiation, ratification, and implementation. This article compares two logics for arms control as a means to enhance strategic stability, one developed by the Cambridge community in the 1960s and one used by the Reagan administration and its successors, with current perspectives on strategic stability in which flexibility and freedom of action are preferable to predictability and arms control. It also contrasts what the Barack Obama administration has tried to achieve through strategic stability dialogues with Russia and China with how they envision security cooperation. It then presents an approach developed during the Cold War by Hedley Bull for thinking about both the technical and the political dimensions of arms control, and suggests that the logic of Cooperative Security (which shares important features with Bull's approach) is a more appropriate and productive way to think about arms control in the twenty-first century than strategic stability analysis is.

In the 1962 classic work, *Thinking about the Unthinkable*, futurist Herman Kahn exhorted readers to think dispassionately about nuclear war because rigorous rational analysis could save lives.[1] He believed that the United States could reduce nuclear risks to the lowest possible level by optimizing its own choices about its offensive and defensive capabilities, but some of his fellow strategists countered that decisions which might seem rational to a superpower seeking self-protection could increase incentives for potential adversaries to

make choices that could drive arms races, exacerbate crises, and potentially cause a nuclear war that neither side wanted. In 1961, Thomas Schelling and Morton Halperin formulated what became the classical Cold War logic for arms control to enhance strategic stability by analyzing how rational nuclear adversaries could use legally binding agreements and less formal cooperative measures to reduce the risks of war, the consequences should war occur, and the costs of military preparations.[2]

As US-Russian relations grew less adversarial and nuclear weapons less salient after the Cold War, arms control proponents tried to obtain steep reductions in nuclear arsenals by framing them as necessary for strategic stability in a more complex, interdependent world. But policy makers' main preoccupation went from avoiding nuclear war to countering proliferation, terrorism, and civil violence. Many who had been strong advocates for legally binding arms control when two ideologically opposed superpowers had tens of thousands of nuclear weapons that could destroy the world decided during the 1990s that Cooperative Threat Reduction (CTR) projects and voluntary transparency and confidence-building measures (TCBMs) could reduce shared nuclear threats faster than treaties that required lengthy negotiations and contentious ratification battles. The George W. Bush administration considered formal arms control not just unnecessary, but dangerous and destabilizing if it hindered the development, stockpiling, or use of whatever military capabilities the United States needed to secure itself against potential peer competitors and asymmetrical threats in a world of rapid and unpredictable technological change. As the United States vigorously pursued missile defense and precision conventional offense, Russia and China became increasingly interested in preserving their own freedom of action to emulate or offset US military advantages.

Arms control supporters around the world hoped that President Barack Obama would reverse this trend. During his first 100 days in office, Obama delivered a speech in Prague where he exhorted world leaders to take bold steps toward a world without nuclear weapons, warning that proliferation and terrorism made the risk of nuclear attack higher than during the Cold War.[3] But after negotiation and ratification of the 2010 New Strategic Arms Reduction Treaty (New START), the first item on Obama's Prague agenda, proved harder than hoped, optimism about deeper cuts in nuclear weapons and US ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) was replaced by pessimism about whether formal arms control would ever again be important in US security policy.[4]

This decline of interest in arms control is often explained as an inevitable result of the Cold War's end and trends associated with globalization, including increased economic interdependence and the empowerment of non-state actors. It should be seen instead as the result of analytical choices that shape how policy experts think about security in a complex, ambiguous, interdependent, and rapidly changing world. Unilateralists, who believe that policy makers should do whatever will maximize national power without constraints imposed by international law or cooperative agreements, have deliberately sought to erode the knowledge, expertise, and political support required for arms control to remain an important component of US security strategy. However, experts who still argue in technical terms about arms control to enhance strategic stability are accepting conceptual constraints that inhibit innovative ideas about forms of cooperation that fit current global security challenges. They are also inadvertently playing into unilateralists' blocking strategies by assuming that the only types of arms control that can get the necessary level of domestic political support are ones that other states cannot accept, while any

type of arms control that would meet their ideas about strategic stability would be a "non-starter" in the United States.

Strategic stability analysis depicts arms control as narrow, technical constraints on military capabilities or behavior that potential adversaries can devise to reduce the risks and costs of competition. A particular measure's effects on strategic stability depend on how the resulting changes to force structures, operational practices, or available information alter incentives to attack, escalate, launch on warning, pre-empt in a crisis, cheat on the agreement, or acquire additional military capabilities not constrained by the accord. This analysis treats political, social, and psychological factors as exogenous variables that affect the probability of war but are beyond strategists' control, or as constraints on rational decision making. Arms control decisions are thought to be inappropriately "politicized" when national leaders or domestic groups take positions that differ from what more "objective" technical assessments indicate would make deterrence more robust and crises less likely to escalate into nuclear war. But little can be accomplished by trying to "depoliticize" arms control, for example, by delegating controversial questions to technical experts working from scientific laws and empirical evidence that transcend their national loyalties and partisan political affiliations, or by sticking to lowest-common-denominator voluntary accords that do not require Senate ratification.

I argue that answers to the most basic questions about arms control—including what the central security problem is, what forms of cooperation might be desirable, and what verification and compliance arrangements would be needed for potential benefits to outweigh costs and risks—depend on beliefs about inherently political issues, ranging from the utility of nuclear weapons and missile defense to the nature of international relations. Analyzing arms control as a technical way to enhance strategic stability requires treating these beliefs as factual "first principles," from which all right-minded policy makers and analysts should reason. The technical focus of strategic stability analysis offers little guidance about how to achieve consequential agreements among states and domestic groups who genuinely want arms control but are reasoning from different first principles, or how to neutralize those who want to block new treaties by ensuring that negotiable agreements could not be ratified, or that requirements for domestic support are unacceptable to negotiating partners. And because arms control is inherently political, analyzing it as a technical means of enhancing strategic stability misses what could be its most important potential contribution to global security: to progressively increase order and a sense of society among sovereign states while decreasing the role that threats and use of force play in maintaining mutual security.

The first section of this paper contrasts two very different logics for arms control to enhance strategic stability that have dominated US policy debates at different times, the "Cambridge Community" logic spelled out in Schelling and Halperin's 1961 book and the "Arms Control for American Advantage" logic used during the Reagan administration. The second section explores how conflicting ideas about arms control and strategic stability in US security dialogues with Russia and China are increasing mistrust rather than building confidence and facilitating cooperation. The third section presents an alternative way of thinking about arms control developed during the Cold War by Hedley Bull, an Australian scholar who shared some of the Cambridge Community's views but also raised uncomfortable political questions, causing his work to be marginalized by his American peers such that few arms control experts know much about him today. The

final section suggests that an updated version of the "Cooperative Security" logic offers a more productive way of thinking about the political and technical dimensions of arms control in the twenty-first century. It also outlines how this approach could help rejuvenate interest in formal arms control, make international dialogues and negotiations more constructive, and counter unilateralists' efforts to use arms control advocates' own way of thinking about the subject to convince them that it is no longer worth the effort.

Arms Control and Strategic Stability: Technical Analysis Built on Political Assumptions

The unprecedented destructive power of nuclear weapons—and the impracticality of monopolizing their possession or defending against their use—posed an urgent problem for the best minds in the US security community after World War II. Borrowing a concept from physics, they compared deterrence to a form of equilibrium that was more or less stable depending on how easily superpower relations would return to their normal condition (wary peace) after being disturbed rather than deteriorate into World War III. As Soviet nuclear capabilities increased during the 1950s, so did the number of US security experts who concluded that stable mutual deterrence would not arise automatically from unilateral decisions but required careful national effort and some cooperation between potential adversaries. They sought to determine what combination of weapons acquisition and preparations for use, informal reciprocal restraint on capabilities and behaviors, and legally binding arms control would move the international system toward a configuration where the risk of catastrophe was extremely low. This analytical approach has remained central to US arms control policy from the Dwight D. Eisenhower through the Obama administrations, but the first principles used to assess what types of arms control would enhance strategic stability have changed radically.

To do these technical assessments, analysts must make some general assumptions about international relations and some more specific assumptions about the security problem that some form of cooperation might help address. These assumptions are often taken as givens because they are shared with other members of the "epistemic community" within which a particular approach to arms control and strategic stability is being developed at a particular time.[5] For example, arms control analyses rest on often implicit assumptions not only about other states' intentions, but also about how deterrence works and what determines the prospects for cooperation among sovereign states in a world with no overarching authority.[6]

The negotiating positions and agreements that flow from these assessments can generate intense disputes with other states or domestic groups that do not make the same starting assumptions about key aspects of security policy. Arguments about "essentially contested concepts" like foreign leaders' intentions or requirements for deterrence stability cannot be authoritatively settled "because they contain an ideological element which renders empirical evidence irrelevant as a means of resolving the dispute."[7] At best, they can be provisionally resolved by political means, as one set of assumptions about international politics, nuclear weapons, and arms control comes to dominate national and international decision-making processes, or when domestic groups and national negotiating teams operating from diverse logics find the same cooperative measures attractive for different reasons.

