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Taking Proliferation Seriously

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WITH AMERICA'S departure from the Anti-Ballistic Missile Treaty late in 2002, Bush officials have claimed that America has begun to lead the world away from security policies based on mutual assured destruction (MAD). The administration's decision to deploy a national missile defense system in Alaska certainly is a clear refutation of MAD-based opposition to such protection. What's less clear, however, is how America's rejection of MAD might affect U.S. nuclear weapons policies beyond missile defense — specifically, America's plans to stem the spread of nuclear weapons or to use nuclear weapons in certain circumstances.

MAD and NPT

TO AN EXTENT not generally appreciated, U.S. and international nonproliferation policies have had a fairly tight relation to MAD. During the Cold War, the most popular view concerning nuclear weapons reflected the MAD view that having a nuclear force capable of killing large numbers of civilians afforded nations basic security against attack. There also was a MAD fear that any attempt by nations to go beyond the finite force levels needed to attack undefended cities would lead to war-prone arms races.

The thinking here was that if the superpowers targeted more than their opponents' vulnerable cities, they would be forced to develop ever-quicker, more accurate nuclear delivery systems (necessary to evade or destroy opposing weapons). They also would have to place their weapons on hair-trigger alert and risk deploying them tactically to an ever-growing number of military commanders. All of this, it was argued, would only increase the chances of nuclear war.¹

These views certainly were common during the mid-1960s and were quite prevalent among those negotiating the Nuclear Nonproliferation Treaty (NPT). Thus, by the late 1960s, most of those crafting the NPT argued that the real proliferation danger emanated not so much from the spread of nuclear weapons to more nations as from as the superpowers' own never-ending arms race. This rivalry, these diplomats argued, was even more likely to result in worldwide destruction than smaller states' "independent manufacture" of nuclear weapons.² They agreed that all nations had a *right* to acquire nuclear weapons to defend themselves (not only against possible nuclear neighbors, but as a hedge against the superpowers if they refused to curb their own nuclear arming). But if "because of higher considerations of the interests of mankind" non-weapons states decided not to exercise this right, they were equally convinced that these states deserved to be compensated.³

Under the NPT, this compensation consisted of: (1) non-weapons states having an "inalienable right" to acquire all forms of nuclear energy technology (Article IV); (2) the demand that the superpowers engage in good faith negotiations on "effective measures relating to the cessation of the nuclear arms race" (Article VI); and (3) the right of non-weapons states to withdraw from the NPT and develop nuclear weapons "if extraordinary events . . . have jeopardized the[ir] supreme interests" (Article X).

For nearly 30 years, this "grand bargain" was interpreted in a manner that focused greatest attention on the need for the superpowers to end the arms race — i.e., to stop nuclear innovation through nuclear testing and to reduce the size of their arsenals to levels (a few hundred weapons) no larger than needed to absorb an attack and yet be able to target other countries' undefended cities. Thus, the NPT's preamble calls for "the cessation of the arms race" and of further nuclear weapons production and testing. The treaty's negotiating record, meanwhile, speaks approvingly of restraints on national missile defenses (later to become the ABM Treaty) and on nuclear missile delivery systems (later to become SALT and START). As such, the various NPT review conferences that have been held on almost an annual basis since the NPT came into force have focused on these issues almost exclusively.

Finally, throughout the past three decades, members of the NPT have pushed for ever-freer access to civilian nuclear energy technology. The view here has been almost identical to that voiced at the time of the NPT's signing: If a state forswears exercising its right to acquire nuclear weapons, it nonetheless retains a natural right to all forms of nuclear technology for peaceful purposes. Exercise of this residual right has been interpreted to include acquiring the ability to stockpile large quantities of nuclear weapons-usable plutonium and highly enriched uranium and even to develop nuclear weapons implosion and gun assembly devices (so long as these don't have nuclear weapons material cores).

