

Dismantling the Concept Of 'Weapons of Mass Destruction'

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The world today faces a confused and potentially extremely dangerous situation in its current contradictory treatment of nuclear, biological and chemical weapons-commonly referred to collectively as weapons of mass destruction (WMD). A worldwide norm has been established which prohibits use and even possession of biological weapons (BW) and chemical weapons (CW), while possession and some uses of nuclear weapons by the five nuclear-weapon states remain legal, and the nuclear weapons potential of the "threshold" states-India, Israel and Pakistan-are tacitly accepted by the nuclear powers. Thus, nuclear weapons, which have been demonstrated to be by far the most destructive of the three classes of weapons, remain legitimate within certain restrictions while biological and chemical weapons, with more limited and problematic effectiveness, have been outlawed.

In addition to their differing legal status, these three classes of weapons are very diverse in their technical nature and military significance. Progress in controlling each category of weapons and resolution of the contradictions in the existing non-proliferation regime is made more difficult by lumping biological, chemical and nuclear weapons together under the banner of WMD.

The contradictory nature of these international norms raises questions with far-reaching consequences. First, what should U.S. policy be on the use, or threatened use, of nuclear weapons as a deterrent or response against possession or use of BW and CW? The United States has agreed to give up all biological and chemical weapons and, therefore, cannot threaten retaliation against the use of biological and chemical weapons *in kind*. Consequently, U.S. deterrence against the use or threatened use of such weapons has to be based either on conventional military superiority or through an expressed or tacit nuclear threat.

A second, more profound, question is: How will the role of nuclear, biological and chemical weapons evolve from the present situation, with its fundamental discriminatory nature and internal inconsistencies with regard to nuclear weapons. One can surmise four potential future paths; two are damaging to the security interests of the United States and the world, while the other two would potentially reduce the threat posed by the existing imbalance in non-proliferation efforts.

On the negative side, the United States faces the risk that the existing prohibitions over BW and CW will unravel as nuclear weapons remain in the hands of the nuclear-weapon states and possibly new nuclear proliferants; or, that the existing nuclear non-proliferation regime will be undermined as other states seek a nuclear option as a deterrent to BW and CW. On the positive side, the United States can hope that the present pattern, with its prohibitions against BW and CW, will endure as the nuclear-weapon states and threshold states gradually reduce their dependence on nuclear weapons; or, that the international community will be persuaded to extend the norm prohibiting BW and CW possession and use to nuclear weapons worldwide as well.

Diversity of Military Roles

The three classes of WMD's differ greatly with respect to: potential lethality and destructive power; the feasibility of protection and defenses; and, the potential mission of these weapons.

Lethality and Destructive Power

Nuclear weapons can increase the total explosive power that can be delivered in military payloads by up to a factor of a million. The weapons detonated over Hiroshima and Nagasaki, which killed about a quarter of a million people, had an explosive power about one-tenth that carried by a modern nuclear weapon. Even after reductions from Cold War heights, today's arsenals still comprise over 30,000 weapons worldwide.

The destructive power of nuclear weapons is well understood. If a 1-megaton thermonuclear warhead exploded at optimum altitude over a large city, little would be left standing or alive within five miles. A firestorm could be ignited, further extending the range of destruction. In a large-scale exchange, lethal fallout would cover an entire region. The "kill expectancy" of nuclear weapons against hardened military targets can be accurately predicted. Using sophisticated technology, "small" nuclear weapons weighing as little as 100 pounds can be constructed in the kiloton-yield range.

Biological weapons have not been used in warfare in modern times, but they have been and are still being stockpiled. The former Soviet Union had an extensive program, the status of which remains under some cloud. The United States had an offensive BW program until the early 1970s. The future threat of biological weapons is real. Modern technology has produced and will continue to produce a long list of potentially powerful agents and toxins, and several means of dispersal have been tested.

