



Moving from MAD to Cooperative Threat Reduction

Michael Krepon

Report No. 41

December 2001

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11 Dupont Circle, NW
Ninth Floor
Washington, DC 20036
phone 202.223.5956
fax 202.238.9604
<http://www.stimson.org>
email info@stimson.org

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Executive Summary

The central organizing principle of strategic arms control during the Cold War was to prevent a nuclear exchange by being vulnerable to its consequences.¹ This core principle of assured destruction (soon labeled Mutual Assured Destruction, or MAD) was more than a fact of Cold War life; it was codified by treaties permitting huge offensive nuclear arsenals while expressly prohibiting national missile defenses.

President George W. Bush now seeks to set Cold War thinking aside and to replace MAD with a more affirmative construct. The Bush administration argues that traditional arms control treaties—especially the Ant-Ballistic Missile Treaty barring national defenses—are relics of the Cold War, needing to be replaced by more flexible and informal arrangements.

President Bush is surely right in saying that treaties are not the only way to reduce nuclear dangers, and he is also right in arguing that a strategic concept built around national vulnerability must be changed. But changed to what? Neither the Bush administration nor its critics have provided an answer to this question.

Arms controllers have vigorously defended the ABM Treaty, but they have not offered a convincing strategic concept to guide future US choices. The primary argument used by the arms control community against national missile defenses in the 1960s, 1970s, and 1980s—that missile defenses would prompt arms racing—now rings hollow. Russia and China do not have the means or the inclination to engage in a strategic arms race with the United States; both countries are wise enough to meet their national security requirements through less expensive means. Whether or not the United States deploys missile defenses, US and Russian deployed strategic forces will decline appreciably over the next decade or more, while China's force levels will grow at a moderate pace. When arms controllers argue for strategic arms control based on MAD and the fear of arms races, they lose ground.

The Bush administration has also failed to make a convincing case for its desire to tear up treaties and deploy national missile defenses. The least likely threats to America come from ocean-spanning missiles, and the United States needs Russian and Chinese help in combating the most likely threat of terrorism. The inability of these countries to compete in an arms race does not make it wise for the

¹ This essay is drawn from the author's forthcoming book, *Cooperative Threat Reduction, Missile Defense, and The Nuclear Future*, to be published by Palgrave.

United States to deploy national missile defenses since going this route could forfeit needed cooperation and increase the eventual size of China's nuclear arsenal.

Some missile defenses, especially those deployed nearest threatening states, can have, on balance, positive ramifications; others will surely be negative. The devil—as Paul Nitze and other treaty negotiators used to say—lies in the details, and these have not yet congealed. Nor can an aversion to written strategic arms agreements be based on the prospective length of negotiations or treaty text, since we can easily rely on the detailed provisions of treaties painstakingly negotiated by prior administrations.

Among those formal provisions most worth retaining are the ABM Treaty's protections of verification satellites and the provisions for intrusive monitoring found in the first strategic arms reduction accord negotiated by presidents George H.W. Bush and Mikhail Gorbachev. To throw these achievements away in lieu of a handshake would be a reckless act utterly at odds with the conservative principles this administration champions. President Ronald Reagan's admonition of "Trust but Verify" has not become passé with the end of the Cold War.

Deeds matter more than words, as the White House correctly says. But deeds relating to nuclear weapons and missile defenses are best measured against contractual obligations that have been reviewed and approved by the Congress. The steps envisioned by the Bush administration extend over a decade. The importance of these matters, as well as the time span involved, mandate bipartisan agreement not only over core issues, but also over the general principles that guide US choices. Otherwise, the United States risks getting bogged down in debates over core issues with each change in administration or power equation on Capitol Hill. To avoid this outcome, the Bush administration needs to articulate a positive strategic concept governing deep cuts and missile defenses.

The Bush administration's proposed unilateral cuts in strategic forces do not, by themselves, begin to fill this void, since residual nuclear capabilities remain so high. The administration's plans still envision two thousand deployed warheads for US strategic forces, and presumably an even larger number in ready reserve. Consequently, reductions alone do not suggest a departure from MAD. Mixing missile defenses alongside nuclear deterrence may make sense, but to what larger and more positive purpose?