Compared to the level of consensus on core concepts in physics and the durability of scientific paradigms, assumptions used to calculate the effects of arms control on strategic stability have been weakly established and are easily changed, more for political reasons than because prior assumptions were empirically disproved. During détente and at the end of the Cold War, when arms control supporters hoped that their ideas were beginning to have a significant impact on security policy and that conditions were becoming more conducive to major agreements, a political backlash produced a reformulation of the strategic stability logic that undercut prospects for cooperation by emphasizing the alleged stability benefits of US military superiority and freedom of action. Yet, the more thoroughly analysts have been trained to think about arms control as technical measures to enhance strategic stability, the less prepared they are to understand how politics shape preferences and outcomes.

Arms control supporters and critics alike often assert that there is one theory, or "orthodoxy," underlying all work in this area, but that reflects a very narrow conception of what arms control is and how it affects security. I define arms control broadly to include any cooperative constraints on security-related capabilities or behavior among sovereign states with a mix of common and competing interests, ideologies, and values. Four very different strategic logics featured prominently in US arms control policy during the Cold War.[8] These logics provide a coherent conception of what the major security threats are, how cooperation could help address them, how verification and compliance issues should be handled, and where initial cooperative steps should be designed to lead.

The earliest debates about what, if any, nuclear cooperation the United States should pursue with the Soviet Union pitted members of the 1946 Acheson-Lilienthal Committee—which argued that the dual-use nature of nuclear technology could only be effectively managed through an international agency—and their supporters (using what I call the logic of International Managerial Control) against a much larger group of policy makers and security experts who used a unilateralist logic to argue that the United States should try to maximize the military and political benefits of maintaining US nuclear superiority for as long as possible.[9]

The idea of using partial arms control to enhance deterrence stability, rather than taking an all-or-nothing stance on disarmament, originated in the early 1950s, when neither US-Soviet relations nor domestic politics in either superpower was conducive to cooperation. A State Department advisory committee chaired by Robert Oppenheimer argued that Soviet acquisition of nuclear weapons made reliable international control impossible, and unfettered competition suicidal. It recommended bilateral negotiations to limit the number and type of national nuclear capabilities so that neither side feared a "sudden knock-out blow," using verification that could detect major violations without demanding more transparency than the USSR could tolerate. The advisers recommended sustained efforts to make political conditions more conducive to limited arms control by educating Americans and allies about why US nuclear superiority could not provide long-term security, while engaging diplomatically with the Soviets to understand their attitudes, intentions, and capabilities. The stakes could not be higher, they warned, because "fundamentally and in the long run, the problem which is posed by the release of atomic energy is a problem of the ability of the human race to govern itself without war."[10]

Since then, though, US arms control experts have devoted far more attention to technical aspects of arms control than political dimensions. American experts making the case for arms control have disproportionately been nuclear physicists, engineers, systems analysts, strategists, and economists, who are more comfortable with—and confident in—sophisticated technical analyses compared with "softer" social science approaches—a bias with a self-reinforcing effect on who enters and excels in the arms control field. Moreover, these scientists' and civilian strategists' claim to provide US leaders with more reliable recommendations about nuclear policy than military officers can rests on their ability to analyze complex, highly uncertain problems using a few powerful simplifying assumptions, disciplined logic, and esoteric quantitative methods.[11] Even some US diplomats, social scientists, and politicians have tried to frame arms control decisions as issues that should be decided on their technical merits alone—a tempting strategy when treaty ratification requires support across party lines, but one that often backfires by obscuring how opponents use unfalsifiable technical claims to justify opposition to an accord that is really driven by more political or parochial motives.

In *Strategy and Arms Control*, Schelling and Halperin laid out the "Cambridge Community" logic for using modest arms control to increase deterrence stability at lower cost and risk, rather than using more ambitious proposals to promote nuclear disarmament or preserve US nuclear advantages.[12] They argued that mutual nuclear vulnerability gave the ideologically opposed superpowers one overarching shared interest: preventing all-out nuclear war. Schelling and Halperin recommended that the superpowers use explicit agreements and tacit reciprocal restraint to ensure that disincentives would always outweigh incentives to launch a surprise attack, pre-empt in a crisis, or escalate rapidly to all-out nuclear war, and to guard against nonrational reasons for deterrence failure. They thought that the risk of nuclear war depended more on the technical characteristics of both sides' force postures than on the relative strategic balance or the size of nuclear stockpiles. Therefore, they recommended cooperative steps to help both sides maintain secure retaliatory capabilities and reliable command, control, communication, and intelligence arrangements, rather than very large force structures optimized for rapid attack on nuclear weapons, satellites, and leadership targets, plus defenses against whatever retaliatory capabilities the other side retained.[13] They also proposed norms and TCBMs to minimize miscommunication, misperception, and provocative military operations.

Rather than insisting that intrusive inspections and other transparency arrangements must be proven effective before any cooperative controls on military capabilities could be established—the US position during the first nuclear decade, when both superpowers took mutually incompatible positions that caused deadlock in negotiations on "general and complete disarmament" negotiations—Cambridge Community members argued that national technical means of verification would be "adequate" for limited arms control if they could deter or detect militarily significant violations in time to prevent damage to national security. And, rather than equating arms control compliance management between sovereign states with law enforcement inside them, Schelling and Halperin depicted it as a continuation of negotiations about what the agreed rules meant, whether or not they were being followed, why noncompliance might be occurring, how it could be fixed, and what the consequences would be if it continued.

Framing the debate as a rational, technical analysis of which modest arms control measures would reduce the risks and costs of deterrence had more domestic and

international appeal than the more extreme positions advanced by those who argued for unfettered nuclear competition or complete nuclear disarmament. The Cambridge Community logic provided the intellectual underpinnings for bilateral and multilateral agreements that helped slow proliferation, restrain the arms race, manage crises, and strengthen the norm of nuclear non-use. But instead of generating positive momentum for more ambitious nuclear reductions, the 1972 Anti-Ballistic Missile (ABM) Treaty and the Strategic Arms Limitation Talks, or SALT I and II, stimulated a backlash from the Committee on the Present Danger and other Americans who claimed that the Soviets were using arms control to "lull" the West while they gained nuclear superiority and coercive bargaining leverage.

The 1980 election brought to power policy makers with very different assumptions about nuclear weapons, strategic stability, and arms control. Officials in the Ronald Reagan administration thought the fundamental source of insecurity was aggressive, untrustworthy Communist leaders with nuclear weapons, not the technical characteristics of superpower weapons that increased first-strike incentives, or the security dilemma and arms race dynamics in which US nuclear policies could be as destabilizing as Soviet choices. The new group of policy makers was convinced that the USSR had a nuclear war-fighting doctrine, not a commitment to stable mutual deterrence, so they believed that the United States needed quantitatively and qualitatively superior war-fighting capabilities to prevent Soviet coercion, deter Soviet attack, and limit damage to the United States and its allies if deterrence failed.[14]

In the concept of strategic stability used by Reagan officials, even small shifts in the relative balance of power that favored the USSR could be disastrous. Some, like Richard Perle and Casper Weinberger, were unilateralists who only wanted the United States to participate in arms control negotiations for public relations reasons, insisting on provisions that would appeal to US and international public opinion but be anathema to the Soviet Union. Others, like Reagan, George Shultz, and Paul Nitze, thought that US security could be improved by concluding arms control agreements based on what I call the "Arms Control for American Advantage" logic. The only offensive arms limitations that made sense to them were ones that reduced or eliminated Soviet military advantages while leaving US advantages intact. Many constraints that the Cambridge Community thought would be mutually beneficial—including a comprehensive ban on nuclear tests to hinder horizontal and vertical proliferation and prohibitions on antisatellite attacks to protect imagery and communication systems used for arms control, early warning, crisis management, and war termination—the Reagan administration considered foolhardy restrictions on US freedom to develop and use whatever advanced military technologies it could to deter or defeat Soviet aggression.

The starkest difference involved the ABM Treaty. Cambridge Community members considered it their most important achievement because they believed that comprehensive defense against ballistic missiles was technologically, economically, and strategically impossible. They also thought that deploying a "thin" defense of a few cities or missile silos would incentivize both superpowers to keep building more offensive weapons that could overwhelm whatever defenses the other side deployed at a fraction of the cost, and would tempt both sides to strike first in a crisis, in hopes of destroying enough of the other side's intercontinental ballistic missiles that their own partial missile defense system could reduce damage from a retaliatory strike to some acceptable level. Reagan's

Strategic Defense Initiative, by contrast, sought to develop a comprehensive missile shield if the ABM treaty's limits were relaxed, and later removed. Many of his advisors doubted such a shield was technically feasible, but they believed that deploying as much missile defense as possible would enhance deterrence stability by increasing Soviet uncertainty about their ability to attack the United States.