Much has been written recently about the lethality of biological weapons. If virulent BW materials were to be widely distributed over an exposed population, then the ratio of potential lethality to the total weight of the material could be comparable to that of nuclear weapons. However, for this horrifying scenario to occur, the materials cannot be dispersed by a single-point explosion, but instead must be spread by an appropriate mechanism such as spray tanks or by "fractionating" a missile's payload and dispersing separate mini-munitions over a wide area. Moreover, survival of BW material depends critically on local meteorological and other conditions which define the delivery environment. The survival of agents is generally of short duration and effects are delayed for days. Fortunately, there is no operational experience and test data are limited.

Chemical weapons were used extensively by the Central and Allied Powers during World War I, and to a very limited extent in World War II when Japan used them in its invasion of Manchuria. Iraq has used chemical weapons against both its own Kurdish population and Iran, and Egypt reportedly used CW against Yemen in the mid-1960s. The United States and Russia still possess their Cold War inventories of 30,000 and 40,000 tons of agents, respectively, which they are committed to destroy over the next decade at a cost of as much as \$15 billion to \$20 billion.

There is little question that the lethality of chemical weapons-as measured by per unit weight of delivered munitions-is lower by many orders of magnitude than it is for nuclear weapons or the undemonstrated and inherently uncertain potential of biological weapons. Thus, it is misleading to include chemical weapons in the category of WMD; "weapons of indiscriminate destruction" or "weapons of terror" might be a more appropriate designation.

Feasibility of Defenses

Meaningful defense against nuclear weapons, either by passive or active means, is extremely difficult if not impossible. This conclusion stems both from the extreme destructiveness of a single nuclear explosion and the multitude of delivery options available to an attacker. Each attempted

intercept would have to be extremely effective and the defense must be all-inclusive against feasible means of nuclear attack. Delivery vehicles for nuclear weapons in the form of land- or sea-based ballistic and cruise missiles of various ranges, artillery shells and aircraft have been developed and deployed. Nuclear explosives have been "weaponized" into atomic demolition munitions, anti-submarine weapons, earth penetrators, and air and missile defense warheads. Nuclear weapons can also be delivered on short-range missiles fired from nearby ships, detonated on board ships in a harbor, or simply smuggled across national borders.

During World War II, British air defenses succeeded in shooting down approximately one in 10 attacking aircraft carrying conventional bombs. As a result, German air force units were reduced by a factor of three after flying 10 attacking sorties. London stood, although it was badly battered. Yet a single, successfully delivered large thermonuclear warhead would have wiped out most of the population and structures of that great city. Thus, the standard which a defense against nuclear weapons has to meet is vastly higher than that required for conventional military exchanges. Such a standard simply cannot be met, particularly given the action-reaction dynamics between defense and offense. In response to deployed defenses, the offense can deploy countermeasures (such as decoys) and multiple or maneuvering vehicles, or can even change its means of delivery and bypass the defense altogether. Undoubtedly, such offensive stratagems would, in almost all cases, be much cheaper than the cost of the defense and still leave the threatened country just as vulnerable. Passive defenses are of limited value because a nuclear explosion results both in intense prompt effects (such as blast, radiation and heat) and delayed effects (such as firestorms and radioactive fallout).

Consequently, independent of the outcome of the highly politicized debate whether to develop and eventually deploy an expensive national missile defense (NMD) system, protection against nuclear weapons by technical means will remain elusive. Protection, therefore, must be sought through *dissuading* potential opponents from acquiring or delivering nuclear weapons, or through their global *prohibition*.

Technical defenses have a much more significant role against BW and CW. Passive defenses (such as gas masks and protective clothing) can be quite effective against both BW and CW, and such protection can be made generally available to troops and, to a more limited extent, to civilian populations (as Israel did, for example, during the Gulf War). While masks and protective clothing are available to the military, they are only reluctantly used because they interfere with the performance of troops in combat. Preventive vaccinations against biological agents can be effective, but only if the type and strain of enemy biological weapons are known. Unfortunately, due to advances in biotechnology, the list of potentially lethal agents has lengthened and strains of agents resistant to particular vaccines continue to evolve. Thus, mass vaccinations against a single agent, such as those recently ordered against anthrax for U.S. troops deployed in the Persian Gulf, can be negated if an attacker has an alternate agent available.

