

Occasional Paper No. 8

**After 9/11: Preventing
Mass-Destruction Terrorism
and Weapons Proliferation**

Michael Barletta, ed.

Monterey Nonproliferation Strategy Group

THE CENTER FOR NONPROLIFERATION STUDIES

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CONTENTS

Foreword and Abbreviations	ii
Terrorism and U.S. National Security	
National Security, Nonproliferation, and the War against Terrorism by Mike Shuster	1
The New Landscape of Nuclear Terrorism by Leonard S. Spector	6
Nonproliferation Regimes and Proliferation Technologies	
Arms Control for Anthrax: A Safety-and-Security Approach to Strengthening the BWC by Michael Barletta and Amy Sands	13
Implications of the War against Terrorism for the NPT Regime by Lawrence Scheinman	19
Regulating Scientific Research of Potential Relevance to Biological Warfare by Jonathan B. Tucker	24
Middle East	
Implications of September 11 for Middle East Security by Nabil Fahmy	28
Proliferation Assessment: Iran's Strategic Environment after 9/11 by Amin Tarzi	31
South Asia	
Lip Service Is Not Enough: Take Responsibility for the Nonproliferation Regime by George Perkovich	38
Terrorism, Pakistan, and Nuclear Weapons by Scott D. Sagan	46
Major-Power Relations	
Major Powers in the 21st Century by Thérèse Delpech	51
U.S.-Russian Relations after the Crawford Summit by Rose Gottemoeller	55
Major-Power Relations and Nonproliferation: The Impact of September 11 by Brad Roberts	58
Overview	
Assessing Risks and Crafting Responses by Michael Barletta	61
Strategy Session Participants	74

FOREWORD

The Monterey Nonproliferation Strategy Group (MNSG) is an international body of veteran policymakers and prominent analysts working to craft innovative but practical measures to address threats posed by nuclear, biological, and chemical (NBC) weapons and their means of delivery. A summary of the Strategy Group's efforts and copies of associated publications are available online at <http://cns.miis.edu/research/mnsg/index.htm>.

Since its inception in July 1999, the MNSG has been preoccupied by the spread and potential use of mass-destruction weapons, whether by such states as Iraq or transnational terrorist organizations like al-Qa'ida. In December 2001, the MNSG met in Monterey, California, to reflect upon the impact of the September 11 terrorist attacks in the United States and their U.S. and international repercussions, and to strategize about how the United States and international community can avert terrorism and reduce NBC threats to U.S. and international security. This publication includes papers prepared for the meeting, a thematic review of the group's deliberations, as well as a list of Strategy Group members and other specialists who participated in the session.

This publication and other activities of the Monterey Nonproliferation Strategy Group have been made possible in part through the generous support of the Carnegie Corporation of New York, The Ford Foundation, Dr. Jeff and Mrs. Jill Harris, The John D. and Catherine T. MacArthur Foundation, The John Merck Fund, The Prospect Hill Foundation, and the W. Alton Jones Foundation.