All that was required of non-weapons states to engage in these activities, besides signing the NPT, was to afford NPT's nuclear watchdog agency or its equivalent in EURATOM occasional access to monitor declared nuclear facilities to ensure that no special nuclear material was unaccounted for. If a nation's amount of special nuclear material (including

even large amounts of nuclear weapons-usable material) was what it should be, the IAEA would issue a clean bill of health and protect whatever it knew about the amounts of these nuclear weapons-usable materials from being sought or shared.⁴ Thus, it was understood that, consistent with the treaty, members of the NPT could develop a nuclear weapons breakout capability. As the U.S. State Department's own Policy Planning staff explained in an internal study in 1968:

After the NPT, many nations can be expected to take advantage of the terms of the treaty to produce quantities of fissionable material. Plutonium separation plants will be built; fast breeder reactors developed. It is possible that experimentation with conventional explosives that might be relevant to detonating a nuclear bomb core may take place. In this way, various nations will attain a well-developed option on a bomb. A number of nations will be able to detonate a bomb within a year following withdrawal from the treaty; others may even shorten this period.⁵

Under this interpretation of the NPT, adherence to the treaty required only minimal enforcement or monitoring. The key protection against proliferation, after all, was the willingness of nations to forswear exercising their natural right to acquire nuclear weapons in a legally binding treaty. This also meant that the nonproliferation secured by the treaty was potentially quite fragile.

NPT after the Cold War

*D*espite these shortcomings, the NPT until recently was heralded as a clear success. Following the fall of the Berlin Wall in 1989, achievement of the NPT's ultimate goals actually seemed within reach. South Africa and Ukraine renounced their possession of nuclear weapons and joined the NPT. Similarly, Brazil and Argentina gave up their nuclear weapons programs and became NPT members. In 1995, the NPT, which was up for a 25-year review, was extended indefinitely. Also, Russia and the United States began to reduce their deployment of nuclear weapons systems dramatically. By 2001, both had agreed to reduce their strategic nuclear weapons deployments to less than 4,400 weapons, whereas at the height of the Cold War both had deployed a total of well over 60,000 strategic and tactical nuclear weapons.

After the mid-1990s, though, the NPT and its MAD-inspired interpretation began to falter. First, whatever limited utility MAD thinking may have had to describe or channel the Cold War competition between the Soviet and U.S.-led alliances, it was a tolerable view only so long as the two superpowers actively kept nations under their influence from acquiring nuclear weapons of their own. During the Cold War, to a great extent, this worked. The Soviets kept Eastern Europe from going nuclear, and the U.S. and NATO curbed the nuclear ambitions of most of Western Europe and much of the Middle East and Asia.

With the end of the Cold War competition, though, nations had a greater incentive to go their own way and MAD and finite deterrence arguments only tended to make this impulse stronger. Indeed, if acquisition of a relatively few nuclear weapons targeted against an adversary's undefended cities was a sure guarantee against being attacked by a neighbor or a larger outside power, why wouldn't most nations choose to go nuclear? In 1998, India and Pakistan's nuclear tests seemed to validate this view. Both nations essentially affirmed that they felt more secure with bombs of their own than they did with any military, political, or economic support they might get from others.

Second, after the Cold War several NPT members exploited the generous nuclear compensation that a MAD-inspired view of the NPT required. North Korea, which became a member of the NPT in 1985, managed to secure all the nuclear assistance it needed to generate and separate plutonium for bombs and launch a covert uranium enrichment program. Although it only allowed the IAEA to inspect its facilities in 1992, Pyongyang was able to remain a member of the NPT even *after* it was found in violation of its safeguards agreement in 1993 and, indeed, even after it first claimed it had already withdrawn in early 2003.

Iran, meanwhile, acquired virtually the entire fuel cycle — fuel fabrication plants, uranium enrichment facilities, a large light water reactor, a heavy water production facility — *without* being found in violation of either the NPT or its IAEA safeguards agreement. The concern now is that Tehran in little more than 30 months could come within weeks of having a nuclear arsenal of 50-75 weapons and still be a member of the NPT in good standing.

Third, after the Cold War, enforcement of the NPT was tested and found wanting. In the case of Iraq, it was only after its defeat in Desert Storm that the U.N. voted to restrict its full access to nuclear energy technology. At no time prior to the war was it ever found in violation of its IAEA safeguards obligations. North Korea, meanwhile, was able to evade the NPT requirement that it permit IAEA inspections of its facilities 18 months after signature and did so for nearly an additional five years with no repercussions. Then, when the U.N. in 1993 did finally find North Korea to be in violation of its safeguards agreement, no action was taken.