In general, it is difficult for either side to estimate in advance the effectiveness of passive countermeasures against BW and CW. Active defenses against BW and CW are equally difficult to evaluate due to the large number of delivery options available. It is interesting to note that the currently proposed U.S. NMD system, as designed, would be ineffective against delivery of BW by ballistic missiles if their payloads were fractionated to assure dispersal of the agents, which is necessary to achieve a major impact.

Potential Missions

In view of their inherent differences, the potential military roles of the three types of weapons are entirely different. Nuclear weapons remain in the inventories of the five declared nuclear-weapon states, and India, Israel and Pakistan either possess usable nuclear weapons or can rapidly assemble them. Because there are currently no deployed NMD systems besides Russia's old and very limited deployment around Moscow, and because such systems are expected to be ineffective at any rate, hostile nuclear explosions can only be prevented by successfully maintaining the tradition of *non-use*

of such weapons, converting this tradition to policy and eventually removing such weapons from national inventories. The tradition of non-use has been enforced in the past by treaty, by political dissuasion and through *deterrence* of nuclear weapons use by the existence of nuclear retaliatory forces. One can only hope that such measures will continue to prevent the use of nuclear weapons in the future.

Much has been written-without general consensus-on whether nuclear deterrence should be credited for the absence of nuclear weapons use during the Cold War, as well as for the absence of direct armed conflict between the superpowers. However, it will always remain difficult to explain confidently why something did *not* happen.

The nuclear weapons policies of the United States and Russia continue to evolve, but at this time in opposite directions. Russia, confronted with the deterioration of its conventional forces, has withdrawn the former Soviet no-first-use declarations and adopted a policy akin to the former NATO doctrine of compensating for its perceived conventional inferiority through reliance on nuclear weapons. For its part, the United States has made limited moves in the direction of constraining nuclear weapons to a purely deterrent role. The latest step in this direction is the November 1997 presidential decision directive (PDD) on nuclear policy that reportedly eliminated the requirement that the United States be prepared to fight and win a protracted nuclear war.

Yet, U.S. policy still remains ambiguous given the "reduce and hedge" policy outlined in the 1994 Nuclear Posture Review. Reductions of strategic nuclear weapons are being pursued via the START process, while the United States is still planning for an "enduring stockpile" of about 10,000 nuclear weapons in order to "hedge" against the emergence of a more hostile Russia. The "weapons of last resort" doctrine of NATO-permitting first use of nuclear weapons against non-nuclear attacks-has not been revoked.

Notwithstanding this complex situation, there is a growing recognition in the U.S. military that, in the words of a 1991 National Academy of Sciences study, ["the principal objective of U.S. nuclear policy should be to strengthen the emerging political consensus that nuclear weapons should serve no purpose beyond the deterrence of, and possible response to, nuclear attack by others."](#) As long as nuclear weapons remain in the legal inventories of the nuclear-weapon states and the *de facto* possession of India, Israel and Pakistan, that mission of nuclear weapons will continue. Today, that mission should be the *only* valid use of nuclear weapons. This view, however, is not the avowed policy of any of the nuclear-weapon states except China.

Terrorist use of nuclear weapons remains unlikely. Barring the clandestine acquisition of an intact nuclear weapon, the successful construction and use of nuclear weapons requires access to substantial technical infrastructure as well as technical knowledge and skill. Such an operation would be extremely difficult to carry out clandestinely without a state sponsor. One cannot, however, exclude nuclear terrorism sponsored by a state which has a nuclear weapons program. The only *technical* means to forestall nuclear terrorism or accidental or unauthorized use of a nuclear weapon is by stringent safeguards and controls over nuclear weapons and the weapons-usable fissile materials essential to their construction.

