Scott D. Sagan

Shared responsibilities for nuclear disarmament

Interest in nuclear disarmament has grown rapidly in recent years. Starting with the 2007 *Wall Street Journal* article by four former U.S. statesmen – George Shultz, Henry Kissinger, William Perry, and Sam Nunn – and followed by endorsements from similar sets of former leaders from the United Kingdom, Germany, Poland, Australia, and Italy, the support for global nuclear disarmament has spread.[1] The Japanese and Australian governments announced the creation of the International Commission on Nuclear Non-Proliferation and Disarmament in June 2008. Both Senators John McCain and Barack Obama explicitly supported the vision of a world free of nuclear weapons during the 2008 election campaign. In April 2009, at the London Summit, President Barack Obama and President Dmitri Medvedev called for pragmatic U.S. and Russian steps toward nuclear disarmament, and President Obama then dramatically reaffirmed "clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons" in his speech in Prague.

There is a simple explanation for these statements supporting nuclear disarmament: all states that have joined the Nuclear Non-Proliferation Treaty (NPT) are committed "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament." In the United States, moreover, under Clause 2 of Article 6 of the Constitution, a treaty commitment is "the supreme Law of the Land." To affirm the U.S. commitment to seek a world without nuclear weapons is therefore simply promising that the U.S. government will follow U.S. law.

A closer reading of these various declarations, however, reveals both the complexity of motives and the multiplicity of fears behind the current surge in support of nuclear disarmament. Some declarations emphasize concerns that the current behavior of nuclear-weapons states (NWS) signals to non-nuclear-weapons states (NNWS) that they, too, will need nuclear weapons in the future to meet their national security requirements. Other disarmament advocates stress the growth of global terrorism and the need to reduce the number of weapons and the amount of fissile material that could be stolen or sold to terrorist groups. Some argue that the risk of nuclear weapons accidents or launching nuclear missiles on false warning

cannot be entirely eliminated, despite sustained efforts to do so, and thus believe that nuclear deterrence will inevitably fail over time, especially if large arsenals are maintained and new nuclear states, with weak command-and-control systems, emerge.

Perhaps the most widespread motivation for disarmament is the belief that future progress by the NWS to disarm will strongly influence the future willingness of the NNWS to stay within the NPT. If this is true, then the choice we face for the future is *not* between the current nuclear order of eight or nine NWS and a nuclear-weapons-free world. Rather, the choice we face is between moving toward a nuclear-weapons-free world or, to borrow Henry Rowen's phrase, "moving toward life in a nuclear armed crowd."[2]

There are, of course, many critics of the nuclear disarmament vision. Some critics focus on the problems of how to prevent nuclear weapons "breakout" scenarios in a future world in which many more countries are "latent" NWS because of the spread of uranium enrichment and plutonium reprocessing capabilities to meet the global demand for fuel for nuclear power reactors. Others have expressed fears that deep nuclear arms reductions will inadvertently lead to nuclear proliferation by encouraging U.S. allies currently living under "the U.S. nuclear umbrella" of extended deterrence to pursue their own nuclear weapons for national security reasons. Other critics worry about the "instability of small numbers" problem, fearing that conventional wars would break out in a nuclear disarmed world, and that this risks a rapid nuclear rearmament race by former NWS that would lead to nuclear first use and victory by the more prepared government.

Some critics of disarmament falsely complain about nonexistent proposals for U.S. *unilateral* disarmament. Frank Gaffney, for example, asserts that there has been "a 17-year-long unilateral U.S. nuclear freeze" and claims that President Obama "stands to transform the 'world's only superpower' into a nuclear impotent."[3] More serious critics focus on those problems – the growth and potential breakout of latent NWS, the future of extended deterrence, the enforcement of disarmament, and the potential instability of small numbers – that concern *mutual* nuclear disarmament. These legitimate concerns must be addressed in a credible manner if significant progress is to be made toward the goal of a nuclear-weapons-free world.

To address these problems adequately, the current nuclear disarmament effort must be transformed from a debate among leaders in the NWS to a coordinated global effort of shared responsibilities between NWS and NNWS. This essay outlines a new conceptual framework that is needed to encourage NWS and NNWS to share responsibilities for designing a future nuclear-fuel-cycle regime, rethinking extended deterrence, and addressing nuclear breakout dangers while simultaneously contributing to the eventual elimination of nuclear weapons.