ABBREVIATIONS

9/11	September 11, 2001	NAFTA	North American Free Trade Agreement
ABM	anti-ballistic missile	NATO	North Atlantic Treaty Organization
ASEAN	Association of Southeast Asian Nations	NBC	nuclear, biological, and chemical
BW	biological weapons	NBC/M	nuclear, biological, chemical/missile
BWC	Biological Weapons Convention	NEST	Nuclear Emergency Search Team
CBW	chemical and biological weapons	NGO	nongovernmental organization
CD	U.N. Conference on Disarmament	NIS	newly independent states
CISAC	Center for International Security and Cooperation	NMD	national missile defense
CTBT	Comprehensive Test Ban Treaty	NNWS	non-nuclear-weapon states
CTR	cooperative threat reduction	NPT	Treaty on the Non-Proliferation of Nuclear Weapons
CW	chemical weapons	NRBC	nuclear, radiological, biological, and chemical
CWC	Chemical Weapons Convention	NSG	Nuclear Suppliers Group
DNA	deoxyribonucleic acid	NWS	nuclear-weapon states
DOD	U.S. Department of Defense	P-5	Permanent Five (members of U.N. Security Council)
DOE	U.S. Department of Energy	PAL	permissive action link
DOS	U.S. Department of State	PRP	personnel reliability program
ESD	Environmental Sensing Device	Pu	plutonium
FY	fiscal year	R&D	research and development
G-8	Group of Eight	RAC	Recombinant DNA Advisory Committee
HEU	highly enriched uranium	SSAC	state system of accounting and control
IAEA	International Atomic Energy Agency	START	Strategic Arms Reduction Treaty
ICBM	intercontinental ballistic missile	U.N.	United Nations
IL-4	interleukin-4	UNSC	U.N. Security Council
INF	Intermediate-range Nuclear Forces	UNSCOM	U.N. Special Commission (on Iraq)
IRGC	Islamic Republic Guards Corps	USEC	United States Enrichment Corporation
ISI	Inter Services Intelligence	WMD	weapons of mass destruction
MPC&A	materials protection, control, & accounting	WSSX	Warhead Safety and Security Exchange Agreement
MNSG	Monterey Nonproliferation Strategy Group		

NATIONAL SECURITY, NONPROLIFERATION, AND THE WAR AGAINST TERRORISM

Mike Shuster

National Public Radio

The attack on the World Trade Center and the Pentagon on September 11, 2001, is a watershed date in the history of the United States after the Cold War. Since 1989, policymakers, analysts, and historians have been unable to name the period of history the United States entered after 1989. The best that they could muster was “the post-Cold War period.” That short-lived era in U.S. history is now over. What we will name this period and how we will characterize it are not yet clear. But it will be a very different period for the United States and its role in the world.

Where before the United States displayed uncertainty and confusion about its global power and place, now U.S. policy in international affairs has a clear purpose and goal. U.S. policymakers, in both political parties, understand the international stakes for the United States better than they did in the previous period, and they have already demonstrated the ability to make better decisions.

The United States experienced an attack on its citizens and its territory like no other since the early Nineteenth Century. Even the attack on Pearl Harbor in 1941 did not threaten the territorial United States in such a deliberate and murderous way. The goal now is the defense of the American homeland, the prevention of future attacks, and the use of diplomatic and military means to make sure that the American people are as safe as possible.

This is bringing fundamental changes in national security policy and nonproliferation policy. U.S. national security policy will be motivated principally by homeland defense. Defense policy and budgets, intelligence agencies and budgets, and nonproliferation policy will all be driven by a single principle: protecting the United States from attack, especially from attack with weapons of mass destruction (WMD). This has already begun to change the shape of the U.S. government’s national secu-

urity apparatus, and it will bring about the realignment of political forces in the United States. Some of the outcomes are already within view. Some will be paradoxical.

DETERRENCE, PREVENTION, AND DEFENSE

The tools in the war against terrorism, as former U.S. Secretary of Defense William Perry has pointed out, are deterrence, prevention, and defense.¹ These are all necessary components of a national security policy. Any administration that does not understand the necessary role of each may fail in its effort to protect the United States in the future from devastating attack.

Deterrence works against nation-states and national governments, which must take into account the will and welfare of their people. Maintaining a credible nuclear deterrent, even as the United States pursues deep cuts in offensive nuclear deployments, will remain a component of U.S. national security policy for the foreseeable future. But greater realism about the lower levels of deployments necessary, their alert status, and their targets, is welcome. The overwhelming conventional power of the U.S. military also comprises an essential element of American deterrence.