The military situation with respect to BW and CW is generally the inverse of that pertaining to nuclear weapons. As a terrorist tool against civilians, chemical weapons, and particularly biological weapons, are a clear danger. The science and technology underlying these weapons is widely known, and terrorist use of nerve gas was demonstrated in 1995 by the *Aum Shinrikyo* religious cult in Japan. While the technology to detect small quantities of released agents is improving rapidly, technical tools to forestall terrorist use are limited and most ingredients have legitimate civilian as well as offensive military uses. Therefore, prevention must largely rest on intelligence gathering and sharing, infiltration, law enforcement activities and other measures. Even inspections as intrusive as those conducted in Iraq by the UN Special Commission (UNSCOM) cannot definitively prevent clandestine efforts to maintain residual inventories. Moreover, such an intrusive inspection regime cannot be practically extended to other states suspected of possessing biological and chemical weapons.

Chemical weapons are demonstrably a relatively ineffective tool in warfare. The effectiveness of

biological weapons during military conflict is uncertain. In either case, a military commander would not have confidence in their use against a designated target because he could not judge the effectiveness of defenses. The effect of a broad-scale BW attack against opposing troops is impossible to predict and would be delayed by days under any circumstance. But even more than in the case of chemical weapons, biological weapons remain a formidable tool of terror as an adjunct to war.

The Legal Environment

While there has been major progress in arms control relating to nuclear, biological and chemical weapons, the legal constraints on these three classes of weapons are very different.

During the Cold War, the number of nuclear warheads worldwide grew to about 60,000, but it has now fallen to roughly half that amount. Part of that contraction is the result of the bilateral agreements between the United States and the Soviet Union/Russia, including the Intermediate-Range Nuclear Forces Treaty, START I and the reciprocal unilateral actions initiated by the heads of state. However, non-deployed weapons and some classes of tactical systems were not affected. The 1972 ABM Treaty, which limits both the United States and Russia to 100 ABM interceptors deployed at a single site, has played an integral part in achieving these agreements. The ABM Treaty provided reassurance to both sides that even reduced strategic nuclear forces would provide an effective deterrent.

Beyond these bilateral arms control agreements, the United States has the strongest possible interest in preventing the further proliferation of nuclear weapons. Nuclear weapons are the "great equalizer" in that their possession diminishes the gap in military power between weak and strong nations. The principal legal tool designed to limit nuclear weapons proliferation is the nuclear Non-Proliferation Treaty (NPT), which in 1995 was indefinitely extended by states-parties. The NPT seals a complex bargain: the nuclear-weapon states agree not to transfer nuclear weapons and their materials to non-nuclear-weapon states, which agree not to receive or manufacture them.

In order to diminish the discriminatory impact of these provisions, all parties are allowed to pursue the peaceful uses of nuclear energy and the nuclear powers agree to assist states-parties in good standing under the treaty in their civilian nuclear power activities, provided these are carried out under safeguards administered by the International Atomic Energy Agency (IAEA) to give timely warning of diversion of fissile materials from peaceful purposes to nuclear explosives. The nuclear-weapon states also agree to work in good faith toward elimination of nuclear weapons, albeit without a defined deadline.

In addition, almost one-half of the globe and nearly one-fourth of the world's population are covered by nuclear-weapon-free-zone (NWFZ) treaties, which guarantee the non-weapon status of countries in the zones and forbid the presence of nuclear weapons. The nuclear-weapon states have signed protocols to three of these accords forbidding the threatened use or use of nuclear weapons against non-nuclear-weapon states that are states-parties.