The NPT is often described as a grand bargain between NWS and NNWS. The NNWS, it is said, agreed not to acquire nuclear weapons in exchange for the "inalienable right," under Article IV of the Treaty, to acquire civilian nuclear power technology under international nonproliferation safeguards and the promise by the NWS, under Article VI of the Treaty, to work in good faith to eliminate eventually all of their nuclear

weapons. Wolfgang Panofsky, for example, argued:

> Non-nuclear Weapons States were enjoined from acquiring nuclear weapons and Nuclear Weapons States were forbidden to transfer nuclear weapons and the wherewithal to make them to an NNWS. To compensate for this obvious discriminatory division of the world's nations, NNWS were assured that they had an "inalienable right" to the peaceful application of nuclear energy, and the NWS obligated themselves in Article VI of the treaty to work in good faith toward nuclear disarmament.[4]

In his 2009 Prague speech, President Obama similarly maintained that "the basic bargain is sound: Countries with nuclear weapons will move towards disarmament, countries without nuclear weapons will not acquire them, and all countries can access peaceful nuclear energy."

These statements correctly highlight the important linkage between nuclear disarmament and nuclear nonproliferation. But framing the linkage in this way – with NWS seen as responsible for disarmament and NNWS responsible for accepting nonproliferation safeguards on their nuclear power programs – is historically inaccurate and politically unfortunate. It is historically inaccurate because both Article IV and Article VI were written to apply *to both* the NWS and the NNWS. This common description of the Treaty is unfortunate because it limits the prospects for crafting a more comprehensive and more equitable implementation of the basic NPT bargains, based on shared responsibilities between NWS and NNWS, in the future.

Article IV of the NPT simply states, "Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty." The expected global expansion of nuclear power, however, will lead to increasing demand for enriched uranium and reprocessed plutonium around the globe; a crucial question for future security therefore is whether the spread of nuclear power will lead to the spread of enrichment and plutonium fuel-production facilities. Mohamed ElBaradei has been particularly forceful in warning of the security risks inherent in such a world of multiple "virtual nuclear weapons states," arguing for "a new international or multinational approach to the fuel cycle so as to avoid ending up with not just nine nuclear weapon States but another 20 or 30 States which have the capacity to develop nuclear weapons in a very short span of time."[5] George Perkovich and James Acton agree, noting that the NWS are unlikely to take the final steps toward complete disarmament if there are many states that could quickly get nuclear weapons material from their own national uranium or plutonium production facilities. "If no acceptable form of regulation can be established for the proliferation-sensitive activities that many states which today promote disarmament are seeking to conduct," they argue, "the abolition of nuclear weapons may not prove possible."[6]

Many proposals exist for different forms of multinational fuel-cycle facilities (plants owned and operated by multiple states) or international facilities (plants owned and operated by an international organization). Governments of many NNWS, however, as well as some nuclear technology exporters, argue that creating any constraints

on the national production of nuclear fuels would violate the "inalienable right" mentioned in Article IV. As Albert Wohlstetter once noted, it is as if some diplomats believe that all states have "a new natural right to Life, Liberty, and the Pursuit of Plutonium."[7]

Three important points about Article IV become clearer if one probes a little more deeply. First, this "inalienable right" is in reality a conditional right, dependent upon the state in question being "in conformity" with Articles I and II of the NPT. It is too often forgotten in the debate over the Iranian nuclear program, for example, that a state that is not behaving "in conformity" with its Article II commitment "not to seek or receive any assistance in the manufacture of nuclear weapons" has at least temporarily sacrificed its rights to acquire civilian nuclear technology under Article IV. The Board of Governors of the International Atomic Energy Agency (IAEA) decides whether or not a state is in compliance with its specific safeguards commitments. But the IAEA does not determine the appropriate response to a safeguards violation that is not remedied in a timely fashion; instead, it reports any such case of noncompliance to the UN Security Council and the General Assembly – as it did in 2004 with respect to Libya and in 2006 with respect to Iran – and then the Security Council must decide on appropriate responses.[8]