But deterrence by itself will not be sufficient to confront all threats. Before September 11, this was a heated topic of debate among specialists in nuclear weapons policy. Now we have an answer: the United States is facing an enemy bent on and capable of inflicting mass casualties on the territory of the United States, against whom deterrence will not work. As long as those who plan the attacks on the United States are willing to commit suicide, and as long

¹ William J. Perry, “Preparing for the Next Attack,” *Foreign Affairs*, 80 (November/December 2001), pp. 31-45.

as they are ordered into action by stateless people who have no loyalty to populations or peoples, and who seek refuge in failed states whose populations have no influence over their leaders, then deterrence will not be reliable in all cases.

“Nuclear or biological weapons in the hands of terrorists or rogue states,” Perry wrote recently, “constitute the greatest single danger to American security—indeed to world security—and a threat that is becoming increasingly less remote.”²

The Bush administration came into office with a skeptical view of the value of international agreements in containing the spread of WMD. In fact, in its early months, it seemed as if the administration had concluded that proliferation was a fact of international life and the policy of nonproliferation would not remain a priority in national security policy. Counterproliferation was becoming the watchword; nonproliferation was, for some in the administration, barely relevant.

But in the aftermath of September 11, it is more important than ever to use the tools of nonproliferation, developed over decades, to protect the United States. The Nuclear Non-Proliferation Treaty (NPT), Comprehensive Test Ban Treaty (CTBT), Biological Weapons Convention (BWC), Cooperative Threat Reduction (CTR), and weapons inspections in Iraq “are necessary components of Bush’s war on terrorism,” wrote Lawrence Korb and Alex Tiersky. “The Bush administration must now demonstrate that it is ready to stand with the world, even if it means accepting some limited constraints on America’s freedom to do as it pleases.”³

This may largely be true, but in the new context of the war on terrorism, it may be that the United States will use these instruments of nonproliferation to build coalitions even as it augments its action by unilateral steps, often

military, when it pleases. In its focus on homeland defense, the current administration can use the nonproliferation regime as one of the tools in its arsenal. But under current circumstances it can justify use of a bigger stick to pressure errant nations into cooperation. There will be less restraint on military action to impose nonproliferation goals, and more international consensus, inside the U.N. Security Council and beyond it, for action in cases where WMD proliferation threatens peace and security.

An additional necessary component is a reenergized cooperative threat reduction effort with Russia. In this area, too, the Bush administration began with a skeptical view and an inclination to cut budgets. But insecure stockpiles of nuclear materials and weapons in Russia—a problem that will only be made worse by further deep cuts in offensive deployments—is the single most-accessible source of nuclear assets for terrorists. In contrast to the Bush administration’s initial approach to cooperative threat reduction, the United States will have to spend more money and speed up its effort to secure all of Russia’s nuclear materials as quickly as possible.

Deterrence and prevention in current circumstances are powerful safeguards of national security. But they will not protect the United States against all possible attacks using WMD. Homeland defense will take a position in American national security policy unequalled since the middle of the Twentieth Century. And there will have to be a role for what Perry calls “the insurance policy” of missile defense.

But covert delivery is still the most likely method of attack by terrorists using nuclear or other weapons of mass destruction. The United States will have to fund and mount a very effective homeland defense, focusing on WMD delivery by boat or truck or other secret means. It will have to develop technology that can find hidden nuclear and other WMD, and it will have to put that technology into the hands of a wide variety of law enforcement agencies. This will be an enormous and expensive undertaking.

As for missile defense, September 11 appears to have changed no one’s mind. Those who opposed missile defense before continue to oppose it now, arguing that as they had foreseen, mass-casualty attacks against the United

² Perry, “Preparing for the Next Attack,” p. 32.

³ Lawrence J. Korb and Alex Tiersky, “The End of Unilateralism? Arms Control After September 11,” *Arms Control Today* (October 2001), <http://www.armscontrol.org/act/2001_10/korb01.asp>.

States would come in an unexpected package, not from attack by intercontinental ballistic missile. Those who favored missile defense before continue to favor it now. They argue that if those who ordered the September 11 attacks could acquire nuclear weapons and a missile that could reach the United States, then they would use them without hesitation.