Our new strategic concept must address in a politically compelling and substantive way the dangers inherent in the demise of the Soviet Union and the rise of terrorism and other forms of asymmetric warfare. This new strategic concept must complement and strengthen deterrence, defense programs, and preventive diplomacy. It must safeguard dangerous weapons and materials at the source, while facilitating deep cuts in strategic arms. It must help us in the war against terrorism and strengthen ties with key partners in this effort. In other words, our new strategic concept must be visionary and practical at one and the same time.

The good news is that we don't have to create a new strategic concept—our scientists and soldiers have already been practicing it on a daily basis since the demise of the Soviet Union. This strategic concept is called cooperative threat reduction. It entails protecting dangerous materials and weapons in the former Soviet Union, dismantling Cold War inventories, and providing constructive new partnerships with former adversaries.

The time has come to recognize the obvious: Cooperative threat reduction is more than an aggregation of government initiatives; it is the positive strategic concept we need to keep dangerous weapons and materials out of the hands of terrorists or their state sponsors. The US nuclear arsenal and missile defenses aren't helpful against these challenges and updated concepts of deterrence will fail unless accompanied by cooperative threat reduction. Nuclear deterrence does not progressively reduce and eliminate dangerous weapons and materials; cooperative threat-reduction programs do. Our new strategic concept is ideally suited not just to deal with the demise of the Soviet Union, but also with the rise of asymmetric warfare.

Successful cooperative threat reduction requires reassurance as well as deterrence. Consequently, the value of existing treaties between the United States and Russia now rests, in vastly altered circumstances, primarily in the reassurance they provide to the weaker party.

Unilateral steps to withdraw from treaties make cooperative threat reduction harder. Conversely, unilateral steps to expand or accelerate these initiatives are easiest to implement as adjuncts, rather than as replacements to, treaty regimes. A case in point was the initiatives taken by Presidents George H.W. Bush and Mikhail Gorbachev in 1991, when the Soviet Union was tottering. These steps, removing from the field the least safe and secure nuclear weapon designs, came just two months after the first strategic arms reduction treaty was signed.

Unlike MAD, the strategic concept of cooperative threat reduction is affirmative. It strengthens both strategic arms reduction and non-proliferation accords. It is sufficiently adaptive to deal with the wide range of threats facing America, and it has enjoyed broad, bipartisan support. For these reasons, cooperative threat-reduction efforts have begun to eclipse treaties in their importance and scope. The strategic concept of cooperative threat reduction can also be harmonized to missile defense deployments, as long as the mix of nuclear offense and defense is reassuring and transparent to prospective partners.

The Bush administration's efforts to downsize nuclear deterrence, deploy missile defenses, and sideline MAD point in the right direction, but they need to be situated in a positive strategic context. These initiatives have a better chance of succeeding when pursued in the larger context of cooperative threat reduction. Cooperative threat-reduction efforts, in turn, have a better chance of succeeding when pursued alongside treaty adaptation, rather than treaty trashing.

It is now incumbent on the Bush administration to put forward a positive strategic concept alongside deterrence, one that will reduce the severe threats posed by terrorism and asymmetric warfare that the country now faces. It is also incumbent on the Bush administration to fully fund and expand cooperative threat-reduction programs.

Moving from MAD to Cooperative Threat Reduction

Michael Krepon

The Cold War has been replaced by asymmetric warfare, where weak states or terrorist groups strike at America's vulnerabilities while skirting US military strength. Cold War security dilemmas, such as a massive "bolt out of the blue" missile attack and the rumble of Soviet tank armies across the German plain, have given way to very different surprise attack scenarios. Americans now dread hijackers who fly planes into buildings, trucks carrying "fertilizer bombs," and letters without return addresses that could be carrying strange, powdery substances. The leakage of deadly materials or weapons from aging Soviet stockpiles to bad actors is as much, if not more, of a threat to international security as the old Red Army and Strategic Rocket Forces. The Soviet Union was deterrable; suicide bombers are not.

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During the Cold War, the United States succeeded in containing the Soviet Union through strong alliances, preventive diplomacy, nuclear weapons, and conventional firepower. In asymmetric warfare, cohesive alliances and preventive diplomacy remain essential, but nuclear weapons and tank armies are largely irrelevant. Conventional firepower, power projection capabilities, and air superiority remain essential, to be sure. But when the world's most powerful country takes on a medieval regime like the Taliban in Afghanistan, the most meaningful military assets are the cooperation of nearby states, timely intelligence, smart weapons, and special forces.