Second, Article IV refers to "*all the Parties to the Treaty*," not just the NNWS. This should lead to increased opportunities to share responsibility for nonproliferation and disarmament, for it suggests that as part of their Article IV commitment, the NWS should reaffirm that international safeguards can eventually be placed on all of *their* nuclear power plants and enrichment and reprocessing facilities. Indeed, such an agreement in principle, with an exception for facilities with "direct national security significance," was in fact made by President Lyndon Johnson in 1967, as a major compromise during the NPT negotiations.[9] Reaffirming this commitment, as a responsibility under Article IV, should be easy to accept in principle; after all, if NWS are committed to working in good faith toward nuclear disarmament, at some point they would become, to coin an acronym, FNWS (former nuclear-weapons states), and the safeguard exceptions they currently maintain would no longer apply.

In practice, it would be helpful for NWS to go beyond reaffirmations and expressions of principle and pick one or more model facilities to place under advanced safeguards, to demonstrate future intentions and help create best practices. Strict safeguards on existing nuclear-fuel production facilities in the NWS are not really necessary *today* to ensure that the materials from the plants are not diverted for nuclear weapons, since NWS already have sufficient fissile materials from their military nuclear production programs. But placing new facilities under IAEA safeguards would signal equitable treatment and a long-term commitment to disarmament. Similar safeguards will also be needed if a Fissile Material Cutoff Treaty (FMCT), ending the production of materials for weapons, is successfully negotiated, though in this case the verification and safeguarding functions would be best handled (at least initially) by a new organization of inspectors from NWS, rather than the IAEA, so as to limit access into sensitive former weapons-material production facilities.

Third, responsibilities for sharing the financial support of IAEA international safeguards can be improved. Today, each

IAEA member state pays into a regular budget of the Agency, from which the Safeguards Division draws funds for its inspection programs; but the Agency is strapped for funds to deal with the current level of inspections, and will be much more so if nuclear power continues to expand as expected and if the more intrusive regime required by the Agreed Protocol, which calls for advanced inspections, comes into force. One approach that has been advocated is to have states pay more into the IAEA safeguards budget in proportion to the number and kinds of facilities they have on their soil that are subject to inspection. This approach, however, places the financial burden only on the state that benefits from the nuclear power plant or fuel facility in question and ignores that the nonproliferation benefits of the safeguards are shared by all states. A better approach would be to have all governments – both NWS and NNWS, and both states with nuclear power programs and those without nuclear power – substantially increase their funding support for the IAEA, to enhance its future safeguards capabilities. Indeed, it would be possible to have private industry and even philanthropic organizations interested in promoting more safe and secure use of nuclear power also contribute to the IAEA safeguards budget.[10]

Article VI of the NPT states in full, "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control." Many diplomats from NNWS have complained at virtually every NPT review conference that the NWS have not done enough to meet their disarmament commitments, and the May 2009 NPT Preparatory Committee meeting was not unusual in that regard. The NNWS complaints are not without some merit, for the recent Bush administration did not follow through on some of the disarmament-related commitments (most specifically, seeking ratification of the Comprehensive Test Ban Treaty) that previous administrations had made at NPT review conferences.[11] In addition, some former U.S. government officials have unhelpfully claimed that the United States never really intended to keep its Article VI commitments. Former CIA Director John Deutch, for example, asserted in *Foreign Affairs* in 2005 that Washington was "unwise" "to commit under Article 6 of the Nonproliferation Treaty [NPT] 'to pursue good-faith negotiations' toward complete disarmament, a goal it has no intention of pursuing."[12] The Bush administration's 2001 U.S. Nuclear Posture Review was also widely interpreted to signal movement away from the NPT commitment to nuclear disarmament because the document declared that U.S. nuclear weapons "possess unique capabilities . . . to hold at risk targets [that are] important to achieve strategic and political objectives"; it called for the development of new nuclear warheads; and it outlined a strategy of "dissuasion," the policy of maintaining such a large advantage in military forces, including nuclear, that other states would be dissuaded from even considering entering into a military arms competition with the United States.