While there seems little doubt that the terrorists would use such weapons if they could get them, it is difficult to imagine a precise scenario right now where the United States would not be able to preempt an attack of this sort. Even if pro-bin Laden forces were to seize power in Pakistan, for example, and seize its nuclear weapons and missiles, and even if those missiles had the range to reach the United States (which they do not), the United States would be in a clear position to attack missile and nuclear sites in Pakistan before a launch could occur.

But as an insurance policy against future threats, the careful and measured pursuit of missile defense should be a component of the national security policy of the United States. Paradoxically, the attacks of September 11 may have forced the Bush administration to slow its approach to developing anti-missile technology, as it seeks the acquiescence and cooperation of Moscow. For the first time, the United States has the opportunity to fund development and testing of a wide range of technologies while not succumbing to the political pressure that has created the “rush to failure” in the past. But this cautionary note from Perry is a good one: “If the single-minded pursuit of [missile defense] conflicts with programs designed to curb proliferation and strengthen deterrence, it could decrease our own security rather than increase it.”⁴

FROM UNILATERALISM TO MULTILATERALISM

The September 11 attacks have turned the Bush administration’s approach to foreign policy on its head. President Bush and most of his senior policy advisers arrived in office with a strong desire to lead the United States on its

own path in the world. From global warming to International Monetary Fund bailouts, small arms sales to nuclear arms control, this administration demonstrated little concern for the wider world’s views in its first eight months in office.

September 11 drove home the realization among senior policymakers in the Bush administration that the United States really does need the help of the rest of the world. Nowhere has that message been more important than in U.S. relations with Russia. The September 11 attacks turned years of cool relations between the United States and Russia into a veritable cozy, fireside gathering. In fact, these events may bring the two nations together with a purpose unlike any of those imagined by even the most optimistic observers at the end of the Cold War in the early 1990s. The ABM Treaty may eventually disappear, and it may turn out to be far easier in the current context to fashion a cooperative strategic framework to replace it.⁵

Even the missile threat itself may change. President Bush and his advisers have usually listed North Korea, Iran, and Iraq as the rogue states with ambitions to acquire ICBMs. But the war in Afghanistan is swiftly transforming U.S.-Iranian relations. More slowly perhaps, North Korea is reevaluating its interest in developing and exporting longer-range missiles. It is not possible to predict which nations might be considered a threat by the time the United States is actually ready to deploy missile defenses.

What will be the effect of these developments on China? It could very well perceive itself on the outside of this newfound coziness between Washington and Moscow, especially if Russia lets the ABM Treaty go. Only six months ago, Russia and China were fashioning a new closer relationship, which some observers worried might eventually evolve into a military alliance to challenge America’s place as the sole superpower. Then, Moscow and Beijing reaffirmed the ABM Treaty as the cornerstone of international security. After September 11, President Putin and President Bush engaged in

⁴ Perry, “Preparing for the Next Attack,” p. 33.

⁵ After this paper was written, on December 13, 2001, the Bush administration announced U.S. withdrawal from the ABM Treaty.

de facto negotiations to adjust the ABM Treaty. They proved unsuccessful, but Putin's reaction to the U.S. decision to leave the ABM Treaty was muted, as Putin seems unwilling to undermine by his actions Russia's closer relationship to the United States. We may see China move quickly in the aftermath of this warming between Washington and Moscow to seek friendlier relations as well with the United States

Here at home, the political consequences are also profound. The traditional Democratic/Republican divide on these issues is breaking down. Democrats are more willing to advocate military action; Republicans will be more willing to combine military action with diplomacy on the nonproliferation front.