The symbolic end of the Cold War occurred many times over, with the tearing down of the Berlin Wall and the statue of Felix Dzerzhinsky outside KGB headquarters in Moscow, and with the last lowering of the Soviet flag atop the Kremlin. Similarly, many events dramatized the advent of asymmetric warfare, including the demolition of the US Marine barracks in Beirut, the bombing of the US embassies in Kenya and Tanzania, and the attack on the USS Cole in Aden harbor by an explosives-laden pontoon boat. All of these incidents left their mark, but none of them resulted in vastly different conceptions of national security. After each of these shocks, the Pentagon continued to request and spend money in familiar ways. And after each wake-up call, members of Congress and the executive branch continued to wrangle over nuclear weapons, missile defenses, and strategic arms control in utterly familiar terms.

In this sense, the transition from Cold War to asymmetric warfare occurred rather precisely on September 11, 2001. When two hijacked planes slammed into the twin towers of the World Trade Center and another into the Pentagon, the immediacy of the terrorist threat and the inadequateness of US readiness and response were watched by a stunned nation in real time. The scale, symbolism, and audacity of these suicidal attacks—and the suppressed memory of a fourth hijacked plane heading for Washington that never reached its target because passengers stormed the cockpit—will remain a permanent scar in the collective consciousness of an entire citizenry. After September 11, Americans knew without a shadow of a doubt that their Cold War conceptions of threat and response—downsized but not discarded in the decade after the collapse of the Soviet Union—were antiquated beyond repair. The paradigm shift from Cold War to asymmetric warfare was hard-wired and fused on that day of national mourning and transformation.

The central organizing principle for US national security during the Cold War was the containment of Soviet power and influence. The global contest between two great powers armed with many thousands of nuclear weapons required concepts and practices to prevent the strategic competition from crossing the nuclear threshold. Strategic stability was based, in part, on mutual acceptance of each other's power to wreak unimaginable damage. Assured destruction (soon labeled Mutual Assured Destruction, or MAD) was more than a fact of Cold War life; it was codified by treaties permitting huge offensive nuclear arsenals while expressly prohibiting national missile defenses.

Most of the creative thinking about nuclear weapons and arms control took place in the late 1950s and early 1960s. During this period, it was clear that the prevailing nostrums of massive retaliation and nuclear disarmament needed to be re-thought, and important books such as Henry A. Kissinger's *The Necessity for Choice*, Bernard Brodie's *Strategy in the Missile Age*, Thomas C. Schelling's and Morton H. Halperin's *Strategy and Arms Control*, Hedley Bull's *The Control of the Arms Race*, and a collective effort edited by Donald G. Brennan, *Arms Control, Disarmament, and National Security*, mapped the new terrain of graduated nuclear deterrence and strategic arms control.

One of the most provocative authors during this time was Herman Kahn, who published a collection of essays under the title *Thinking About the Unthinkable*. Kahn went enthusiastically where few nuclear "theologians" dared to tread, applying the anodyne nuclear deterrence constructs of fellow theorists to war-fighting scenarios. While others dealt with the abstractions of deterrence and arms control theory, Kahn focused on how to "come to grips with the problems that modern technology and current international relations present to us."² The resulting work produced complex escalation ladders of nuclear weapons' use along with staggering estimates of death tolls. The enthusiasm with which Kahn approached this grim task was easily caricatured (Hollywood produced two memorable Kahn-like

² *Thinking About the Unthinkable*, New York: Horizon Press, 1962, p. 13.

characters, Dr. Strangelove, played by Peter Sellers, and the woefully miscast Walter Matthau in *Fail Safe*), but he was a very real figure of the Cold War, attempting to apply cold logic and analysis to a numbingly terrifying nuclear standoff.

After the events of September 11, 2001 we again need to come to grips with current international relations. During the Cold War, the unthinkable never happened. The unthinkable of asymmetric warfare has already happened, and could happen again

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and again. The time is ripe for a new wave of creative thinking about missile defenses, nuclear deterrence, and strategic arms control. We need to re-conceptualize containment, prevention, and response for a new era of asymmetric threats. Herman Kahn and others asked then what might happen if deterrence failed. Now we must ask similar questions in an entirely different context.