The Arms Control for American Advantage standard for "effective" verification was much more stringent than the Cambridge Community's requirements for "adequate" verification, verging on the unilateralists' demands for "foolproof" verification in the first decade of the Cold War.[15] Different members of the Reagan administration had different reasons for reverting back to the pre-Cambridge Community practice of demanding the Soviets agree to on-site inspections (OSIs) and other transparency measures to prove their sincerity as a pre-requisite for serious negotiations. Unilateralists in the administration were confident that Soviet leaders would never accept OSIs, while Reagan hoped that they might fear the consequences of continuing to fall behind the United States in the arms race even more than they disliked intrusive inspections. Reagan officials justified their extensive verification demands by asserting that even low-level cheating could give the Soviets some military or political advantage and that arms control would only serve US security interests if the United States could quickly get whatever access and evidence was needed to convince Congress and the American people to support vigorous enforcement against any infractions.

By 1983, Soviet reactions to Reagan administration efforts to advance its conceptions of deterrence stability and arms control had caused nuclear negotiations to deadlock again. University of Massachusetts Boston's Carol Cohn, who spent a year in the mid-1980s as a participant-observer at the Defense and Arms Control Studies Center at the Massachusetts Institute of Technology (MIT), argued that using a strategic stability framework to think about arms control was a big part of the problem. To communicate with and be taken seriously by her new colleagues, she had to learn their "technostrategic" language and reason within their abstract logic system. Employing euphemisms like "collateral damage" for civilian victims, romanticizing weapons systems that "marry up," and calculating which side would have more surviving weapons under different nuclear war scenarios, helped Cohn think calmly and carefully about ways to reduce nuclear risks during one of the tensest times of the Cold War.[16] But it also kept her from questioning assumptions and practices that everyone else took for granted, such as planning based on worst-case projections about future Soviet capabilities without regard for less quantifiable, but equally important information about behavior or intentions. The more Cohn immersed herself in the language and logic of strategic stability, the less she could think about things outside this analytical framework, such as what political ends could be served by a nuclear exchange, regardless of which side had more surviving weapons. When she did "break through the numbing language of strategic analysis and raise issues in human terms," her points were "dismissed easily … (as) inexpert, unprofessional, and irrelevant to the business at hand."[17] Therefore, she concluded that the benefits of thinking and talking like a nuclear insider were outweighed by the conceptual and moral costs, so she left that policy community, vowing to help create an alternative conception of rationality and a more human approach to security policy.

Others in the Cambridge Community blamed domestic politics for the renewed arms race and stalled negotiations because they believed that their technostrategic analysis had

already solved the most important questions, such as how much verification was enough to make the benefits of a given arms control agreement outweigh the costs and risks. Harvard University's Steven E. Miller recommended regular, low-profile, strategic consultations rather than treaty negotiations as the best way to pursue cooperative nuclear risk reduction until US leaders returned to the Cambridge Community's way of thinking about nuclear weapons as useful for retaliatory deterrence only, not for coercive threats or actual nuclear warfighting purposes.[18]

Soon after Miller published his critique, Reagan toned down his confrontational rhetoric and began more serious negotiations that resulted in a string of major nuclear treaties. Contrary to claims that Reagan had embraced the Cambridge Community's logic after he realized that his confrontational policies had brought the superpowers to the brink of inadvertent nuclear war, all of the nuclear accords negotiated during and around the end of the Cold War fit Reagan's logic for strategic stability more than the Cambridge Community's assumptions.[19] Yet, many of the Cambridge Community arms control supporters who had thought that Reagan's assumptions were wrong and his reasoning flawed before the 1987 Intermediate-range Nuclear Forces Treaty was signed embraced Reagan's arms control policies after they led to Soviet acceptance of accords that had sufficient Republican support for ratification—without realizing how radically Reagan's arms control logic differed from their original starting assumptions.

Most of the world expected that the end of superpower hostility and growing global economic interdependence would lead to deep cuts in nuclear weapons, bans on nuclear weapons testing and fissile material production, and rapid agreement on other cooperative responses to legacy problems and emerging global security challenges. But the Bill Clinton administration had great difficulty even preserving the ABM treaty in the face of united opposition from Republicans who shared Reagan's logic for cooperation and as well as those who opposed all arms control. In contrast with the anti-détente backlash, though, opponents were not trying to reshape the underlying assumptions of US arms control policy, but to completely eliminate formal arms control as an important component of US security strategy. Pure unilateralists like British strategist Colin Gray and Senator Jesse Helms argued that, since the United States had become the sole superpower and was facing new types of asymmetrical threats from weaker states and non-state actors, it had nothing to gain and a lot to lose from accepting any legally binding limits on its ability to develop, stockpile, and use its superior military capabilities.

The 1999 public debate over US ratification of the CTBT revolved around technical questions about the reliability of the stockpile stewardship program and the risks of undetected foreign testing. But much of the opposition was more politically motivated. Some Republicans who would have supported the treaty had it been negotiated by a Republican administration opposed it for partisan reasons, while other CTBT opponents were unilateralists who privately believed that the United States should be free to test again if it ever wanted to do so, even though President George H.W. Bush had announced in 1992 that the United States no longer had any military requirements to conduct nuclear tests for new weapon designs. With the election of George W. Bush in 2000, purely unilateralist views on world politics and arms control that had been held by an intense minority in the Republican Party became the dominant assumptions of US security policy.[20] Bush gave official notice of his plans to withdraw from the ABM Treaty soon after the September 11, 2001, terror attacks, knowing that neither Congress, the Russians, nor US allies

would want to start a contentious political battle when there was a premium on unity. The only strategic arms control agreement Bush signed was a symbolic gesture that required the United States to make unilaterally pre-determined reductions by the day the treaty expired.

Obama's Russia "reset" policy, initiated in 2009, attempted to return bilateral relations as they were under President Clinton. But even if some US arms control officials used something close to the Cambridge Community's logic when thinking about desirable, or at least acceptable, forms of cooperation, the Obama administration took positions in negotiations and ratification debates that relied heavily on the Reagan administration's logic for arms control in the hopes of gaining sufficient Republican support for ratification. Obama's Prague speech expressed a sincere desire to eliminate all nuclear weapons, much as Reagan and Gorbachev had also personally each aspired to do. But as with the original START agreements, the 2010 New START accord makes incremental reductions in the number of deployed strategic warheads and delivery vehicles that both sides can retain, which are still well above the number needed for devastating retaliation under any realistic scenario. It places no special restrictions on nuclear weapons optimized for initiating a damage-limiting attack against military and leadership targets (where the United States enjoys a large advantage) and does little to constrain US advantages in non-nuclear precision strike weapons. New START includes nothing to replace ABM Treaty limits that were terminated in 2002. Instead, its resolution of ratification includes provisions designed to avoid any future legal limits on US missile defense capabilities at the same time that it commits the executive branch to spend huge sums on modernizing US offensive strategic capabilities and to seek an agreement that addresses Russia's advantage in tactical nuclear weapons. New START supporters also framed its key contribution to US security in adversarial terms as restoring intrusive verification arrangements that expired along with START I in 2009 which are needed not only to deter or detect any Russian violations, but also to catch preparations they might make for withdrawal and renewed nuclear competition.

Despite fitting Reagan-era arms control criteria, ratification of New START was more difficult than expected, and its margin of support was much lower than that for arms control accords around the end of the Cold War. All Democrats and independents voted for New START, but few cared as much as they had before. The intensity of enthusiasm and breadth of pressure for ratification from advocacy organizations, opinion shapers, and the US public was also lower. Many on the left of the political spectrum were focused on other issues or convinced that the goal of arms control should not be enhancing strategic stability and perpetuating nuclear deterrence indefinitely, but transforming security relations in a more cooperative direction and achieving nuclear disarmament. Twice as many Republicans voted against the treaty as for it, even though its limits were consistent with the George W. Bush administration's nuclear plans. They did so partly to block an Obama initiative, and partly because more Republicans had come to believe that legal constraints on strategic capabilities hurt rather than helped US efforts to achieve its security objectives.[21]

The essays in the 2013 volume, Strategic Stability: Contending Interpretations, show that thinking about strategic stability among US security experts has shifted since the end of the Cold War in ways that leave little room even for a Reaganesque approach to arms control.[22] Rather than arguing that predictability increases stability, as the Cambridge Community and Reagan-era arms control supporters did, these authors assert that flexibility is necessary for the more dynamic concept of stability that fits the rapidly changing,

unpredictable twenty-first century security environment. But if flexibility is essential for dynamic stability and other US policy objectives, then legally or politically binding constraints on US military capabilities and behavior would be detrimental by definition. For example, University of Reading's C. Dale Walton and Colin Gray argue for a "holistic" approach to strategic stability, including efforts to "craft formal and informal institutions that can help diffuse enmity between great powers and allow them to work together to cope with global strategic instability." But they insist that arms control regimes are not helpful because any minor, temporary reassurance they provide will be "easily overwhelmed by the negative events" that are more common and more important determinants of security in an anarchic world.[23]