"The old split between hawks and doves is no longer relevant," David Brooks wrote this fall. With a bow to Machiavelli, Brooks proposes a new divide on national security policy between lions and foxes. "Lions believe in the aggressive use of power. For them the main danger is appeasement. They worry that we will be half-hearted and never really tackle our problems. Foxes, by contrast, believe you have to move cleverly and subtly. They worry that America will act unilaterally and tear its coalition and trample upon our own freedom."⁶

PARADOXICAL OUTCOMES

The consequences of this tectonic shift in international relations are not easy to predict. Current friends could end up becoming adversaries. Just think of the geopolitical goals of Usama bin Laden. Were he or those who come after him to have their way over the next five years, the threat could come from Saudi Arabia with money to acquire the missiles and nuclear weapons. Iran might turn into the friendly power the United States relies on in the Persian Gulf.

And it could be that nonproliferation agreements get in the way of safeguarding nuclear weapons. The NPT could stand in the way of more aggressive action on the part of the United States to prevent terrorists from acquiring nuclear weapons or components. Again,

take the example of Pakistan. If radical Islamists in Pakistan's military overthrow the government of General Pervez Musharraf, what happens to Pakistan's nuclear weapons? How can the United States make sure that Pakistan's nuclear assets do not fall into the hands of terrorists?

Obviously, the answer is clear: Washington should do everything it can to help the current Pakistani government safeguard its nuclear weapons. But that turns out to be more difficult than one might imagine. Because Pakistan is a non-nuclear state under the provisions of the NPT, the treaty prevents the United States from providing Pakistan with the most advanced safeguards for its nuclear weapons. However, such safeguards would also make Pakistan's nuclear weapons easier to deploy and easier to use. Providing such help would in effect acknowledge Pakistan as a nuclear-weapons state. The NPT prohibits all its signatories from accepting the nuclear-weapons status of any state other than the original five nuclear weapon powers.

In any case, even if the Bush administration were willing to provide it, Pakistani leaders are reluctant to accept such help because they fear disclosing intimate knowledge of the characteristics and locations of their weapons. They believe such information could be used by the United States to steal, destroy, or otherwise undermine their nuclear arsenal.

It may be true that only by accepting Pakistan, and by extension India, into the club of nuclear nations can the United States work most effectively to prevent the spread of nuclear weapons into the hands of terrorists. So is the NPT really part of the war on terrorism? Or will some inside the Bush administration conclude that it should be abandoned—not to condone proliferation—but in the interests of containing proliferation and preventing such weapons from ending up in the hands of those who are undeterrable?

CONCLUSION

Earlier this year, Jan Lodal wrote: "A decision by the United States to reduce its offensive forces below 2,500 and to adopt a non-threatening approach to strategic defenses would be a powerful answer to those who be-

⁶ David Brooks, "The Age of Conflict," *Weekly Standard*, (November 5, 2001), p. 19.

lieve the United States is committed to hegemonic military dominance.”⁷

Before September 11, it was very difficult to imagine that the Bush administration would adopt such a posture; but afterwards, that could very well be the approach the Bush administration takes. Its agreement with Russia on deep cuts in offensive strategic weapons may place it squarely within Lodal’s framework. We shall see how the Bush administration moves ahead on the details of its missile defense program.

The attack against the United States made possible this shift in policy. What is still unclear is whether the United States will remain committed to this approach and whether the world will perceive that the United States is not bent on absolute military dominance in global affairs.

On this issue, the September 11 attacks may have given a boost to both impulses in American national security policy: to more multilateralism as the evolving relationship with Russia demonstrates, and to more unilateralism especially through the exercise of U.S. military power. The so-far successful (as of mid-December 2001) war in Afghanistan will strengthen this impulse. The threats to expand the war on terrorism to other states—Iraq is cited most often—have not abated. But the Bush administration has already recognized the utility of a nonproliferation tool it had earlier disdained, the Biological Weapons Convention.

Such are the unexpected and potentially beneficial results for national security and nonproliferation policies of the war on terrorism.

⁷ Jan Lodal, *The Price of Dominance: The New Weapons of Mass Destruction and Their Challenge to American Leadership* (Washington, DC: Brookings Institution, 2001), p. 13.