Rather than sanction North Korea, the U.S., its allies, and the U.N. allowed Pyongyang to evade its NPT obligation to allow IAEA inspectors for yet another decade. The reason was a U.S.-formulated deal to give North Korea two large, modern light water reactors in exchange for its *eventual* compliance with its IAEA safeguards agreement. Even after Pyongyang made it clear that it had violated this agreement and withdrew from the NPT, no enforcement action was taken against it. The promised reactors are still being built.

North Korean officials recently suggested that they might export the nuclear weapons they had made to other states. As a state that has withdrawn from the NPT, this would be a perfectly legal thing for North Korea to do. It could even export warheads to an NPT non-weapons state member: So long as the warheads remained under North Korean

control — as the U.S. currently maintains control of its nuclear weapons in Germany — no provision of the NPT would be violated.

What's MAD that remains

GIVEN THIS WORRISOME review of the NPT's current implementation, one can only hope that the popularity of MAD-inspired views of the treaty might finally give way to a safer set of policies. This is conceivable, but only if the U.S. and its allies are willing to drop their attachment to MAD thinking and MAD-inspired nonproliferation — steps that will require much more than the U.S. merely backing out of the ABM Treaty.

First, the U.S. and its allies would have to further reduce their security reliance on forms of nuclear retaliation that still entail the killing of large numbers of people. American officials are now openly raising doubts about the deterrent value of our nuclear forces against rogue states and terrorist organizations. Yet they still claim that retention of 1,700 to 2,200 deployed nuclear weapons is needed to deter “mature” or “advanced” states (e.g., Russia and China). Use of large numbers of these weapons to target Russia's weapons capabilities, however, could kill several million civilians. How well retaining such an “option” accords with moving away from MAD is unclear.

Also, the threatened use of such weapons is presented publicly as a possible means to deal with smaller, badly behaving states (i.e., those that might threaten use of chemical or biological weapons). American officials are particularly interested in being able to surgically disarm hostile states with nuclear bunker buster warheads. Yet many command bunkers are located in or near these states' largest cities (e.g., Baghdad, Tehran, etc.) as are a fair number of the weapons of mass destruction storage and production facilities that might be targeted. Attacking these targets could easily entail the slaughter of large numbers of people.

It is not clear what can be done about this. Perhaps non-nuclear technologies, such as kinetic ballistic missile warheads, could be developed to put hardened bunkers at risk. Perhaps targets could be selected that would keep potential collateral damage to a minimum or that would obviate the need to destroy the bunkers in question. Perhaps not. What is clear, however, is that relying heavily on nuclear targeting that entails heavy casualties will undermine the credibility of U.S. efforts to move away from MAD and to get other nations to do so as well.

Second, the U.S. and its allies would have to actively contest the notion that all states have a natural right to acquire nuclear weapons. Certainly, the notion that if a nation's security is threatened, it has a right to break out of the NPT needs to be challenged. If it is not, North Korea's recent accumulation of nuclear technology under false “peaceful” pretenses and its withdrawal from the treaty is sure to be only the first of many such frauds. Any credible challenge to similar abrogations, however, would require the U.S.

and its allies to take a much firmer line against states outside the NPT's five recognized nuclear weapons powers. This would require discipline that has yet to be demonstrated.

In fact, the United States and its allies have all too frequently done the opposite, excusing Israel's, India's, and Pakistan's possession of nuclear weapons as being "understandable." Recently, the chairman of the U.S. Nuclear Regulatory Commission visited two of India's nuclear weapons production reactors and extended American nuclear "safety" cooperation to New Delhi. Earlier, the U.S. government did all it could to waive and bend mandatory sanctions laws directed against India's and Pakistan's nuclear tests in 1998.⁶ More recently, the U.S. refused to identify Pakistan as a nuclear proliferator despite repeated reports of Pakistani nuclear assistance to North Korea and Iran. As for Israel, the U.S. did far too little to stop its nuclear weapons program and has done nothing publicly to get it to stop production of plutonium at its weapons plant at Dimona.