What value do missile defenses and nuclear weapons have against much weaker states or terrorist cells? How should the United States respond to new kinds of vulnerability as the world's sole superpower with no strategic competitor in sight for at least a decade? Should Washington continue to embrace vulnerability as a central strategic concept in dealing with Russia, and extend the principles of MAD to Beijing, the only "near peer competitor" (to use the Pentagon's term) on the horizon? How should the United States size its nuclear weapons and configure its target lists as the lone superpower? Where do missile defenses fit into a world of US military predominance? What should replace MAD as a central organizing principle for nuclear arsenals and strategic arms control?

Nuclear, chemical, and biological weapons or materials remain at the top of our threat spectrum, but now these dangers emanate not from Soviet strength, but from lax Russian security practices, insufficient export controls, tempting foreign offers, and criminal enterprises linked to governmental authorities. The most likely delivery vehicles for deadly weapons are trucks, container ships, civilian airliners, and subway cars—not ocean-spanning missiles. The precepts of MAD have little applicability for these security dilemmas. Nor is a "one size fits all" concept of nuclear deterrence very useful in dealing with small states or terrorist groups that cannot match America's strengths, so instead seek to exploit US weaknesses. "Limited nuclear options" against terrorist cells are as obsolete as massive retaliation was in the 1950s against a nuclear-armed Soviet Union.

During the Cold War, Hawks and Doves fought fierce contests over nuclear weapons and arms control treaties. But as nuclear arsenals grew, both camps came to accept (apart from one significant interlude) the constructs of MAD. That interlude—President Ronald Reagan's embrace of the Strategic Defense Initiative and nuclear abolition—led to surprising outcomes. At the end of the Reagan administration, MAD remained very much in place and new missile defenses remained on the shelf. But

Reagan's twin challenges to nuclear orthodoxy, combined with Mikhail Gorbachev's bold initiatives, generated very deep cuts in nuclear arsenals. Their joint efforts also seriously damaged the theology of graduated nuclear deterrence by removing most of the European rungs on Herman Kahn's escalation ladder.

The strategic concept of MAD remained in place during the first decade after the demise of the Soviet Union, more from force of habit than from official endorsement. The Clinton administration shied away from an alternative conceptualization and, had this effort been made, it would have been strenuously opposed by combative Republicans on Capitol Hill. Bipartisan constructs in the 1990s were rare phenomena and, in any event, large questions relating to the role of nuclear weapons and missile defenses were in such flux that the timing was not right for consensus building.

Instead, the Clinton administration devoted itself to implementing the extraordinary strategic arms reduction accords achieved during the last years of the Cold War. There was much unfinished business resulting from the breakthroughs generated by the serendipitous conjunction of Ronald Reagan and Mikhail Gorbachev. After an initial hesitancy, the administration of George H.W. Bush seized the opportunity to finalize accords reducing strategic forces. The Clinton administration sought to formalize these accords through tortuous ratification processes and to proceed dutifully in step-by-step fashion to secure further reductions. These efforts met with only limited success because the demise of the Soviet Union undermined the rationale and the bipartisan support for both nuclear modernization programs and strategic arms control treaties.

The Clinton administration was confident and adept in domestic policy but tentative abroad and weak in defending its foreign labors on Capitol Hill. After heroic efforts in helping to denuclearize states in the former Soviet Union, the Clinton team managed to secure the entry into force of the first Strategic Arms Limitation Treaty, concluded in 1991. But this was the only arms treaty ratified during President Clinton's watch without crippling reservations. The Chemical Weapons Convention squeaked through the Senate, heavily weighted with such conditions. Subsequent accords adapting the Anti-Ballistic Missile (ABM) Treaty to expressly permit advanced theater missile defenses were kept off the Senate calendar for fear of their rejection by Senate Republicans. The Cold War's end not only widened the domestic political divide over the ABM Treaty, but also over the utility of nuclear weapons, symbolized by the Clinton administration's fixed pursuit of the Comprehensive Test Ban Treaty and its rejection by Senate Republicans.