The legality of nuclear weapons use in war was addressed somewhat inconclusively by the International Court of Justice (ICJ) in an advisory opinion delivered in July 1996. In its decision, the ICJ (in a 7-7 vote) held that the threat or use of nuclear weapons "would generally be contrary" to the rules of international law, except in retaliation against nuclear attack, but that it could not "conclude definitively" on the same issue of legality in the extreme circumstance of self-defense, when the survival of the state is at stake. Also, the court unanimously held that a threat or use of nuclear weapons should "be compatible" with international laws governing armed conflict and with "specific obligations under treaties and other undertakings which expressly deal with nuclear weapons" (such as the NPT and NWFZ treaties). This prohibition, however, left room for some limited exceptions. In addition, the ICJ ruled (11-3) that these specific injunctions did not constitute "comprehensive and universal prohibition" of the threat or use of nuclear weapons. However, neither the nuclear-weapon states nor the "threshold" states have formally accepted the jurisdiction of the ICJ in this matter.

The 1925 Geneva Protocol prohibits use of biological weapons and the 1972 Biological Weapons Convention (BWC) prohibits their manufacture and stockpiling but permits research on BW materials in order to develop defenses. The BWC currently incorporates no verification or enforcement provisions, although in 1994 states-parties agreed to establish an "Ad Hoc Group" to negotiate verification provisions. Those negotiations have thus far generated a "rolling text" of a proposed protocol, but that document still contains much disputed language. Moreover, given the dual-use nature of many BW-related activities, some of which can be carried out in small facilities, the danger of state or terrorist use of biological weapons will not soon disappear.

The Chemical Weapons Convention (CWC), which entered into force in April 1997, prohibits the development, manufacture and possession of CW and provides for an international organization charged with carrying out inspections and passing judgment on suspected violations. The CWC built on the 1925 Geneva Protocol, which also prohibits use, but not possession, of chemical weapons and has no enforcement provision.

In summary, while non-use of nuclear weapons is a historical fact since Hiroshima and Nagasaki, it is not an internationally binding rule except as it relates to the NPT and to NWFZ treaties. In contrast to nuclear weapons, international law explicitly bans possession and use of BW and CW, and current efforts focus on improving verification of compliance with these norms.

Nuclear Ambiguity

Given the profound differences in the significance and legal status of nuclear, compared to chemical and biological weapons, what should U.S. policy be with regard to the use, or threat of use, of nuclear weapons against threat or actual use of chemical or biological weapons?

The underlying problem is that while explicit threatened use or implied use of nuclear weapons in response to BW and CW provides a powerful deterrent, such a role can also undermine U.S. non-proliferation interests. The United States has given "negative security assurances" to countries adhering to the NPT as non-nuclear-weapon states and to members of NWFZ treaties. While these assurances would appear to rule out a nuclear response to the potential use of BW and CW in possession of these countries, the issue has been brought into sharp focus as a result of the ongoing confrontation with Iraq.

The U.S. declared position on this question has been, and continues to be, ambiguous. A number of official statements have indicated that "all possible means" would be used to counter the Iraqi BW and CW threat. In particular, during the Gulf War Secretary of State James Baker implicitly included nuclear retaliation in his threats to use "all possible means" should Iraq resort to biological or chemical warfare. However, Baker's threat also included retaliation against setting fire to Kuwait's oil fields, which indeed Iraq did on a grand scale despite the secretary's explicit warning. Some Israeli spokesmen maintain that the absence of chemical warheads on Iraqi Scud missiles fired at Israel was the result of Israel's nuclear weapons potential. At the same time, Saddam Hussein had good reason to fear other non-nuclear responses, so whether nuclear weapons provided a unique deterrent value during the Gulf War will remain in contention.

In an effort to clarify the policy situation, Robert Bell, the responsible official on the National Security Council staff, in February reaffirmed past negative security assurances-given in 1995 by Secretary of State Warren Christopher and [in 1978 by Secretary of State Cyrus Vance on behalf of the United States](#). Bell stated that it was the policy of the United States, as reaffirmed in the November 1997 PDD, not to use nuclear weapons first in a conflict unless faced with the following situations:

- In response to attacks on the United States, its military forces or allies by nuclear-capable states, including both the declared nuclear-weapon states and the threshold states not party

to the NPT.