Such proliferation "realism" is not limited to friendly nuclear weapons states outside the NPT. Nor is it confined to how the U.S. relates to friendly non-weapon state members of the NPT. The U.S. has protested North Korea's violation of the NPT and is seeking a resolution condemning it. It has protested little or not at all, however, Pyongyang's actual withdrawal from the treaty. Is the supposition here that the U.S. recognizes North Korea's right to nuclear weapons and its right to keep all the nuclear technology it illicitly gained while a member of the NPT?

Then there is the argument U.S. officials make that if North Korea does not disarm, Japan might acquire nuclear weapons as well. This is something China should fear, American officials have explained, but is it also something Washington welcomes or expects? Perhaps the United States could "live" with such a good nation acquiring nuclear weapons so long as Japan acquires them to assure mutual deterrence of North Korea. Is the U.S. ready to make the best of such proliferation? Is it prepared to let other friends — South Korea, Taiwan, Saudi Arabia, Egypt, Turkey — follow suit?

Again, if the U.S. is truly to move away from MAD, it must eschew even indirectly endorsing the notion that nuclear weapons can assure a nation protection from attack or that, as such, others' acquisition of them is simply the exercise of their right to self-defense. Certainly, if nations perceive that the U.S. is willing to look the other way or to endorse some nuclear proliferation as good, inevitable, or manageable, further proliferation will only be more likely.

Third, the U.S. and its allies would actually have to enforce the current set of nuclear nonproliferation rules and make them less generous with regard to what is safe and dangerous. As noted before, the MAD or finite deterrence-inspired notion that states have a right to nuclear weapons and that they should be compensated with free access to all types of nuclear technology for not exercising this right has more than run its course in the case of Iraq, Iran, and North Korea. The NPT, after all, makes it clear in Article IV that nations' inalienable right to develop nuclear energy for peaceful purposes must nonetheless be exercised "in conformity with Articles I and II," which prohibits states

from assisting non-weapons states “in any way” to acquire nuclear explosives or control over such weapons.

This Article I and II prohibition, it should be noted, was originally inspired not by the finite deterrence or MAD thinking of the late 1960s, but by the original Irish U.N. Resolutions of 1958 and 1959, which were the first to call for an international nuclear nonproliferation treaty. In requesting that the U.N. establish a committee to study the dangers inherent in the further spread of nuclear weapons, the Irish representative to the U.N. held no brief for nations having any “right” to acquire atomic explosives, much less for them being compensated with unrestricted access to nuclear technology for “peaceful” purposes. Nor did he argue that the key nuclear threat was the pace of superpower nuclear weapons innovation or growth.

Instead, Ireland’s original call for a nuclear nonproliferation treaty was premised on the fear that the further spread of nuclear weapons to additional states would make nuclear disarmament and reductions less likely and accidental or catalytic wars — ones instigated by smaller powers to draw the superpowers to their defense — more probable. Against this threat, the Irish representative urged adoption of the most basic restraint: States that had weapons should agree not to share or spread them, and states that lacked them should agree not to acquire them. As for the sharing of nuclear technology for civilian purposes, the Irish recognized that the further spread of such civilian capabilities would actually make the spread of nuclear weapons more likely and that, therefore, the proliferation of such technology had to be controlled. Finally, the Irish downplayed the idea that the superpowers had to disarm themselves before any progress could be made to reduce the spread of nuclear weapons to other states.⁷

Clearly, this original Irish Resolution view of the NPT is the one to which we need to return if we are to keep the NPT as an agreement that will reduce rather than fan further nuclear proliferation. In the first instance this will require that the U.S. and other nuclear technology-exporting states recognize that too much of what they are willing to share is too close to bombmaking to be safeguarded against quick diversion to military ends. Certainly, light water reactors in Iran will bring it dangerously close to having a large arsenal of near-weapons-grade plutonium after only 15 months of operation. The same is true of North Korea if either of the two light water reactors the U.S., Japan, and South Korea are helping to build are completed. It is even clearer that Russia’s, Pakistan’s, and China’s sharing of fuel fabrication, plutonium separation, and uranium enrichment technology and hardware with Iran and North Korea is simply too close to bombmaking ever to allow for any monitoring to be able to afford timely warning of a possible military diversion.