Much has changed in the thirty years since Cohn's time at MIT, but her argument about the conceptual constraints imposed by strategic stability analysis remains valid. Nuclear policy is still studied and made by a small community of individuals whose claim to expertise rests on their ability to talk fluently about esoteric, highly technical subjects and to reason skillfully within an abstract conceptual system that is based more on mutually accepted assumptions than on empirical evidence. Security policy professionals still assume that a major objective is to make the numbers, characteristics, doctrines, and practices of the major powers' military forces more "stable," however that is defined. Although the probability of deliberate or inadvertent nuclear war between major powers seems much lower now than it did in the mid-1980s, it is still deemed high enough to warrant keeping many thousands of nuclear weapons in US and Russian arsenals, for purposes of homeland or extended deterrence, with a substantial percentage ready to launch at any sign of attack. Homey analogies are still used to make maintaining current nuclear policies seem normal, natural, and moral, such as the claim that although tactical nuclear weapons in Europe serve no military purpose, taking them off the soil of NATO allies would be like removing a "wedding ring"—a public sign that one is no longer committed to a special relationship.[24] Nobody has firmer evidence today than they did three decades ago with which to measure the actual risk of aggression from any specific country, or to calculate the number and type of weapons that are really needed to deter them. Nor does anybody have a reliable way of predicting what current or planned missile defense capabilities actually could do if they were ever used under real-world wartime conditions.

In short, while strategic stability analysis may have helped stimulate creative thinking and build bipartisan support for arms control during the Cold War, it no longer serves those functions. Instead, the technical veneer masks political assumptions that are not conducive to innovative thinking about forms of cooperation that could get the necessary levels of international and domestic political support and make a significant contribution toward addressing twenty-first century security challenges. Independent analyst Pavel Podvig sees shifting ideas about strategic stability and arms control as evidence that, "depending on the politics of the moment, just about any configuration of strategic forces could be declared sufficiently stable or dangerously unbalanced, and any imaginable threat could be brought into the equation or conveniently ignored."[25] But there is an inherent bias in strategic stability theory that, all else being equal, having more national military power, intelligence information, and freedom of action reduces risks, while cooperation with a potential adversary increases them. That conceptual bias makes it easier to use strategic stability to argue against arms control than for it.

Strategic Stability: a Counterproductive Framing for Dialogue with Russia and China

As the unexpected difficulties over New START negotiation and ratification showed, by framing arms control as a means to enhance a Reaganesque form of strategic stability, the Obama administration put itself in a double-bind: any potential future accord that could meet domestic requirements for ratification is unlikely to be acceptable to international negotiating partners, and vice versa. The administration has responded to this double-bind by pursuing most energetically two items on the Prague agenda that would not constrain US nuclear capabilities—the voluntary Nuclear Security Summit process and limits on Iran's nuclear program. After New START, the Obama administration concentrated its nuclear risk reduction efforts with Russia and China on strategic stability dialogues and TCBMs. That these efforts have produced very little compared with the growing causes of instability in US relations with Russia and China is often taken as evidence that neither of these two states are interested in mutually beneficial security cooperation. But all three states have such different ways of thinking about strategic stability that these dialogues may actually be increasing misunderstandings and suspicions rather than allaying them.

Americans with different attitudes toward Russia, China, and arms control have different reasons for making strategic stability dialogues the centerpiece of bilateral security cooperation with states that are often viewed as potential adversaries. Some Americans hope that at least some sources of friction in relations with Russia and China reflect misperceptions that can be dispelled through communication and transparency, making formal arms control unnecessary. Others believe that mutual mistrust has real causes, but can be managed and gradually reduced, if both sides provide more information about their current and future plans, gradually building confidence and creating a more predictable, stable security environment that might or might not include legally binding limits on military capabilities and/or behavior. Still others have no expectations that strategic dialogue will improve security relations or lead to more ambitious forms of cooperation. Instead, they see such sessions as public relations exercises or opportunities to gain adversarial advantage. They hope to spell out what actions by the other side would be "destabilizing" and what "red lines" must not be crossed. They may also seek to impress the other side with US military capabilities and resolve to act if warnings are disregarded; to extract information about the other side's capabilities and intentions, such that the United States can have more confidence in its threat assessments and contingency preparations for future inevitable conflicts; or to use other states' refusal to be more "transparent" as evidence of their hostile intent in order to increase US public and allied support for higher military budgets and more confrontational policies.

In addition to these differing US ideas about the value and purpose of strategic stability dialogues, there are major differences in how Americans, Russians, and Chinese think about strategic stability, what they believe would enhance or degrade stability in specific issue areas, and whether they consider strategic stability to be a useful framework for discussing security cooperation. The net result is that strategic stability dialogues occur at such a high level of abstraction that it is difficult to gauge whether any side is seriously interested in cooperation, let alone whether there are forms of arms control that each side could support.

Before Russia's 2014 annexation of Crimea caused the United States to suspend most bilateral engagement, the Obama administration hoped that its strategic stability dialogue could address concerns about Russia's advantage in tactical nuclear weapons, without limiting missile defense, reducing NATO's conventional military advantage, or going through another ratification battle. In a 2013 speech in Berlin, the president proposed to limit deployed strategic weapons to around 1,000 and reduce tactical weapons in Europe through parallel unilateral initiatives, monitored with the New START verification arrangements.[26] Vladimir Putin, who had recently returned to the Russian presidency, had already indicated that he had no interest in negotiating another treaty that constrained only offensive nuclear weapons, without regard to missile defense or prompt global strike conventional weapons, so Obama officials had little reason to expect him to accept non-binding, parallel unilateral nuclear reductions that the United States could reverse much more easily than Russia could.[27] Yet, an Obama aide warned that if President Putin rejected this unattractive offer, "it will be very tough slogging for the next three years."[28] Obama's nominee to head US Strategic Command also promised senators that the United States would not make any further cuts in its own nuclear stockpile without an agreement with Russia, thereby making the renewed stalemate over arms control into an obstacle to unilateral reductions that might make sense for security and budgetary reasons.[29]

The most glaring problem in the US-Russia strategic stability dialogue was that the United States seems to have a strong bipartisan consensus that missile defense enhances strategic stability and enables the United States to meet its security requirements with fewer offensive nuclear weapons, while Russian officials insist that the opposite is true.[30] US efforts to overcome this impasse alternated between reassuring the Russians that they would still have an assured retaliatory capability no matter how US and allied missile defense systems evolved, and ridiculing the Russians for maintaining a Cold War mindset, in which an assured destruction capability is key to strategic stability. The Obama administration did cancel the final phase of its plans for European missile defense in order to put more long-range interceptors in Alaska, ending efforts to develop one type of future missile defense that Russia dislikes in order to do more of something that it considers equally problematic.[31] Russian officials acknowledged that their US counterparts were making a sincere effort to reassure them via TCBMs, but still insisted that equitable cooperation include "clear-cut guarantees" that the system would not evolve to threaten Russia's deterrent.[32] After the cancellation of the fourth phase of European missile defense development failed to sufficiently reassure Russia, some US experts cited this as evidence that Russian antipathy toward missile defense stemmed not from genuine concerns about strategic stability but from domestic politics, or constituted a desperate gambit to maintain some leverage over the United States and other powers who were surpassing Russia by every measure except nuclear weapons.[33]

Many Russian officials genuinely see missile defense as strategically destabilizing, not only because their ideas about the technical aspects of strategic stability remain closer to the Cambridge Community's logic than that of the Reagan administration, but also because they have always thought about strategic stability more in political than in technical terms. During détente, Soviet leaders placed great value on US acknowledgment that mutual nuclear vulnerability created a condition of political parity in which the superpowers had a shared responsibility for preventing nuclear war, by exercising restraint in their bilateral military relations, and accommodating each other's interests elsewhere

enough so that their competition for regional influence never led to direct superpower conflict.[34] The Soviets saw the ABM treaty as evidence that the United States accepted, and would not try to change, mutual vulnerability and political parity. They opposed the Strategic Defense Initiative, not because they believed that it could neutralize their nuclear deterrent any time soon, but because they saw it as proof that unilateralists had wrested control of US foreign policy away from pragmatists who accepted the need for restraint and accommodation vis-à-vis Moscow.[35] Twenty years later, Russian opposition to the Bush administration's missile defense ambitions and intervention in Iraq had less to do with what the United States actually accomplished technically and militarily than with the unilateralist orientation toward world politics they symbolized. This explains why the Obama administration's willingness to be more transparent about missile defense failed to address Russian frustration that even a Democratic president asking them to work with him on the global elimination of nuclear weapons still insisted that the United States remain free to expand and use its missile defense capabilities however it decides in the future, without regard to Russian objections.