By the end of the 1990s, the unraveling of the domestic US consensus behind the twin pillars of MAD—huge offensive nuclear arsenals and a treaty-bound prohibition against national missile defense—was virtually complete. Strategic arms control lost bipartisan support when the Soviet Union collapsed and when treaty making finally appeared to constitute a threat to the US nuclear stockpile. When Senate

Republicans voted against ratification of the Comprehensive Test Ban Treaty, mostly in deference to future stockpile needs, they badly damaged the structural foundation for international control over nuclear weapons. Another support structure for strategic arms control, the ABM Treaty, was already seriously weakened.

Tearing down this tottering structure was fraught with risk, since most of the international community had come to accept it, and since the collapse of strategic arms control would spread to non-proliferation regimes, with incalculable effects. Domestic paralysis on strategic arms control compounded these difficulties. By the time President George W. Bush assumed office, a familiar form of strategic stalemate was in place: While Republicans could negate treaties, Democrats could take blocking action against the favored remedies of treaty foes. This wave of strategic stalemate was familiar, and yet far more serious than previous manifestations.³ During the Cold War, Hawks and Doves agreed over ends while disagreeing over means. With the end of the Cold War, partisans disagreed over means and ends. Conceptualists at one end of the political spectrum envisioned cooperative security; the other end championed the hard-edged, unapologetic maintenance of US strategic superiority. Supporters of arms control treaties found themselves in the uncomfortable position of defending MAD, while champions of superiority bashed MAD but clung to nuclear weapons. Neither posture held much appeal to an American public that, when not disinterested, wanted favorable outcomes without negative consequences.

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Public confusion deepened amid the contradictory conditions of American strategic superiority. The dichotomies of the Cold War were fairly clear. In the decade after the demise of the Soviet Union, contradictory tendencies became transposed. Globalization produced alienation, and power generated vulnerability. These dialectics also applied to nuclear weapons, missile defenses, and strategic arms control. Firmly held belief systems were undone by asymmetric threats, but the objects of prior belief were too central to be discarded. Opinion polls reflected this duality: The American public wanted missile defenses as well as the comfort of treaties and nuclear deterrence—as long as the latter came without detonations and with deep cuts.

These mixed impulses could be reconciled—but not under the umbrella of MAD. Many elements of a new strategic concept began to take shape during the first decade after the Cold War, but did not cohere because political conditions were not ripe for synthesis. Republicans and Democrats alike on

³ For an account of domestic divisions during the Cold War, see Michael Krepon, *Strategic Stalemate, Nuclear Weapons & Arms Control in American Politics*, New York: St. Martin's Press, 1984.

Capitol Hill readily acknowledged that the Strategic Arms Reduction accords did not go far enough in reducing force levels. Support was also evident across the political spectrum to rely increasingly on informal arrangements to supplement or replace treaties. Many called for reducing the alert status of nuclear forces, and no senior government official or military officer could convincingly explain why, a decade after the Soviet Union dissolved, thousands of nuclear weapons remained on “hair trigger” alert. The post-Cold War US nuclear war plan also remained incomprehensible and ripe for revision. Targeting lists were downsized, but not fundamentally rethought and explained to the American public.

Most important of all, a new practice, born of necessity, began to safeguard the dangerous weapons and materials residing in the former Soviet Union. These cooperative threat-reduction efforts, initially championed on Capitol Hill by Senators Sam Nunn and Richard Lugar, were soon affixed with an acronym, CTR, which begat additional acronyms as new initiatives were spun off to address the multiple problems of the Soviet Union’s demise. CTR programs retained consensual support because they proved their worth in readily understood ways. At the century’s end, CTR programs in the former Soviet Union secured the deactivation of 5,014 nuclear warheads, destroyed 407 inter-continental ballistic missiles and 366 missile silos; eliminated 68 strategic bombers and 256 launchers from ballistic missile-carrying submarines; destroyed 148 submarine-launched ballistic missiles, seventeen ballistic missile-carrying submarines, and 204 long-range cruise missiles; and sealed 194 nuclear test tunnels.