Unfortunately, America is still pushing international cooperation on advanced fuel cycles and reactors that includes cooperation on “proliferation resistant” breeder reactors and reprocessing (because of the addition of several steps that could just as easily be subtracted as not). This cooperation is being proposed for Brazil, South Africa, South Korea, and Argentina — states that only recently gave up nuclear weapons programs of their own.

Finally, there seems to be growing U.S. and allied indifference to further civilian use of weapons-usable plutonium. Here the U.S. is proposing to reconsider President Ford's policy of deferring the commercial use of such nuclear fuels. As an unannounced lead in this effort, Washington is plowing ahead with its efforts to convert 34 tons of weapons-grade plutonium into mixed oxide (MOX) civilian fuels over the next 20 years and to help pay Russia to do the same. The U.S. Department of Energy claims that this effort has nothing to do with reversing the Ford policies — but, in fact, this project will result in over \$6 billion in MOX fuel fabrication facilities being built both here and in Russia and the movement of over 17,000 nuclear weapons' worth of plutonium into civilian commerce.⁸

Such risky civilian efforts, which are consistent with a MAD-inspired reading of the NPT and the need for the freest exchange of nuclear technology for civilian purposes, are themselves bad enough. What's worse is their encouragement of lax enforcement of existing nonproliferation rules. Japan recently announced that it had lost between 59 and 206 kilograms (10 to 51 crude bombs' worth) of nuclear weapons-usable material over the past 15 years of its civilian breeder and MOX operations. Yet the U.S. made no complaint, and the IAEA conducted no serious investigation. In fact, the IAEA still only makes public its discovery of special nuclear materials it believes are unaccounted for. It keeps no public account of the nearly 200 tons (25,000 to 50,000 crude weapons' worth) of weapons-usable civilian plutonium that specific member states have on hand.⁹

Such a cavalier attitude regarding the sharing, accounting, generation, and safekeeping of civilian nuclear weapons-usable materials and related technologies might have made sense in the MAD world of the NPT in 1968, but after the events of September 11 and al Qaeda's announced interest in nuclear explosives, it is woefully unwise.

Towards a saner set of policies

MAKING THE CHANGES noted above will not be easy. However, it would be a mistake not to try. Currently, there are only five declared nuclear states, all of whose arsenals (except China's) are becoming smaller. India, Pakistan, and Israel also have nuclear weapons, as does North Korea. The question is how much worse it can get. The answer is plenty.

If nothing is done to shore up U.S. and allied security relations with the Gulf Coordination Council states and with Iraq, Turkey, and Egypt, Iran's acquisition of even a nuclear weapons breakout capability could prompt one or more of these states to try to acquire a nuclear weapons option of their own. Similarly, if the U.S. fails to hold Pyongyang accountable for its violation of the NPT or lets Pyongyang hold on to one or more nuclear weapons while appearing to reward its violation with a new deal — one that heeds North Korea's demand for a nonaggression pact and continued construction of the two light water reactors — South Korea and Japan (and later, perhaps, Taiwan) will have

powerful cause to question Washington's security commitment to them and their own pledges to stay non-nuclear.

In such a world, Washington's worries would not be limited to gauging the military capabilities of a growing number of hostile, nuclear, or near-nuclear-armed nations. In addition, it would have to gauge the reliability of a growing number of nuclear or near-nuclear friends. Washington might still be able to assemble coalitions, but with more nations like France, with nuclear options of their own, it would be much, much more iffy. The amount of international intrigue such a world would generate would also easily exceed what our diplomats and leaders could manage or track. Rather than worry about using force for fear of producing another Vietnam, Washington and its very closest allies are more likely to grow weary of working closely with others and view military options through the rosy lens of their relatively quick victories in Desert Storm, Kosovo, Operation Iraqi Freedom, and Just Cause. This would be a world disturbingly similar to that of 1914 but with one big difference: It would be spring-loaded to go nuclear.