Reframing the desired end-state as "mutual assured stability" did not make US-Russian security dialogues more productive because experts who used that term had different ideas about what it meant and how to get there. In early 2013, former Undersecretary for Arms Control Ellen Tauscher and former Russian Foreign Minister Igor Ivanov jointly expressed hope that, with presidential elections over, their countries could "restart negotiations in a less politicized environment" and agree on "technical cooperation," such that missile defense collaboration becomes the means to transform their countries' strategic relationship from "mutual assured destruction" to "mutual assured stability."[36] But Tauscher's understanding of this concept reflected a 2012 report from the State Department's International Security Advisory Board that recommended making substantial reductions in US nuclear forces contingent on having "effective clarity" (the ability to see evidence of any destabilizing activities in time to counteract them) and "effective assurance" (conventional offensive and defensive military capabilities that could protect the United States and its allies in the case of any surprises or instabilities involving nuclear weapons). By contrast, a 2013 report by a comparable group at the Russian Academy of Sciences' Institute for the US and Canadian Studies maintained that stability at lower numbers of nuclear weapons required corresponding limits on conventional offense and missile defense, emphasized the need for legal obligations as well as voluntary forms of cooperation, and advocated "positive" steps to increase US and Russian security interdependence.[37]

Strategic stability is an even less productive framework for discussing security cooperation with Chinese officials and experts. American officials view China's economic, political, and military rise as the main threat to strategic stability in Asia and beyond. The overarching US objective in strategic stability talks is to dampen action-reaction dynamics in which China's growing military capabilities elicit US military responses that cause China to further change its nuclear posture or to adopt asymmetrical conventional strategies that leave everyone in the region less secure. But so far, all the United States has proposed to mitigate this security dilemma is greater transparency by China about its capabilities, plans, and decision-making processes, plus commitments from China to use its national power in "responsible" ways.[38] Chinese participants in security dialogues emphasize the need for mutual "strategic reassurance" because political trust and respect between countries is central to their understanding of strategic stability. But US insistence

that it only intends to use its superior nuclear and conventional military powers in ways that enhance regional peace and prosperity does little to address Chinese concerns about being vulnerable to coercion or attack so long as it lags behind the West technologically.[39]

Chinese officials and experts make very different assumptions about nuclear deterrence, strategic stability, arms control and transparency than do their American counterparts.[40] Chinese leaders have used voluntary self-restraint to develop a nuclear posture that the Cambridge Community logic would consider to be inherently more stable than those which the United States and Russia achieved through arms control. Chinese security experts insist that they only need a small retaliatory force to deter US nuclear coercion and encourage US caution, so long as US leaders accept mutual nuclear vulnerability as an enduring fact of their relationship with China—something many American policy makers and security experts are unwilling to publicly acknowledge, even if they privately know it is true. From a Chinese perspective, the main source of strategic instability in Asia is the huge conventional imbalance favoring the United States and its allies, so they argue that steps China takes to offset US military advantages and to demonstrate resolve in response to provocative behavior helps, rather than hurts, stability and peace in the region.[41]

Chinese skepticism about what they, as the militarily weaker side, could gain from formal strategic arms control reflects the mistaken belief that the SALT and ABM agreements only became possible after the Soviet Union had reached numerical parity with the United States.[42] In the early 1970s, though, the USSR was closer to the position that China is in now, i.e., it had achieved functional parity (a secure retaliatory capability), but was still quantitatively and qualitatively well below US nuclear capabilities. Chinese resistance to US requests that it provide more information about its nuclear capabilities stems not from opposition to all forms of transparency, but from concerns that revealing the exact number or location of their nuclear weapons could embolden the United States to try a disarming first strike, and thus would be destabilizing.[43]

Chinese experts want to increase strategic stability by convincing the United States to adopt nuclear policies similar to China's minimum nuclear deterrent posture, especially no-first-use (NFU) of nuclear weapons.[44] If strategic stability is defined as a low probability of nuclear war, then a world in which all nuclear weapon states have very small arsenals configured solely for retaliatory use under tight managerial control and credible NFU commitments would be more stable than current nuclear conditions. Western NFU opponents doubt that China really would refrain from using nuclear weapons first to compensate for its conventional disadvantages in a conflict with the United States.[45] Chinese experts worry that the more confidence the United States has in its advanced conventional weapons and missile defense capabilities, the more risks it might be willing to take in a crisis, increasing strategic instability even if both sides have no intention of initiating a nuclear attack.[46]

This overview of disputes in strategic stability dialogues suggests that each country's position is based on a different logic that is internally consistent and fits its circumstances, but that has conflicting implications for cooperation. If each side believes that its own way of thinking about strategic stability fits the global realities and reflects objectively established principles for international security, it will view different positions taken by other states' officials as being disingenuous or ill-informed. Each side may look down on others for using faulty or outmoded reasoning. They may suspect others of misusing strategic

dialogues to gain unfair geopolitical advantage or domestic political benefits by manufacturing controversies in what should be business-like discussions about pragmatic steps to enhance mutual security. Even if everyone engaging in these strategic stability dialogues actually has purely cooperative intentions, inability to understand the different logics almost guarantees a process that increases frustration and mistrust, not confidence and cooperation.

Security experts inside and outside the Obama administration who still try to make the case for arms control as a means to enhance strategic stability have been frustrated by their failure to gain much traction. But they have not yet changed their approach, in part because they lack an alternative conceptual framework that would be better suited to building domestic and international agreement on cooperative strategies to help address the central security problems of the twenty-first century. This is particularly true of people who do not think that the end of the Cold War transformed security relations to the point where genuine conflicts of interest among major powers are minor compared with all the interests they have in common, and who still see states, not peaceful or violent non-state actors, as the most important participants in international security policy. It is also a problem for anyone who wants to maintain professional credibility with security insiders by using language and logic that they understand and accept as valid, in hopes of having at least modest influence on policy decisions.

Analytical Frameworks that Integrate Political and Technical Dimensions of Arms Control

To see how a conceptual framework that integrates the political and technical dimensions of arms control could stimulate more creative thinking—while still remaining within the bounds of mainstream security analysis—consider an approach developed by Hedley Bull. An Australian-born strategist and international relations theorist, Bull had worked for the International Institute for Strategic Studies in London, served as a top arms control official for the British foreign ministry, and held senior academic positions at the Australian National University and Oxford. He wrote *The Control of the Arms Race* during the same time period that Schelling, Halperin, and other Americans were developing the Cambridge Community's logic for arms control. He argued that substantive questions about arms control must be addressed within the context of current political structures, institutions, and relationships, not treated as technical problems that could be solved in the abstract.[47] But unlike unilateralists who assume that consensual agreement on arms control is only prudent after whatever political conflicts cause states to be potential adversaries have been resolved, Bull believed that the most important objective for arms control should be to promote order and increase a sense of society among sovereign states. *The Anarchical Society* explained how that could be done in terms that transcended the Cold War context in which his books were written.[48] Few technically oriented American arms control experts are familiar with that classic book because it focused on enduring issues of political structure and institutions, not ongoing arms control policy debates.

Bull's approach to arms control treated political, philosophical, and moral considerations as seriously as technical and military ones. He earned the respect of American strategists by mastering the esoteric knowledge and analytical techniques that were central to their assessments of deterrence stability and arms control. But he evaluated the technical

details of force balances, treaty provisions, and verification arrangements in light of larger questions about the purposes for which the resulting military and monitoring capabilities would be used; the relative importance of military power versus diplomacy, law, and other non-coercive means of managing states' security relations; and the extent to which all affected states see the overall arrangements as mutually beneficial and equitable, or as unjustly advantaging others at their own expense. Bull made his points using language and logic that well-informed readers who were not security experts could understand, and that US security experts could well use themselves when communicating with family and friends. He tried to use his professional standing to make strategists and arms control supporters think about some extremely uncomfortable questions regarding what they were doing, why they were doing it, and whether it really represented a sustainable basis for international security in the nuclear age.[49]

Bull framed the central problem for security policy more broadly than did his American counterparts. He agreed that the most important immediate challenge was to enhance deterrence stability and avoid nuclear war. But he saw this as a manifestation of a larger, longer-term challenge: sustaining and strengthening order and a sense of society among states in a world of rapid technological innovation.[50] Whereas Schelling defined "stability" simply as "consistent patterns of behavior around which the expectations of strategic actors … could converge," Bull's concept of "order" specified that those behavioral patterns should promote basic goals shared by all members of society. While recognizing that there were many sources of conflict in world politics, Bull believed that the major powers had more common interests than just restraining physical violence and preserving peace (i.e. the "absence of war among members as a normal condition, to be breached only in special circumstances and according to generally accepted principles."[51]) They also shared interests in protecting the state system and the society of states, maintaining the sovereignty of individual states, managing economic interdependence, and addressing resource scarcity. When the element of society is relatively weak in world politics, as Bull believed it was during the Cold War, the best one might hope for is agreement on rules of coexistence to restrict violence; protect property, territorial integrity and sovereignty; and encourage states to honor agreements with each other. He hoped that if states developed more shared interests and values, and a more highly developed sense of society, they could devise more refined rules to facilitate more advanced forms of cooperation on a wider range of issues.