Many diplomats and scholars have spoken about the specific arms-control and disarmament steps the United States and other NWS could take to demonstrate that they are pursuing their Article VI commitments more se-

riously. Missing from this debate is a discussion of what the NNWS can do to help in the disarmament process. Looking at shared responsibilities points to two specific ways in which the NNWS can better honor their Article VI commitments.

First, just as NWS and NNWS should share responsibilities for funding the increasingly advanced international safeguards necessary for nuclear power facilities, the NWS and NNWS should both contribute significantly to funding the necessary major research and development effort for improved monitoring and verification technologies that will be needed if nuclear disarmament is to progress to very low numbers of weapons. In October 2008, the British government invited the governments of the other NPT-recognized nuclear states – the United States, Russia, France, and China – to participate in a major technical conference examining future verification challenges and opportunities. Even more importantly, the British government recognized that R&D for disarmament verification must not occur in "splendid isolation," and so jointly sponsored test programs with the Norwegian government laboratories to identify promising technologies that would permit Norway and other NNWS to be more directly involved in implementing and monitoring future global nuclear disarmament.[13]

Second, focusing on shared responsibilities helps identify a more direct and stronger linkage between Article VI and Article IV of the NPT. Because NWS will be less likely to accept deep reductions to zero (or close to zero) if there are more and more states with latent nuclear-weapons capability because of the spread of uranium enrichment and plutonium reprocessing technologies, NNWS have both an individual interest and a collective responsibility to make sure that constraints are placed on sensitive fuel-cycle facilities. In short, the NNWS should recognize that entering into negotiations about international control of the nuclear fuel cycle is an essential part of *their* Article VI commitment "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race."

A third common criticism of the disarmament goal is that nuclear force reductions might backfire, inadvertently encouraging nuclear proliferation, by undercutting U.S. extended deterrent commitments. In September 2008, for example, Secretary of Energy Samuel Bodman and Secretary of Defense Robert Gates declared that "the United States will need to maintain a nuclear force . . . for the foreseeable future," basing this position in part on the need to protect U.S. non-nuclear allies:

> The role nuclear forces play in the deterrence of attack against allies remains an essential instrument of U.S. nonproliferation policy by significantly reducing the incentives for a number of allied countries to acquire nuclear weapons for their own. . . . In the absence of this "nuclear umbrella," some non-nuclear allies might perceive a need to develop and deploy their own nuclear capability.[14]

The term "nuclear umbrella," however, should be deleted from the strategic lexicon used by government officials and scholars alike. It connotes a defensive, passive strategy – as if Japan, South Korea, and NATO countries were protected by some kind of missile defense shield – rather than the threat of retaliation with nuclear weapons against a state that attacks a U.S. ally. Even more importantly, the nuclear umbrella term does not differentiate between two very

different kinds of extended deterrence policies: a U.S. commitment to use nuclear weapons first, if necessary, to defend an ally if it is attacked by an enemy who uses conventional forces, biological or chemical weapons, or nuclear weapons; and a more tailored U.S. commitment to use U.S. nuclear weapons in retaliation against *only* a nuclear attack on an ally. The first form of extended deterrence was the U.S. Cold War policy in NATO and in East Asia and remains largely intact today despite the end of the Cold War.

Adopting the second form of extended deterrence – maintaining commitments to joint defense but limiting the threat of nuclear weapons use to retaliation against nuclear attacks on allies – would not necessarily lead to the nuclear proliferation cascade that Gates and Bodman seem to fear. Indeed, a more targeted U.S. nuclear guarantee, if implemented properly after alliance consultation, could have a number of positive strategic effects. First, such a change might be welcomed by those allies who continue to value allied conventional military commitments, but feel that first-use nuclear threats encourage nuclear proliferation elsewhere in the world. A more targeted nuclear guarantee would also make U.S. nuclear weapons doctrine consistent with Negative Security Assurances (NSAs) – commitments not to use nuclear weapons against NNWS – which all five NPT-recognized NWS have made at past NPT review conferences and at the UN Security Council in 1995. In addition, abandoning U.S. threats to use nuclear weapons in response to another state using chemical or biological weapons against the United States or our allies could be followed by more credible deterrent threats to respond with devastating conventional military retaliation, and with a commitment to isolate and overthrow any leader who uses outlawed chemical or biological weapons. Finally, limiting the role of U.S. nuclear weapons to deterrence of other states' use of nuclear weapons would signal strong support for the eventual elimination of all nuclear weapons, for if such a no-first-use nuclear doctrine became universally accepted, the existing NWS could more easily coordinate moving in tandem to lower and equal levels of nuclear weapons on the road to zero.