Further assistance was provided for the storage and transportation of nuclear weapons. Construction proceeded on a large, secure fissile material storage facility. The United States helped to improve the safety and security at Russian chemical weapons storage sites. Security upgrades were implemented for 750 metric tons of highly enriched uranium and plutonium. Radiation detection equipment was installed at Russian border crossings to help detect and interdict nuclear smuggling. Plutonium-laden fuel rods from nuclear power reactors were secured. Cooperative threat reduction was an open-ended pursuit, bounded only by political imagination and financial constraints.

Taking the lead in this effort were the Pentagon, which helped to dismantle aging Soviet-era nuclear forces, and the US nuclear weapon labs, which devised collaborative programs with their counterparts in Russia to protect fissionable material once used in bomb programs. The leadership roles in cooperative threat reduction played by the Departments of Defense and Energy were absolutely essential. Had these efforts been led by the Department of State and the now-defunct Arms Control and Disarmament Agency, they would have been politicized and hopelessly underfunded during the 1990s. Successful efforts required the backing of more powerful and better funded sponsors. To be sure, the pursuit of CTR initiatives by agencies with institutional interests in the perpetuation of US nuclear weapons and force levels led to awkward juxtapositions, but these mattered less than the new practices undertaken between former adversaries.

The intellectual and political capital expended during the Cold War on conceptualizing and negotiating strategic arms control was largely spent by the time President Clinton assumed office. With the end of the Cold War and the demise of the Soviet Union, capital flows clearly shifted from strategic arms control to cooperative threat reduction. Quietly, without much fanfare and below the horizon of partisan debate, the daily practice of cooperative threat reduction became the primary means of reducing the dangers associated with weapons of mass destruction. While bilateral treaties were tied up in the politics of ratification, legislative conditions, and domestic division, cooperative threat-reduction initiatives expanded. When strengthening efforts for multilateral non-proliferation and disarmament treaties were nullified by lowest common denominator negotiations, cooperative threat-reduction initiatives became more essential.

The inauguration of President George W. Bush sealed the rejection of MAD as a central organizing principle for strategic arms control. But what would replace it? On May 1, 2001, President Bush delivered a speech at the National Defense University calling for a “clear and clean break” with the past and challenging Americans and foreign nationals to “rethink the unthinkable.” Bush placed Capitol Hill and foreign capitals on notice that the ABM Treaty prohibiting national missile defenses would be replaced with “a new framework.”⁴ Within this new framework, formalized and lengthy treaty texts would play a much smaller part, while unilateral or parallel steps would gain new prominence.

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One key element of the new strategic framework clearly involved significant reductions in deployed strategic forces. After much back and forth with the Pentagon, Bush publicly committed the United States to reduce deployed strategic forces to between 1,700 and 2,200 warheads over a ten year period. These were notable cuts, but they still fell short of Bush’s promised “clean” break with the past. Much continuity remained with nuclear targeting plans, and creative accounting methods were employed by the Pentagon to protect US force levels. As a result, the Bush administration’s much heralded strategic arms reductions were little different from those agreed to four years earlier by Clinton and Boris Yeltsin in a projected START III accord.

Even with Bush’s promised reductions, thousands of nuclear weapons would remain in place over the first decade of the 21st century, either on deployed forces or in storage, where they could be reconstituted, if deemed necessary. This hardly constitutes a radical break from Cold War concepts of nuclear deterrence, since residual nuclear capabilities can execute horrific punishment. Nuclear

⁴ For the full text of President Bush’s speech, see <http://www.whitehouse.gov/news/releases/2001/05/20010501-10.html>.

deterrence—even at force levels far, far below those deemed the minimum necessary by the Pentagon—is fundamentally a negative, limiting construct. Downsizing nuclear deterrence is necessary, but it is also insufficient. Deterrence alone cannot promote successful preventive diplomacy or coalition building. Deterrence, however adapted to deal with asymmetric threats, is far less efficacious than during the Cold War because terrorists play by a different set of rules. And deterrence, by itself, does not reduce or eliminate dangerous weapons and materials.

A positive construct is needed alongside downsized conceptions of nuclear deterrence, one that addresses in a politically compelling and substantive way the dangers inherent with the demise of the Soviet Union and the rise of asymmetric warfare. Reductions in strategic forces and warheads do not, by themselves, begin to fill this void, since residual nuclear capabilities remain so high. For the same reason, reductions do not by themselves suggest a departure from MAD. Nor will MAD be displaced by mixing deploying defenses alongside nuclear deterrence. The organizing principle of MAD for offensive forces and strategic arms control will be displaced only when a positive strategic concept takes its place.