- In response to attacks on the United States, its military forces or allies by non-nuclear-weapon states in alliance with a nuclear-weapon state.
- In response to attacks by a non-nuclear-weapon state that is party to the NPT, or an equivalent regime, but is not a state-party "in good standing." The phrase "in good standing" was not included in the earlier U.S. statements. This category presently includes Iraq and North Korea, in the eyes of the IAEA.

Significantly, Bell did not include another exception: response to a BW or CW attack by a non-nuclear-weapon state in good standing under the NPT. While Bell presented the negative security assurances simply as U.S. policy, the ICJ's 1996 advisory opinions and many international law jurists consider such declarations to be legally binding. In contrast, former Secretary of Defense William Perry frequently emphasized that he saw "no need to use" nuclear weapons in such a role, although he did not explicitly rule out a nuclear response against biological and chemical weapons.

The above examples underscore the ambiguity in the present U.S. position. Past statements by U.S. officials on potential responses to BW and CW threats from certain non-weapon states range from "will use" nuclear weapons to "all options are open" to "all possible means" to "no need to use" to "will not use." Of course, some of this ambiguity is deliberate and, whatever the declaratory policy, the very existence of nuclear weapons constitutes a residual deterrent.

The current confrontation with Iraq is not a replay of the Gulf War. Iraq has not invaded another country and its military power, measured in terms of troop strength and conventional munitions, has greatly eroded since 1991. The issue now is that Baghdad has failed to meet its obligations under UN Security Council resolutions that it had accepted in settlement of the Gulf War. Under those resolutions, Iraq was to give a full accounting of its nuclear, biological and chemical weapons programs so that the world can be confident that these programs have been eliminated.

Iraq's nuclear weapons program has been accounted for and equipment has been eliminated to the extent that the IAEA has concluded that the program is no longer an active factor. However, UNSCOM inspectors are still not satisfied that sufficient information has been made available to conclude that Iraq's BW and CW programs have been accounted for and no longer pose a threat. Nevertheless, President Clinton and other U.S. officials have repeatedly asserted that the issue remains Iraq's possession of WMD and record of past "willingness to use" these weapons, without distinguishing among nuclear, biological and chemical weapons capabilities. A U.S.-led military strike against Iraq was narrowly averted in late February as a result of a UN-brokered deal that opened up so-called "presidential sites" to inspection. It remains unclear, however, how long the agreement will hold.

Linking these three classes of weapons in a single WMD category elevates the status of both biological and chemical weapons. When the use of nuclear weapons is threatened to deter BW and CW threats, these non-nuclear capabilities attain the status of "poor man's nuclear weapons." But above all, extending the role of nuclear weapons to include this mission contradicts the fundamental U.S. obligation under the existing non-proliferation regime to reduce the role of nuclear weapons in international relations.

In addition, the Iraq crisis has indirectly created a broader conflict between the U.S. desire to maintain the strongest possible posture against Iraq to contain its chemical and biological warfare ambitions and the U.S. pursuit of nuclear weapons reductions with Russia. U.S. and Russian policies on using force against Iraq are significantly at odds, with Moscow objecting to the U.S. approach to Iraq as being "hegemonic." With Russian ratification of START II hanging in abeyance because of NATO enlargement and the Duma's hostility to President Yeltsin over political control, unilateral U.S. military action against Iraq could have easily tipped the balance against the Duma's ratification of START II.

Nevertheless, the United States has decided to give priority to containing Iraq's BW and CW ambitions over optimal progress in nuclear arms reduction with Russia. Thus, the United States has put at risk not only further nuclear reductions, but its avowed nuclear non-proliferation objectives.