Such a change in U.S. and other powers' nuclear doctrine will not be easily accepted by all allies, nor will it be easy to implement within military establishments. NATO official doctrine, for example, which has not been revised since 1999, continues to assert (though it does not prove) that nuclear weapons remain critical for a variety of threat scenarios: "[T]he Alliance's conventional forces alone cannot ensure credible deterrence. Nuclear weapons make a unique contribution in rendering the risks of aggression against the Alliance incalculable and unacceptable. Thus, they remain essential to preserve peace."[15] Interest in maintaining an expansive form of extended deterrence remains strong in East Asia as well. Ambassador Yukio Satoh, for example, correctly notes that the Japanese government's official "Defense Program Outline" states only that "to protect its territory and people against the threat of nuclear weapons, Japan will continue to rely on the U.S. nuclear deterrent"; but Satoh has also recommended that the United States should now threaten to retaliate with nuclear weapons if North Korea uses chemical or biological weapons in any future conflict.[16]

The major responsibility for reducing the roles and missions that nuclear weapons play in the doctrines of the

nuclear powers clearly falls on the governments of those nations. President Obama called for precisely such doctrinal change in his 2009 Prague speech, promising that "to put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy." This will require that U.S. politicians and military officers stop leaning on the crutch of nuclear weapons to shore up deterrence, even in situations in which the credibility of such threats is vanishingly thin. During the 2008 U.S. election primary campaign, for example, Senators Hillary Clinton and Christopher Dodd both criticized then Senator Obama for saying that he would not consider using U.S. nuclear weapons to attack al Qaeda targets inside Pakistan (a U.S. ally), arguing, in Clinton's words, "I don't believe that any president should make any blanket statements with respect to the use or non use of nuclear weapons."[17] In May 2009, General Kevin Chilton, the commander of the U.S. Strategic Command, took the "all options are on the table" argument to a new level, threatening U.S. nuclear retaliation in response to cyber attacks: "I think you don't take any response options off the table from an attack on the United States of America. . . . And I don't see any reason to treat cyber any differently. I mean, why would we tie the president's hands?"[18]

While the United States and other NWS should take the first steps to reduce their reliance on nuclear weapons, there is much that NNWS can do to encourage and enable new nuclear doctrines to be adopted, in the spirit of shared responsibilities for nuclear disarmament. First, NNWS that are members of U.S. alliances can stop asking to be reassured about noncredible military options. This is not a new problem. Indeed, although the global strategic context is different, Henry Kissinger alluded to a similar dynamic when he admonished the NATO alliance back in 1979:

> We must face the fact that it is absurd to base the strategy of the West on the credibility of the threat of mutual suicide. . . . Don't you Europeans keep asking us to multiply assurances that we cannot possibly mean; and that if we mean them, we should not want to execute; and that if we execute, we'll destroy civilization. That is our strategic dilemma, into which we have built ourselves by our own theory and by the encouragement of our allies.[19]

Second, it would be helpful if the NNWS that are not members of U.S. alliances would spend as much time condemning states that are caught violating their commitments not to develop chemical or biological weapons as they do complaining that the NSAs offered at the NPT review conferences should be legally binding. Finally, those U.S. allies that remain concerned about conventional or chemical and biological threats to their national security should, as part of their Article VI disarmament commitment, help to develop the conventional forces and defensive systems that could wean themselves away from excessive reliance on U.S. nuclear weapons for extended deterrence.[20]

The final argument against nuclear disarmament concerns breakout scenarios and the challenge of enforcement. Harold Brown and John Deutch, for example, have argued that "[p]roliferating states, even if they abandoned these devices under resolute international pressure, would still be able to clandestinely retain a few of their existing weapons – or maintain a standby, break-out capability to acquire a few weapons quick-

ly, if needed."[21] The breakout problem, however, applies to both new potential proliferators and former NWS that have disarmed in a nuclear-free world. Thomas Schelling and Charles Glaser have made similar arguments about "the instability of small numbers," fearing nuclear use would be more likely at the final stages of disarmament or after nuclear disarmament occurs, because states would engage in arms races to get nuclear weapons in any subsequent crisis and the winner in any such arms race would use its nuclear weapons with less fear of nuclear retaliation.[22]