This new strategic concept is in plain view: We must now elevate the varied practices of cooperative threat reduction to a central organizing principle for dealing with the combined dangers associated with the demise of the Soviet Union and the rise of asymmetric warfare. The shift from a MAD-based structure of strategic arms control to one based on cooperative threat reduction is already well underway, and should accelerate considerably after the tragic events of September 11. Cooperative threat reduction covers both ends of the strategic arms control spectrum, controlling dangerous materials at the source and dismantling deployed weapon systems. During the Cold War, CTR programs were an adjunct to treaties; now treaties struggle to have co-equal status with cooperative threat reduction. The two continue to go well together: CTR initiatives work more effectively when backed up by treaty-based obligations for transparency and arms reduction. CTR programs are also perfect complements to deterrence, defense programs, and preventive diplomacy. CTR initiatives have become vital to US national, regional, and international security.

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deterrence will fail unless accompanied by cooperative threat reduction. Deterrence, however defined, does not progressively reduce and eliminate dangerous weapons and materials; cooperative threat-reduction programs do. Deterrence and cooperative threat reduction are mutually reinforcing and equally necessary. To take but one example, missile defense

deployments will be far more successful in both a diplomatic and military sense if embedded in the reassuring context of cooperative threat reduction.

The elevation of cooperative threat reduction as a central organizing principle for reducing dangers associated with weapons of mass destruction can also clarify missteps in the pursuit of deterrence. For example, while the maintenance of the US nuclear deterrent facilitates CTR, the design of new nuclear weapons and the resumption of underground tests will produce quite different and pernicious effects. Likewise, the development of rules of the road to prevent the weaponization of space conforms entirely with CTR; the impulse to deploy anti-satellite weapons on earth or weapons in space will curtail cooperation with Russia and China, states whose assistance is essential for threat-reduction efforts to succeed.

Cooperative threat-reduction techniques can also facilitate collective steps by states that wish to set higher standards for implementing treaty obligations. Multilateral accords governing nuclear, chemical and biological non-proliferation and disarmament were painstakingly constructed during the Cold War. These accords aimed for universality at the cost of rigorous enforcement. Universality is a critically important principle for strengthening global norms and for isolating miscreants who seek or use weapons of mass destruction. But these treaties are not very helpful in dealing with member states that use treaties as a cover to covertly develop and produce prohibited weapons. Nor do universal treaty regimes lend themselves to strengthening measures, because some joiners are unwilling to accept tighter controls. Even when many states are willing to tighten standards, procedural hurdles make it virtually impossible to do so. With the exception of the Comprehensive Test Ban Treaty, universal treaty regimes apply lax monitoring standards to stringent obligations.

Voluntary associations of member states that wish to strengthen multilateral treaty regimes can do so by agreeing to implement cooperative threat-reduction initiatives. These voluntary associations would be open to any state that wishes to join. The only requirement for being a member would be a willingness to accept higher standards of demonstrating compliance with treaty obligations. In return, member states could provide each other with certain benefits that are withheld from nonmembers, such as trade in “dual-use” items that could have both civilian and military applications. Such preferential trading arrangements are often characterized as “discriminatory” and harmful to treaty regimes by outliers. But there is nothing discriminatory about membership in a voluntary association that is open to every state. Abstainers harm treaty regimes far more than joiners to these voluntary associations.

Bilateral treaty regimes between the United States and the Russian Federation could also benefit from cooperative threat-reduction techniques. Deep reductions that are pursued alongside treaty obligations are one form of CTR. As reductions proceed, transparency measures and comprehensive cradle-to-grave controls over fissile materials become more essential. At least in the near term, these arrangements are more likely to be realized through CTR techniques and voluntary associations than

through new treaty obligations. Over time, a broad web of CTR initiatives is likely to become interconnected with treaty regimes. If both states wish to translate higher standards into treaty obligations, they could eventually do so.