Instead of seeing states as self-interested individuals, as Schelling and other American strategists did, Bull had a more European sociological perspective. He viewed sovereign states as operating in a social context that influenced their values, norms, and expectations in ways that could not be reduced to pure calculations of self-interest. He recognized, though, that other policy makers and strategists could reason about arms control based on very different world views. In *The Anarchical Society*, Bull argued that there are three long-standing traditions of thought—based on the philosophies of Thomas Hobbes, Hugo Grotius, and Immanuel Kant—that make different assumptions about the structure of international politics. Each emphasizes different aspects of what is actually happening in the world and interprets ambiguous events to fit their own worldview. The relative importance of these three aspects of world politics also varies over time, depending on the perceptions and actions of security policy makers.

In Bull's typology, the Hobbesian tradition corresponds with the worldview of unilateralists and other hawkish realists who see perpetual conflict and competition for relative power as the only way to protect and promote national interests in a world with no overarching authority or governance mechanisms. The Grotian tradition, which is closer to Bull's own perspective, to the Cambridge Community's owlish worldview, and to liberal-institutionalist theories of international relations, maintains that even in an anarchic world, states with a mix of common and competing interests can increase order and promote other shared objectives by developing shared rules and institutions to govern their own relations as a society of sovereign states. The Kantian, or "universalist," tradition sees a basic harmony of interests among all humans that is obscured and obstructed by self-interested state leaders. Its ultimate prescription to promote perpetual peace would be to replace the state system with a cosmopolitan world society. In the near term, Kantian proposals include "dovish" calls for total nuclear disarmament (so leaders lack the means to incinerate millions or billions of innocent victims), replacement of non-democratic regimes with leaders that represent the interests of their peace-loving population, and empowerment of civil society groups and transnational social networks to supplement or replace government entities that function poorly in a globalizing world. Cohn's call to replace technostrategic analysis with a more human approach to security policy resonated well with academics and activists who have a Kantian worldview, as did Obama's endorsement of nuclear elimination.

If world politics involves efforts to shape the operating assumptions of security policy and the mix of Hobbesian, Grotian, and Kantian elements that are actually in play at a given time, then arguments about arms control are not only efforts to advance one's objectives within any given conception of international relations, but they are also attempts to establish the dominance of that conception in the policy making process. This makes the choice of which conceptual framework to use when thinking about arms control extremely important. Trying to think about arms control within a strategic stability framework when the dominant US assumptions about strategic stability are at the Hobbesian end of the spectrum not only makes it hard to identify significant forms of cooperation that the major powers would all deem beneficial, but also perpetuates those aspects of world politics which make serious arms control seem unrealistic. For analysts whose writings about arms control have consistently reflected a Hobbesian view of the world, attempting to discredit as "not serious" any policy maker or analyst who does not share their starting assumptions is, consciously or not, a political maneuver to make their preferred outcome more likely by shaping the terms of debate. For somebody who wants to build bipartisan support for arms control by framing it as a means to enhance strategic stability, while preserving their own professional credentials as "tough on national security," this choice inadvertently reinforces a set of assumptions, perceptions, and behaviors that reduce the prospects for domestic and international agreement on meaningful arms control.

Rather than claiming to be engaging in value-free policy analysis (which Bull believed was impossible), he made the explicit normative judgment that the overarching goal of Cold War security policy should be to protect and strengthen whatever Grotian aspects of international relations currently existed. His view of nuclear deterrence as a practice that could help or hurt the sense of society and the degree of order in international relations, rather than as the ultimate guarantor and perpetual objective of security policy, reflected a profound ambivalence about nuclear weapons.[52] Although he

thought that nuclear deterrence served positive functions in the Cold War's bipolar political context, he argued that arms control was necessary, not only to enhance deterrence stability, but also to steadily reduce the role of nuclear weapons in security policy over time. As the perpetuation of major problems in US-Russian relations decades after the end of the Cold War shows, continuing to base security policy on mutual hostage taking (whether of civilian populations or high-value military and leadership targets) "obstructs the long-term possibility of establishing international order on some more positive basis."[53]

Bull differed from many American arms control experts in arguing that sustainable cooperation required rules that were not only mutually beneficial, but also equitable and consensually agreed. If the terms of cooperation were imposed through coercive diplomacy, if rules were not applied in an even-handed way, or if the distribution of benefits was grossly unfair, then disadvantaged states would become resentful and alienated from international society, and would try to evade, avoid, or overturn the rules when they could. For this reason, Bull would not have been surprised by the backlash against the bilateral arms control agreements associated with the end of the Cold War that has developed among those Russians who believe that the United States took advantage of their weakness to get unfair treaty terms, nor by the disappointment among Russians who hoped that making disproportionate cuts to those Soviet military capabilities that the West found most threatening would be the first step toward a fundamentally new global security system.

Bull made a similar argument for taking an equitable and inclusive approach to nuclear proliferation. He warned that discriminatory export controls and treaty provisions would not prevent additional states from acquiring nuclear weapons or the ability to make them. Instead, they would make it harder to manage the spread of advanced technologies in ways that minimized the potential for disorder and destruction. In a passage written in 1965 about China and India that holds equally true for Iran today, Bull wrote, "it is difficult to see how great and proud nations with the will and the resources to acquire nuclear weapons can be prevented from having their way except by measures which while achieving no more than a postponement of the expansion of the nuclear club make the aspirant more determined than ever to join it and alarming members of [that club] more when [the aspirants] ultimately do."[54]

With no world government to make and enforce rules, Bull believed that order in international society rested on five general institutions that states can use to increase the effect of agreed rules on state behavior: the balance of power, law, diplomacy, war, and management by the great powers. Whereas strategic stability theory evaluates arms control primarily in terms of its implications for the balance of power, and for the probability and consequences of war, Bull was also concerned about arms control's potential contributions to the development of international law, diplomacy, and the willingness of the great powers to pursue policies that strengthen, rather than undermine, order and justice in international society.

This broader perspective changes how one evaluates the benefits, costs, and risks of accepting or rejecting a particular type of arms control. From a purely technical and military standpoint, a comprehensive ban on nuclear tests might have a relatively modest direct effect on the balance of power and the probability of war, given the large number and diverse characteristics of the nuclear weapons already in the superpowers' arsenals,

as well as the ability of a proliferator to have confidence that a basic gun-type atomic design would work without testing it. Yet, Bull was a strong proponent of a comprehensive test ban treaty because of its political benefits: a stronger and more equitable legal basis for nuclear security, enhanced capabilities for multilateral diplomacy, and greater confidence among non-nuclear weapon states that the global nuclear restraint regime included rules that were particularly important to them, not just rules that disproportionately benefitted the major powers. When the CTBT was finally concluded in the mid-1990s, a decade after Bull's death, one of the most important achievements was China's decision that it would participate constructively. The treaty was considered an important part of efforts to create a post-Cold War security order in which international law and diplomacy would play a greater role than nuclear threats did, meaning that China's existing nuclear weapon designs would be sufficient to meet its residual deterrence needs for the foreseeable future.[55] After the US Senate voted against CTBT ratification in 1999, China, close US allies, and other states that had made significant concessions to satisfy US preferences in treaty provisions, were shocked, dismayed, and felt betrayed. The international community interpreted Senate rejection of the accord as the United States shirking leadership of joint efforts to build a post-Cold War security order based on mutual nuclear restraint, to embrace a more Hobbesian approach to security policy, compelling other states to rethink their own security strategies in response.[56]

Bull thought verification was important both to increase states' confidence that they could detect or deter militarily significant violations of specific treaty provisions, as well as to reinforce the basic rule of international society that states honor their commitments. In evaluating verification, though, technical calculations about the probability of detecting militarily significant violations in a particular amount of time should be seen as a subset of broader political calculations about whether or not it served states' interests to sign, observe, and sustain a particular arms control accord.[57] Bull saw no legitimate reason why states should use potential verification difficulties as a reason to reject discussing some types of arms control that might be in their mutual interest if the verification problems could be resolved. He noted that when US security experts encounter technical impediments to the development of a new type of weapon, they usually express confidence in their ability to find innovative solutions, even if the requisite technological advances and cost requirements seemed unrealistic at the time. But they often act as if the technical capability and political feasibility of existing verification options would remain fixed for all time. Bull predicted that "if a fraction of the sums devoted to the improvements of weapons were devoted to [innovation in verification], considerable changes might be wrought in the feasibility of inspection systems."[58]