These are legitimate concerns, and addressing the challenges of verification and enforcement of disarmament should be a high priority for future disarmament efforts. How can a vision of shared responsibility between the NWS and NNWS help address these vexing problems? First, NWS and NNWS should work together to punish the violators of currently existing nonproliferation agreements. North Korea violated its NPT commitments by secretly taking nuclear material out of the Yongbyon reactor complex in the 1990s and by covertly starting a uranium enrichment program with the assistance of Pakistan. Iran similarly was caught in violation of its NPT safeguards agreement in 2002, when the covert Natanz enrichment facility was discovered and evidence of nuclear weapons-related research was later released by the U.S. intelligence community. Finally, Syria was caught violating its NPT commitments in 2007, when Israeli intelligence discovered a covert nuclear reactor under construction. More consistent pressure by all five permanent members of the UN Security Council (the P5 are the United States, Russia, China, France, and the United Kingdom) should be matched by more uniform support by the NNWS at the IAEA and in the UN Security Council to create stronger resolutions condemning these violations and imposing sanctions on the violators. Such a display of shared responsibilities would both help resolve these proliferation crises and set better precedents for future challenges.

Shared responsibilities for nuclear disarmament

Second, the NNWS and NWS need to work together more effectively to reduce the risks of nuclear weapons breakout in the future. To help deter withdrawal from the NPT, the UN Security Council could adopt a binding resolution stating that it would consider any case in which a state withdraws from the NPT, after being found to be in noncompliance with its safeguards agreements, to constitute a threat to international peace and security under the UN charter. The Nuclear Suppliers Group and the IAEA could also discourage future withdrawals from the NPT by making all future sales of sensitive nuclear facilities subject to safeguards agreements that do not lapse if a state withdraws from the NPT and including a "return to sender" clause in which the recipient state would be required to close down the facilities and return the sensitive technology and nuclear materials to the country of origin as soon as possible.[23]

It is often forgotten, however, that there is a logical link between Article VI and Article X of the NPT. It will be difficult for the existing NWS to take the final steps of nuclear disarmament without more confidence that NNWS will not withdraw from the Treaty in the future. It will also be difficult for the NNWS to accept constraints on their Article X rights without more confidence that the existing nuclear powers will actually implement disarmament in ways that are difficult for them to reverse. At future NPT review conferences, the NWS and NNWS should therefore address how best to promote increased

verification and transparency and to reduce incentives for NPT withdrawal and disarmament reversal as part of their joint responsibilities to work in good faith toward a nuclear-free world.

Efforts to prevent cheating on NPT commitments or future disarmament agreements may fail, of course, and stronger enforcement mechanisms therefore need to be considered. There are, fortunately, strong logical reasons to be optimistic about the prospects for enforcement in a nuclear-free world: in such a world, the major powers, which would include both traditional NNWS and new former NWS, would take violations more seriously because small-scale cheating would pose an even greater risk to their security than is the case now. Today, the existence of large arsenals in the United States and Russia, and arguably in other NWS as well, encourages some leaders to be complacent about the spread of nuclear weapons to new nations. Faith in the strength of nuclear deterrence leads some policy-makers to believe that North Korea or Iran, for example, will be deterred from ever using their nuclear weapons if the current negotiations fail. In a nuclear-free world, however, such deterrence optimism would be far less likely, and all major powers would share deeper fears of the emergence of new nuclear states.[24] The temptation for buck-passing would remain, but the faith that nuclear deterrence would constrain a violator would not, and new institutional arrangements for coordinating decision-making on sanctions and conventional military operations, perhaps through the UN Security Council, could help produce more effective enforcement of nonproliferation and disarmament.