To move away from such a future, then, is worth some effort. But what step should be taken first? Clearly, it would be helpful if the U.S. and its allies backed country-neutral rules that would close some of the worst loopholes in the NPT. These gaps principally consist of the NPT's non-application to weapons states outside the treaty, the NPT's lack of any serious enforcement measures, its generous inattention to risky "peaceful" nuclear cooperation, and its allowance of nuclear weapons transfers between states so long as the weapon transferred remains under the control of the exporting nation (e.g., U.S. nuclear weapons deployed in Germany).

To begin to fill these loopholes and to get back to an Irish Resolution view of the NPT generally, one might start by trying to establish an "international common usage" against any state helping others to acquire weapons of mass destruction (nuclear, chemical, or biological weapons) such as that which already exists against piracy and the trading in slaves. Piracy and slaving are currently activities that can be conducted only outside of the protection of international law. Any nation that encounters someone engaged in these activities is free to act against them, to arrest them, seize their cargo, or force their vessels or vehicles to return to their point of origin.

One approach to help establish such a rule against weapons of mass destruction might be to establish that nations henceforth must not deploy chemical, biological, or nuclear weapons to any other nation in peacetime, whether such weapons remain under control of the first nation or not. Beyond this, the U.S. and like-minded nations should propose that nations no longer ship any special nuclear materials (as defined by the IAEA statute) or any item on Schedule One of the Australia Group's list of biological and chemical weapons items or items on the Nuclear Suppliers' list without giving prior international notification. In fact, shippers' export declarations laws in the U.S. and Australia already require exporters in these states to make prior notification of their export shipments. Other nations should do likewise. These postings could be made on an internationally available website almost immediately.

In addition, the U.S. and other like-minded nations should declare that henceforth no nation should be allowed in peacetime to redeploy nuclear, chemical, or biological weapons outside its borders. This rule is one the United States, with its various submarine-launched ballistic and cruise missile systems, long-range bombers, air-launched cruise missiles, and sea-based strike aircraft, can easily live with. Any nation violating this rule, whether friendly (e.g., Pakistan) or not (e.g., North Korea), should, again, be subject to interdiction.

Finally, if there is support for stronger action, exports made outside the procedures of IAEA, Australia Group, Nuclear Suppliers Group, and (perhaps) the Missile Technology Control Regime might be banned and targeted for interdiction. This rule would clearly put a bind on nonmembers of these organizations. It would apply not just to Iran, which has announced its desire to export its nuclear expertise, but to China, North Korea, and Pakistan, who trade in nuclear and missile technology. It also could include Israel, which has exported technology to China, and India, a state that announced a military cooperative agreement with Iran and its intent to export military technology internationally.

If the U.N. Security Council acted quickly to adopt such a measure, all the better. If it failed to act, however, those who discover a violation of the proposed rules might choose to act on their own. In either case, an international common usage against weapons of mass destruction trade would be beneficial in a number of currently worrisome cases. Pakistan, for one, could no longer contemplate transferring nuclear warheads legally under its control to Saudi Arabia (as its generals have privately suggested they might). Nor could Pyongyang act on its threat to transfer its nuclear weapons to another state without risking having the shipment legally blocked or seized. Beyond this, any strategic weapons-related assistance a Pakistan (or a North Korea, China, Iran, or Russia) might want to give to other states would now have to be announced before it was actually shipped or else hazard being interdicted. This, at the very least, in turn, would help prevent a repeat of another Iran — i.e., of another nation covertly acquiring all it needs to break out quickly with a large arsenal of weapons without quite breaking the rules.

This international common usage also would allow the world's Indias, Israels, and Pakistans, who cannot be made weapons state members of the NPT, a formal way to uphold international nonproliferation norms. In addition, it would allow other nations that have bad proliferation reputations (e.g., China and Russia) to work with the U.S. and others to restore their good names. Finally, by establishing an international rule against warhead transfers and dangerous covert trade, it would afford supporters of nonproliferation a legal basis for acting against violators even if they failed to catch them in the act.

If the U.S. wanted to build additional support for this effort, it might offer to remove its prior deployment of nuclear arms in Western Europe. These weapons are almost certain to be removed with the planned reduction of American forces in Germany. Also, most of these weapons are quite old if not obsolete. Such an offer (to do what the U.S. will likely do in time anyway) would still have to be implemented carefully so as not to undermine

NATO alliance relations. It could not be done suddenly or appear to be a response to anti-nuclear protests. Assuming this could be done, though, such an offer might help persuade Russia and others to support establishing an international usage against WMD proliferation both before and at the time of any U.N. vote.