Bull shared the Cambridge community view that sharing information about military capabilities and operations could serve either cooperative or competitive purposes—a point that helps explain why many states are reluctant to provide additional transparency about sensitive activities without agreement about how that information shall be used or constraints on military capabilities that might misuse it.[59] He went further, though, ridiculing those who thought that transparency is inherently good, based on the "peculiarly American ideology of the 'open world,' the doctrine that a world in which there are no secrets is a world which is safe and secure." The United States used this justification to argue that reconnaissance satellites should neither be considered legitimate military targets when they orbited over a country's territory, nor be subject to arms control. Bull

thought that its real motive was to remove, or at least diminish, one of the Soviet Union's greatest military assets: its advantage in intelligence over the more open United States. But rather than making intellectually honest arguments for why legitimating satellite reconnaissance would serve the military interests of the United States and its allies, Americans used the "open world doctrine" to argue that "the promotion of international security is in large measure a matter of making information about military activities universally available." To claim that using satellite reconnaissance to learn more about Soviet military capabilities was not intrinsically threatening to the USSR but rather "an action performed in the interests of both sides" was, Bull reasoned, unfair to the Soviets and detrimental to prospects for genuinely beneficial security cooperation, not only for both superpowers, but also for international society as a whole.[60]

While Americans often depicted verification as "the critical element of arms control," Bull argued that it was only part of a more important issue: compliance management. Verification is meant to encourage mutual compliance by improving information needed to reciprocate cooperation, deter or punish defection, evaluate ambiguous situations, and take self-protective action to minimize the risks of exploitation. But none of these functions would be well served if states did not have the incentives and capabilities needed to act appropriately in response to this information. Bull thought that verification had been improperly placed at the center of Western arms control policy because it was viewed as a technical problem that could be solved in isolation from political considerations. But the likelihood of compliance or violation is determined more often by whether an agreement's terms serve participating states' interests and by the importance they place on keeping their commitments than it is by their estimates of detection probabilities.

As the recent debate about how the international community should respond to the Syrian government's alleged use of chemical weapons against its own population showed, a host of political questions arise as soon as evidence of a possible violation has been detected. States' varying interests, capabilities, and relationships will affect how they interpret ambiguous or incomplete evidence of a violation, and whether they dismiss it as meaningless or pursue further investigation. Political considerations will influence how states want to respond to a clear-cut violation: use diplomacy to encourage a return to compliance, impose various types of sanctions, build up countervailing military capabilities, or launch a punitive attack. Political factors will also determine how effectively individual states can implement their preferred response, and how well they can cooperate in bringing pressure on a violator. Unilateralists such as Fred Iklé argued that the United States should not make arms control agreements with authoritarian regimes, even when the technical problems of verification have been solved, because domestic politics will prevent US leaders from taking appropriate actions in response to violations. But Bull believed that if American experts understood that "arms control is a political phenomenon, and the study of it is primarily … a study of international politics," they could devise more effective compliance and enforcement strategies.[61]

As the conservative backlash against détente gained momentum in the mid-1970s, Bull used his lead article in the inaugural issue of *International Security* to declare that the classical approach to arms control was unsustainable for a very different set of reasons than Reagan used. Bull argued that the accords negotiated in the 1960s and 1970s rested on assumptions about what type of world is feasible and desirable, assumptions that lacked support from anyone except the superpowers and their allies.[62] He argued that the

superpowers were trying to use arms control to enhance their own security and power at other states' expense by prolonging a status quo in which the superpowers kept tens of thousands of nuclear weapons on high alert, subjecting others to unnecessary risks in which they had no say. They were also colluding in crisis management and nonproliferation to keep smaller states from doing anything that might destabilize bilateral deterrence. Bull argued that the superpowers should be using arms control to make the distribution of power more equitable, so that the rules and institutions of international society reflect the interests and values of as many states and peoples as possible so they would want to support global social order, not challenge it.

The recommendations Bull made then for a more effective and sustainable approach to arms control apply equally well today, when the assumptions about arms control and confidence-building measures to enhance strategic stability being used by the United States and its allies are not even shared by the other major powers, let alone the "developing countries" about which Bull was most concerned:

1) Cooperation should promote universal purposes, not merely bilateral (or unilateral) ones.
2) The overriding test of arms control should be whether it enhances the security of the international society as a whole, not the security of some members at everyone else's expense.
3) The effects of arms control should be to make the distribution of power both more stable and more equitable over time, not to perpetuate or exacerbate inequities in the name of stability. Given important differences among states, seeking a more just international order does not require support for universal proliferation or universal nuclear disarmament, but it does require immediate steps to make the distribution of military and political power fairer.
4) Control of horizontal proliferation cannot be separated from control of vertical proliferation. If international society has a legitimate universal interest in restraining the number of nuclear weapon states and preventing acquisition by non-state actors (which Bull agreed it did), then there is an equally legitimate universal interest in effective restraints on existing nuclear arsenals, including deep reductions, NFU policies, and other steps to decrease the political and strategic utility of nuclear weapons.
5) When efforts to manage crises and avoid major power war involve the suppression of other states and peoples, careful thought should be given to whether the peace of the world is really at stake, or merely the political convenience of the major powers.[63]

These points sound like common sense to anyone who does not have a pure power-politics view of international relations, yet they are not equally integral to all approaches to arms control. Somebody who agrees with these points but uses a strategic stability framework to think about arms control and nonproliferation is likely to support policies that fall short of these standards as being imperfect, but the best that can be done under current political conditions. Somebody who accepts Bull's logic is more likely to try harder to change current political conditions, such that it is possible to get domestic and international agreement on security policies that actually fit Bull's recommendations. They are also more likely to realize that violating these principles for short-term political convenience may harm the prospects for future security cooperation.

Conclusion

Thinking about arms control as an inherently political activity that affects not only the balance of power and the probability of war, but also the extent to which states operate as members of international society and the quality of order among them, has profound implications for the future of arms control. To begin with, claims that arms control is no longer a useful or necessary component of security policy only make sense if one accepts the unilateralist worldview and defines arms control very narrowly. Anyone who believes that the most important security problems of the twenty-first century cannot be addressed reliably and affordably solely through competitive efforts to maximize relative military power should see that changes in the circumstances of global security make it both more necessary and more possible for states (and nonviolent, non-state actors) to cooperate in the pursuit of common objectives, even as they continue to have some different interests and values. At its most basic level, arms control is about the management of violence, and the relative importance of threats and use of force in international security compared with consensual rules and cooperative institutions. As such, it remains a fundamental policy challenge today.

So long as the United States has been an active player in world politics, a key division in its security policy debates has been between those who hold more Hobbesian views and those who have more Grotian perspectives. It is not surprising that those who hold Hobbesian views see no reason why the United States should accept new constraints on its ability to maximize its military power advantages in a world where it remains the undisputed superpower. What might seem surprising is that so many Americans who saw formal arms control as an important element of security policy during the Cold War have largely given up trying to argue that it is still needed now. Some of these former arms control advocates are Kantians who expected in the 1990s that all major world powers would evolve into democracies with market-based economies, so their main interests would naturally align such that they would voluntarily cooperate much more closely than before. Others are frustrated Grotians who see voluntary, lowest-denominator forms of cooperation as the only option given opposition from Republicans, Russians, and Chinese to the Obama administration's arms control efforts. Here, I have tried to suggest that the latter group's inability to think creatively and constructively about how to get domestic and international agreement on arms control measures that could have a significant impact on nuclear risks— or other twenty-first century security challenges— stems from a conception of arms control as a primarily technical method of enhancing strategic stability, especially now that the dominant US conception of strategic stability reflects Hobbesian assumptions.

Frustrated Grotians may find it more useful to think about arms control as a way to advance cooperative security in a globalizing world. This logic is more appropriate for the kinds of security challenges that exist in a highly interdependent world with porous national borders where a wide range of state and non-state actors have easy access to powerful technologies that can be used in very constructive and destructive ways than are logics developed for two nuclear-armed, ideologically opposed superpowers. It also frames the case for progressively more ambitious arms control such that Kantians would be more likely to form winning coalitions with Grotians than to join blocking coalitions with Hobbesians. A detailed exposition of the Cooperative Security logic is

beyond the scope of this paper, but the initial thinking done by John Steinbruner and a consortium of other academics integrated some of the Cambridge Community's assumptions and technical analysis with some of the more sociopolitical ideas advanced by Bull and European advocates for "common security."[64] The Cooperative Security logic is being refined, updated, and applied to a variety of twenty-first century security problems by networks of experts from various disciplines and countries run out of the Center for International and Security Studies at the Maryland School of Public Policy (CISSM).[65]

The Cooperative Security logic starts from the principle that irreversible trends associated with globalization are changing the nature of security problems in ways that both require and facilitate closer cooperation among stakeholders than has ever occurred before, including with historical adversaries and non-state actors. Fears of deliberate, large-scale territorial aggression have been dwarfed by growing concerns about irresponsible management and use of powerful, multipurpose technologies now globally available to a wide range of state and non-state actors, and by risks associated with dangerous processes that are not under anyone's control, such as climate change, disease epidemics, and the transborder spread of civil violence. Therefore, the main objective of arms control (broadly defined) should be to prevent real or misperceived threats from undermining mutual security by using consensual rules and systematic transparency arrangements to provide reassurance. State and non-state actors are most likely to agree on and comply with informal norms and formal legal obligations if the rules and decision-making processes are mutually beneficial, equitable, and inclusive. Compliance concerns should be treated as regulatory management challenges, rather than as disputes to be handled through bilateral bargaining, or as law enforcement problems. While cooperative security arrangements will need to be built up incrementally, with enough flexibility to adapt to changing security circumstances, the long-term objective of the Cooperative Security logic is to develop progressively more refined rules and effective institutions capable of shaping social, political, economic, technological, and environmental developments in ways that promote the emergence of a peaceful, prosperous, fair, and inclusive global order.