Finally, it should be noted that in a nuclear-weapons-free world, former NWS will retain the option of withdrawing from any disarmament agreement. The possibility of rearmament, however, is both a potential problem for stability, if a conventional war or deep crisis occurs between two latent nuclear states, and a potential source of stability, for each latent nuclear state will know that if it rushes to rearm, others may do so as well. "Irreversibility" is often cited as a key objective in any nuclear disarmament agreement (for example, this goal was cited in the 13 Practical Steps agreed to at the 2000 NPT Review Conference). Yet in a world without nuclear weapons, the former NWS would be "more latent" than others who did not have their technological expertise or operational experience, and an objective in the final negotiations in the global disarmament process must be to create stronger verification and monitoring capabilities to provide confidence that one state could not start the rearmament process without others observing such actions. Nuclear deterrence would still exist in a nuclear-weapons-free world, but it would be of a much more recessed and latent form than exists today.

Some are pessimistic about the prospects for latent nuclear deterrence, believing that it is inherently less stable than the current form of active nuclear deterrence. Sir Michael Quinlan, for example, argued that "it is sometimes suggested that the very fact of this reconstitution risk would serve as a deterrent to war – weaponless deterrence, it has been called, a sort of deterrence at one remove. But that implies a worldwide and long-sighted wisdom on which it would surely be imprudent to count."[25] Quinlan was certainly correct to remain skeptical about the degree we can ensure that "worldwide and long-sighted wisdom" will exist in the future world without nuclear

weapons. But surely the same argument holds true, and in spades, for a future world with many states holding nuclear arsenals. We cannot design an international system in which wisdom and prudence are guaranteed. A nuclear-free world would, however, reduce the consequences of individual failures of wisdom and prudence.

The technical and political challenges that confront proponents of nuclear disarmament are complex and serious. It is therefore by no means clear that the NWS will be able to overcome these challenges to achieve the goal of complete nuclear disarmament. What *is* clear, though, is that the existing NWS cannot reach the summit of a nuclear-free world without the active partnership of the current NNWS. The NWS and NNWS have a shared responsibility for nuclear disarmament in the future, and will share a common fate if they fail to cooperate more effectively.

Shared responsibilities for nuclear disarmament

ENDNOTES

1 George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "A World Free of Nuclear Weapons," *The Wall Street Journal*, January 4, 2007, and "Toward a Nuclear-Free World," *The Wall Street Journal*, January 15, 2008; Douglas Hurd, Malcolm Rifkind, David Owen, and George Robinson, "Stop Worrying and Learn to Ditch the Bomb," *The Times* (London), June 30, 2008; Alexander Kwasnewski, Tadeusz Mazowieki, and Lech Walesa, "The Vanishing Bomb," *The Moscow Times*, April 7, 2009; Helmut Schmidt, Richard von Weizsacher, Egon Bahr, and Hans-Dietrich Genscher, "Toward a Nuclear-Free World: A German View," *International Herald Tribune*, January 9, 2009; Massimo D'Alema, Gianfranco Fini, Giorgio La Malfa, Arturo Parisi, and Francesco Calogero, "A World Free of Nuclear Weapons," *Corriere Della Sera*, July 24, 2008; Malcolm Fraser, Gustav Nossal, Barry Jones, Peter Gration, John Sanderson, and Tilman Ruff, "Imagine There's No Bomb," *The Age*, April 8, 2009.

2 See Albert Wohlstetter, Thomas A. Brown, Gregory Jones, David McGarvey, Henry Rowen, Vincent Taylor, and Roberta Wohlstetter, "Moving Toward Life in a Nuclear Armed Crowd?" *Report for the Arms Control and Disarmament Agency*, April 22, 1976; http://www.npec-web.org/Frameset.asp?PageType=Single&PDFFile=19751204-AW-EtAl-MovingTowardsLifeNuclearArmedCrowd&PDFFolder=Essays.

3 Frank Gaffney, Jr., "Peace Through Weakness," February 16, 2009; http://www.centerforsecuritypolicy.org/p17891.xml?cat_id=120.

4 Wolfgang K. H. Panofsky, "The Nonproliferation Regime under Siege," *Bulletin of the Atomic Scientists* (August 5, 2007); http://www.thebulletin.org/web-edition/op-eds/the-nonproliferation-regime-under-siege.