In conjunction with the proposed ban on unannounced dangerous trade, a ban on redeploying weapons of mass destruction could set into motion a much more serious review of MAD-inspired nonproliferation policies more generally. What should the IAEA and the world's leading nuclear suppliers consider to be safe and dangerous? Should nations like Iran be able to get all they need to break out with a large arsenal virtually overnight? What truly constitutes timely warning of a diversion of civilian technology to military purposes? Is something more than inspection required to find special materials unaccounted for? Does it make sense to spread nuclear bulk handling facilities — reprocessing, enrichment, fuel fabrication plants — where scores of bombs' worth of nuclear weapons material will be present? What of increased civilian commerce in nuclear weapons materials? Is this trade worth the risks, or should it be put on hold? What of missile technologies? Should controls be tightened to prevent proliferation or relaxed to promote missile defense cooperation? In either case, how should this be done?

A debate over all these questions and more is likely assuming the U.S. and others choose to get serious about moving away from MAD toward a world with fewer nuclear weapons in fewer hands. On the other hand, without such a move, the bold steps Washington has already taken away from MAD's opposition to missile defenses will hardly get us where the U.S. and the world should want to go — toward a safer, saner world whose security is based less on nuclear offenses than on defenses, self-restraint, and, in time, the kind of peace that can only come with a world full of Canadas.

Notes

¹ See, e.g., National Planning Association, 1970 *Without Arms Control* (May 1958); Howard Simons, "World-Wide Capabilities for Production and Control of Nuclear Weapons," *Daedalus* (Summer 1959); and William C. Davidson, Marvin I. Kalkstein, and Christophe Hohenemeser, *The Nth Country Problem and Arms Control* (National Planning Association, January 1960).

² See, e.g., "Statement by the Indian Representative [Trivedi] to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, October 31, 1966," in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1966* (U.S. Government Printing Office, 1967), 679.

³ See, e.g., "Statement by the Brazilian Representative [Azeredo da Silveira] to the Eighteen Nation Disarmament Committee: Draft Nonproliferation Treaty, August 31, 1967," in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1967* (U.S. Government Printing Office, 1968), 370.

⁴ See, e.g., “Statement by the Dutch Representative [Eschauzier] to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons [Extract], May 6, 1968,” in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1968* (U.S. Government Printing Office, 1969), 295-96; and “Statement by acda Director Forster to the First Committee of the General Assembly: Nonproliferation of Nuclear Weapons, November 9, 1966,” in U.S. Arms Control and Disarmament Agency, *Documents on Disarmament, 1966* (U.S. Government Printing Office, 1967), 271.

⁵ See U.S. Department of State Policy Planning Council, “After NPT, What?” NSF, Box 26, LBJL (May 25, 1968), as cited in Avner Cohen, *Israel and the Bomb* (Columbia University Press, 1998), 299.

⁶ See Mark Hibbs, “U.S. Confirms It Has Intelligence Pointing to DAE Planning Arms Tests,” *NuclearFuel* (April 14, 2003).

⁷ For documentation of these points, see Henry Sokolski, *Best of Intentions: America’s Campaign Against Strategic Weapons Proliferation* (Praeger Publishers, 2001), 39-56.

⁸ For a full discussion of this effort, see Daniel Horner, “Full G8 Funding for Construction of Russian MOX Plant Seen by Year’s End,” *NuclearFuel* (April 28, 2003).

⁹ Each year the IAEA and every second year EURATOM announce the total amounts of plutonium and highly enriched uranium they believe they are safeguarding. Both, however, are barred by rules of confidentiality from specifying what amounts they believe each country they are safeguarding is holding. On this point, see David Albright, Frans Berkhout, and William Walker, *Plutonium and Highly Enriched Uranium 1996 World Inventories, Capabilities and Policies* (Oxford University Press, 1997), 407; and Albert Wohlstetter et al., *Swords From Plowshares: The Military Potential of Civilian Nuclear Energy* (University of Chicago Press, 1977), 65-67.