The scope of bilateral CTR activities will depend on many factors, not the least of which is the degree of comfort each party has with the strategic objectives of the other. In this context, reassurance and transparency matter even more than deterrence. The value of bilateral accords, negotiated with heroic effort over many decades of Cold War strife, rests now, in vastly altered circumstances, primarily in the reassurance they provide to the weaker party, whose cooperation is needed for CTR to expand and deepen. ABM Treaty provisions that protect observation satellites and Strategic Arms Reduction Treaty obligations for intrusive inspections also facilitate CTR activities. Any effort to withdraw from bilateral treaties that provide these twin foundations of reassurance and transparency without constructing equivalent or better bases for CTR would be unwise.

Unilateral steps to withdraw from treaties make cooperative threat reduction harder. Unilateral steps to accelerate cooperative threat reduction are easiest to implement as supplements, rather than as alternatives to, treaty regimes. A case in point was the unilateral and reciprocal steps implemented by Presidents George H.W. Bush and Mikhail Gorbachev in 1991 removing from the field of the least safe and secure nuclear weapon designs. These reassuring steps came on the heels of recently negotiated treaties.

The quest to replace a MAD-based structure of strategic arms control with a more positive construct was sidelined during the Cold War, when treaties codified national vulnerabilities. One of the founding fathers of strategic arms control, Donald G. Brennan, quit the community over this circumstance, arguing that defenses should run free and offenses be tightly controlled.⁵ Brennan's vision of a defense-dominant strategic posture was foiled by technical limitations, an abundance of strategic offensive forces, and long memories of the Maginot Line's fate. With the Cold War's passing, alternative conceptions to (or variations of) MAD, based on a mix of nuclear offense and missile defense, again began to surface. For example, President Clinton's second Secretary of Defense, William J. Perry, floated the idea of replacing MAD with Mutual Assured Safety.⁶

The strategic concept of cooperative threat reduction can flourish in a mixed strategic environment of missile defense and strategic offense as long as the mix is reassuring and transparent to prospective partners. Unlike MAD, the strategic concept of cooperative threat reduction is affirmative,

⁵ *Arms Treaties with Moscow: Unequal Terms Unevenly Applied*, New York: National Strategy Information Center, Agenda Paper No. 3, 1975.

⁶ *The Henry L. Stimson Center Award Presentation to Secretary of Defense William J. Perry*, September 20, 1994, p. 16.

properly directional, and descriptive. The practice and terminology of cooperative threat reduction provide clarity and concreteness to national purposes. The practice of nuclear deterrence often distances the United States from non-proliferation treaty regimes; the practice of CTR bridges strategic arms reduction and non-proliferation treaty regimes. CTR is much broader than traditional strategic arms control and non-proliferation accords—broad enough to encompass the varied threats posed by a new era of asymmetric warfare. The new strategic concept of cooperative threat reduction reflects and connects the duality of contemporary conditions, where strength does not necessarily provide protection, and where weakness often constitutes the most dangerous threats. Conception and practice must be flexible enough to adapt to fluid circumstances, and yet fixed on broad goals that enable international cooperation as well as domestic support.

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The Bush administration's efforts to downsize nuclear deterrence, deploy missile defenses, and sideline MAD point in the right direction, but this construction is lacking one cornerstone – cooperative threat reduction. Cooperative threat reduction is far more than line items in budget submissions; it is no less of a strategic concept than nuclear deterrence in guiding US national security policy past the demise of the Soviet Union and the rise of asymmetric threats.

About the Author

Michael Krepon is Founding President of the Henry L. Stimson Center, a non-profit, nonpartisan institution devoted to taking pragmatic steps toward ideal objectives. The Stimson Center, founded in 1989, specializes in threat reduction and international security issues where policy, technology, and politics intersect. He is the author of *Strategic Stalemate, Nuclear Weapons and Arms Control in American Politics* (1984), *Arms Control in the Reagan Administration* (1989), and co-editor of *Verification and Compliance, A Problem-Solving Approach* (1988), *Commercial Observation Satellites and International Security* (1990), *The Politics of Arms Control Treaty Ratification* (1991), *Open Skies, Arms Control and Cooperative Security* (1992), *Crisis Prevention, Confidence Building, and Reconciliation in South Asia* (1995), and *Global Confidence-Building: New Tools for Troubled Regions* (1999). He is completing work on a forthcoming book, entitled *Cooperative Threat Reduction, Missile Defense, and The Nuclear Future*.