5 Mohamed ElBaradei, "Addressing Verification Challenges," Statements of the Director General: Symposium on International Safeguards, October 16, 2006; http://www.iaea.org/NewsCenter/Statements/2006/ebsp2006n018.html.

6 George Perkovich and James M. Acton, "Abolishing Nuclear Weapons," Adelphi Paper 396 (London: International Institute for Strategic Studies, 2008), 93.

7 Albert Wohlstetter, "Spreading the Bomb without Quite Breaking the Rules," *Foreign Policy* (Winter 1976/1977).

8 Pierre Goldschmidt, "Exposing Nuclear Non-Compliance," *Survival* 51 (1) (2009): 143 – 164.

[9] See George Bunn, *Arms Control by Committee* (Stanford, Calif.: Stanford University Press, 1992), 101.

[10] For creative ideas on increasing the size and diversity of IAEA contributions, see Thomas Shea, "Financing IAEA Verification of the NPT," November 2006; http://www.npec-web.org/Essays/20061113-Shea-FinancingIAEAVerification.pdf.

[11] For differing views on this, see Christopher A. Ford, "Debating Disarmament: Interpreting Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons," *The Nonproliferation Review* 14 (3) (2007): 402–428, and Scott D. Sagan, "Good Faith and Nuclear Disarmament Negotiations," in *Abolishing Nuclear Weapons: A Debate*, ed. George Perkovich and James M. Acton (Washington, D.C.: Carnegie Endowment for International Peace, 2009), 203–212.

[12] John Deutch, "A Nuclear Posture for Today," *Foreign Affairs* (January–February 2005): 51.

[13] Des Brown, "Laying the Foundation for Multilateral Disarmament," February 5, 2008; http://www.reachingcriticalwill.org/political/cd/speeches08/1session/Feb5UKDefSecDesBrown.pdf.

[14] Samuel W. Bodman and Robert M. Gates, "National Security and Nuclear Weapons in the 21st Century," September 2008; http://www.defenselink.mil/news/nuclearweaponspolicy.pdf.

[15] "The Alliance's Strategic Concept" (NATO, April 1999); http://www.nato.int/docu/pr/1999/p99-065e.htm.

[16] See "Are the Requirements for Extended Deterrence Changing?" Carnegie Endowment for International Peace Conference, April 6, 2009; transcript available at http://www.carnegieendowment.org/events/?fa=eventDetail&id=1299.

[17] Reuters, "Obama, Clinton in New Flap over Nuclear Weapons," August 2, 2007; http://www.alertnet.org/thenews/newsdesk/N02381100.htm.

[18] Elaine M. Grossman, "U.S. General Reserves Right to Use Force, Even Nuclear, in Response to Cyber Attack," Global Security Newswire, May 12, 2009; http://gsn.nti.org/gsn/nw_20090512_4977.php.

[19] "Kissinger on NATO," *Time*, September 17, 1979; http://www.time.com/time/magazine/article/0,9171,920653,00.html.

[20] George Perkovich, "Extended Deterrence," Draft Paper Prepared for the Evans-Kawaguchi Commission, May 2009.

[21] Harold Brown and John Deutch, "The Nuclear Disarmament Fantasy," *The Wall Street Journal*, November 19, 2007.

[22] See Thomas C. Schelling's essay in this issue of *Dædalus*, as well as Schelling, "The Role of Deterrence in Total Disarmament," *Foreign Affairs* (April 1962). See also, Charles Glaser, "The Instability of Small Numbers Revisited," in *Rebuilding the NPT Consensus*, ed. Michael May (Stanford, Calif.: Center for International Security and Cooperation, 2008); http://iis-db.stanford.edu/pubs/22218/RebuildNPTConsensus.pdf.

[23] See Pierre Goldschmidt, "Concrete Steps to Improve the Nonproliferation Regime," Nonproliferation Program Paper 100 (Washington, D.C.: Carnegie Endowment for International Peace, April 2009).

[24] This argument was first made by Charles L. Glaser, "The Flawed Case for Nuclear Disarmament," *Survival* 40 (1) (Spring 1998).

[25] Michael Quinlan, "Abolishing Nuclear Armouries: Policy or Pipedream?" *Survival* 49 (2) (Winter 2007–2008): 12.