The Nuclear Danger

With the end of the Cold War, the nuclear danger remains although it has changed in character. Today, the likelihood of an all-out exchange between the United States and Russia has become remote, but the risk of lesser nuclear disasters appears at least as probable as in the past. Nuclear weapon stockpiles still exceed one-half of the Cold War peak and are vastly excessive if their only mission is to deter the use of nuclear weapons by others. Many nuclear weapons remain on a high state of alert. The security of nuclear materials, particularly in Russia, remains a serious and continuing problem. Decreasing nuclear weapons inventories and shifting operational doctrine to make accidental or inadvertent launch less likely should remain an urgent task. Finally, arresting and even reversing the spread of nuclear weapons remains essential to U.S. national security.

In view of the technical character and limited military utility of biological and chemical weapons, the United States, as the world's pre-eminent power in conventional arms, does not have a military requirement for a nuclear response to counter these weapons. The need to reduce the nuclear danger should take precedence over any perceived potential advantage such a role for nuclear weapons might offer under certain circumstances.

Combining nuclear, biological and chemical weapons under the umbrella of WMD tends to obscure the overriding priority of reducing the nuclear danger when real or perceived crises involving BW or CW gain public and political attention. The current crisis with Iraq should not deflect U.S. efforts to diminish the dangers posed by nuclear weapons. The struggles over ratification of START II and the Comprehensive Test Ban Treaty, reductions of nuclear weapon stockpiles, the preservation of safety and security of the remaining stockpiles, and the reduction of risk of inadvertent or accidental launch of nuclear weapons demand increased governmental priority and public attention. The United States cannot afford to wait for an unforeseen catastrophic event involving nuclear weapons to advance the priority of controlling nuclear weapons.

This brings us back to the four alternatives offered above for the future control of nuclear, biological and chemical weapons. Under the first of two negative scenarios, the existing norm prohibiting biological and chemical weapons could deteriorate if states perceive that their security interests cannot be maintained without the possession or acquisition of nuclear weapons. Alternatively, the nuclear non-proliferation regime could erode if the nuclear-weapon states-particularly the United States, which has been the leader in building the regime-appeared to be failing to meet their obligations under the NPT.

Notwithstanding these adverse scenarios, controls under the present illogical and discriminatory non-proliferation regime could endure and be strengthened if nuclear arms control advances sufficiently to demonstrate that the role of nuclear weapons in international relations is shrinking. This path would require real progress in the START process and further reciprocal unilateral moves in restraining nuclear weapons. It would also have to include a reduction in regional tensions, particularly in the Middle East and South Asia, to eliminate pressures to "go nuclear" in local confrontations.

The final alternative would be to extend to nuclear weapons the global norm that now exists for biological and chemical weapons. Many now advocate such a move toward the prohibition of nuclear weapons. Prohibition of nuclear weapons would eliminate the inconsistencies as to legal status of these weapons, and would focus world attention on *compliance* with a global norm applying across the board to nuclear, biological and chemical weapons. The world would have to decide whether there would be increased security under verifiable prohibitions on all three classes of weapons, taking into account the risk of evasion or abrogation of the prohibition, relative to the present international non-proliferation regime with its tensions, inconsistencies and dangers. In evaluating this balance, the potential benefits of comprehensive nuclear disarmament appear to outweigh the attendant risks. With the end of the Cold War, exploration of the conditions making nuclear prohibition feasible and of the paths to reach that goal should now be put high on the international agenda.

NOTES

1. National Academy of Sciences, Committee on International Security and Arms Control, *The Future of the U.S.-Soviet Nuclear Relationship*, Washington, DC: National Academy Press, 1991. [Back to origin.](#)

2. Robert Bell, "Strategic Agreements and the CTB Treaty: Striking the Right Balance," *Arms Control Today*, January/February 1998, pp. 3-10.

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Posted: April 1, 1998

Source URL: https://www.armscontrol.org/act/1998_04/wkhp98