Arms control arguments that seem intractable within a strategic stability framework become easier to understand when seen through Bull's integrative analysis or through the Cooperative Security logic. The United States wants Russia and China to sign on to a conception of strategic stability based on progressively lower numbers of nuclear weapons and tighter managerial control over stocks of weapons and weapon-grade materials, combined with preponderant US conventional military superiority, extensive missile defense for the United States and its allies, greater transparency by Russia and China, and US willingness to use military force for preventive or pre-emptive purposes. But this is not a vision of world order that Russia or China want to endorse. They would clearly prefer a world in which there was a more equitable distribution of power; legally binding constraints on all types of strategic military capabilities; tighter prohibitions on using military power for reasons other than self-defense, collective defense, or Security Council-endorsed operations; and a greater decision-making role for the Security Council and other organizations in which they have an equal voice. This should not be dismissed as pure nostalgia by Russia for the days when the Soviet Union's power and influence matched the United States, or as a cynical effort by China to constrain US power so that it can catch up more quickly. It can equally be interpreted as genuine interest

in a type of world order that has wide global appeal and that the United States has historically championed.

Thinking about US security dialogues with Russia and China as trying to identify ways in which arms control and other forms of cooperation could be used to strengthen a mutually desirable conception of world order—and not just to enhance deterrence stability—makes the agenda broader and more positive. It would, of course, require candid discussion about what would constitute a mutually desirable conception of world order, but that could be more interesting and productive than repeatedly reiterating mutually incompatible ideas about strategic stability. Preparing for these discussions might occasion some heated debates within national delegations to clarify national objectives, but that would be better than having some parts of the delegation trying to use the meetings to dispel mistrust and promote cooperation while others use them to draw redlines, make threats, extract intelligence information, or gain some other type of adversarial advantage. Transparency and confidence-building proposals could still be discussed, but they would no longer be depicted as purely technical, as inherently benign, or as sufficient substitutes for legally binding arms control. Instead, a key point for discussion would be the purpose of TCBMs. Proposals that are unacceptable or insignificant as stand-alone measures might well become more attractive if they were seen, not just as a means of increasing how much sensitive information states had about each other's security policies, but as part of a larger effort to develop equitable rules and effective institutions to enhance mutual security.

Understanding arms control as something that can affect all the general institutions of international society, rather than the balance of power and the potential for war, opens up new possibilities for resolving some of the basic conundrums that concern strategic stability analysts. For example, it is commonly assumed that strategic stability gets progressively harder to maintain, and that extended deterrence commitments are harder to satisfy, as numbers of nuclear weapons go down.[66] Yet there is no reason to assume that international order would be more difficult to sustain if there were few or no nuclear weapons in international society. Reducing or eliminating nuclear weapons would affect the balance of power, but the resulting configuration could make it easier for states to achieve the common objectives that order was intended to serve, and it might increase states' commitments to a more just security order.[67] If the institutions of law and diplomacy were being built up as military power was being reduced, then world order would be moving toward a more advanced form of international society. The military requirements for basic and extended deterrence would decline because there would be greater emphasis on reassurance, cooperative prevention, and crisis management. And political incentives to acquire, retain, or brandish nuclear weapons would diminish because that would no longer be seen as the most technologically advanced form of military power, but as a crude, ineffective, and ultimately illegitimate way to get some type of political advantage.

From a Cooperative Security perspective, it is difficult to imagine the long-term success of any strategy to prevent the spread of nuclear weapons that is not combined with equally serious efforts to significantly reduce existing nuclear weapons, prohibit nuclear testing, and preclude the use of conventional military power for purposes like coercive regime change. The July 2015 Joint Comprehensive Plan of Action (JCPoA) agreed to by Iran, the United States, and five other world powers (plus the European Union) highlights a stark choice for supporters of the current nonproliferation regime. After a decade of

inconclusive negotiations, increases in Iranian enrichment, and stronger sanctions, the Obama administration finally accepted what many arms control experts had known all along, that Iran would not accept any diplomatic resolution that permanently denied it the same legal rights as any other non-nuclear weapon state (NNWS) party to the NPT, including the ability to enrich uranium and reprocess plutonium under the same International Atomic Energy Agency (IAEA) safeguards that apply to other NNWS undertaking these activities. Under the JCPoA, Iran agreed to unusually tight limits on its dual-use nuclear capabilities for a decade, and unprecedented transparency for much longer with the understanding that if it restored international confidence in the purely peaceful nature of its nuclear program through full compliance with these measures, it would once again be treated the same as all other NNWS. Congressional opponents tried, but ultimately failed, to block the Obama administration's ability to comply with its side of the deal by passing a law prohibiting him from suspending the nuclear-related US sanctions. But those critics had no evidence to support their claims that Iran could be forced to give up enrichment through more skillful diplomacy, tighter sanctions, or military means, and the level of domestic political support for any of these options was far lower than it was for the JCPoA.[68] This suggests that, like it or not, the international community faces a choice between living with the uncertainties entailed by Iran having enrichment and reprocessing capabilities under IAEA safeguards once the JCPoA expires, or using the time before then to establish a new arrangement where all dangerous dual-use nuclear capabilities are under international rather than national control.

Recasting arms control as a critical component of efforts to base twenty-first century security on rule-based consensual order among a society of states that still do not have fully shared interests and values would meet strenuous opposition from US politicians, military leaders, and security experts who hold a Hobbesian world view. Rather than shrinking from that fight, arms control supporters should welcome it. One reason why an intense minority with views well outside the mainstream of American public opinion has been able to block even some of the most innocuous accords, as well as treaties judged by the vast majority of experts to have major benefits for US security, is that very few Americans seem to notice or care what the obstructionists do. The American public paid attention to arms control during the Cold War, and wanted US leaders to have a constructive position on it, because preventing nuclear war was considered an urgent priority, and arms control was evidence that the superpowers could work together to keep their competition from leading to mutual destruction. Now that global nuclear war is low on the list of things that concern the American public, people need another reason to care about arms control. The more arms control is portrayed as a highly esoteric subject, requiring specialized technical expertise to have an informed opinion about whether the benefits of some cooperative measure outweigh its potential costs and risks, the fewer people will try to participate in these debates. If current debates about arms control as a means to enhance strategic stability are structurally doomed to be sterile, with any ideas that are thinkable for American participants being either trivial or anathema to their Russian and Chinese counterparts, then anyone who wants arms control to have a future should seek ways to change the terms of debate and engage the interest of a wider cross-section of politicians, policy makers, academics, and citizens.

Using a conceptual framework that highlights the political dimensions of arms control —especially the ways in which success or failure in reaching equitable, mutually beneficial

agreements either increases consensual order in international society or exacerbates military competition for national advantage—demonstrates that the stakes are high. Few people of any nationality are intensely interested in whether strategic stability would be helped or hurt by some type of agreement to meet the New START limits earlier than the treaty requires, to exchange more information about nonstrategic weapons, or make small reductions below New START levels while keeping more than a thousand nuclear weapons available for use on short notice.[69] Anyone intensely interested in these topics is inclined by their professional training to assume that strategic stability is harder to maintain at lower numbers, so a heavy burden of proof is put on those who try to argue that the security benefits of these incremental changes outweigh the potential costs and risks. Far more people care whether that the United States and other great powers are increasingly capable of cooperating to achieve common goals in a world where international law and diplomacy matter as much as threats and use of military force, or if the twenty-first century world is increasingly going to resemble a high-tech form of Hobbesian anarchy. If the fundamental political question is posed in those stark terms, there will still be some extreme unilateralists who assert that maximizing US power and freedom of action is all that matters. But once people are paying attention again, it is doubtful many would agree that this is either an accurate description of the world as it is, or an inspiring vision for how they want it to be.

Acknowledgments

Notes

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