THE NEW LANDSCAPE OF NUCLEAR TERRORISM

Leonard S. Spector

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An applicant for a license to construct and operate a [nuclear] production or utilization facility. . . is not required to provide for design features or other measures for the specific purpose of protection against the effects of (a) attacks and destructive acts, including sabotage, directed against the facility by an enemy of the United States, whether a foreign government or other person.

Nuclear Regulatory Commission regulations establishing requirements for protection of nuclear power reactors, 10 CFR Sec. 50.13, originally adopted 26 September 1967.

The Office [of Homeland Security] shall coordinate efforts to protect the United States and its critical infrastructure from the consequences of terrorist attacks. In performing this function, the Office shall work with Federal, State, and local agencies, and private entities, as appropriate, to: (i) strengthen measures for protecting . . . facilities that produce, use, store, or dispose of nuclear material. . . within the United States from terrorist attack.

Executive Order 13228, establishing the Office of Homeland Security and the Homeland Security Council, 8 October 2001.

As the transformation of U.S. policy on reactor security indicates, the al-Qa'ida terrorist attacks of September 11 and their aftermath have given new immediacy to the threat of nuclear terrorism. This threat includes not only terrorist attacks on nuclear power plants, but also terrorist use of fission weapons or conventional bombs containing radioactive contaminants (radiological dispersion devices). The September 2001 events have underscored the growing capabilities of terrorist organizations, heightened awareness of the shortcomings in existing efforts to avert nuclear terrorism, and accentuated the need to intensify these efforts and explore new strategies to meet the nuclear terrorism challenge.

GROWING COMPETENCE

Al-Qa'ida's destructive attacks in New York and Washington demonstrated for a second time the sophistication and malevolence of the most advanced modern terrorist groups. The first demonstration came in March 1995, when Aum Shinrikyu released sarin gas in the Tokyo subway.

No terrorist organization, including Aum and al-Qa'ida, is known to have assembled a technically qualified team that could build a

nuclear weapon if it had the requisite fissile material in hand. Moreover, the actual terrorist deeds of these organizations were far from the pinnacle of technical complexity. Nonetheless, Aum Shinrikyu, and, particularly, al-Qa'ida—with its free hand in Afghanistan, links to Pakistani nuclear scientists, and potential links to Iraqi nuclear specialists—probably could have built a fission-weapon production team over time.¹

¹ A number of episodes make clear that terrorist organizations are interested in acquiring the potential for nuclear mayhem. Aum Shinrikyu, for example, is reported to have mined and extracted uranium and to have attempted unsuccessfully to enrich it. Usama bin Laden has declared that he possesses nuclear weapons of some type, and testimony of other al-Qa'ida members has described his attempts, apparently unsuccessful, to buy fissile material. In addition, Russian military officials have stated recently that terrorist organizations have scouted Russian nuclear sites. In November 1995, Chechen rebels seeking to embarrass authorities in Moscow publicized the fact that they had placed cesium-137, a radiological material used for many industrial and medical purposes, in a heavily used Moscow park. Unfortunately, only

Other existing terrorist organizations may not be able to match the overall technical competence, international reach, and wealth of Aum Shinrikyu and al-Qa'ida, but this constellation of capabilities has been demonstrated twice, in very different settings, and may well be seen again.

Thus, even as the United States attempts to limit nuclear "brain drain" from the former Soviet Union and to strengthen international controls over nuclear technology flows, one of the most important tools for restricting terrorists' development of a fission-weapon production team is likely to be the broader U.S. war on terrorism, aimed at disrupting major terrorist organizations across-the-board, a war conducted outside of the sphere of traditional nuclear regulations and regimes.

PROTECTING FISSILE MATERIAL

More traditional initiatives directly aimed at improving the security of fissile materials are also essential to counter nuclear terrorism. Today these initiatives are focused most intensively on materials in the U.S. nuclear weapons complex and on those in the former Soviet Union. Only the latter—which remain far more vulnerable—will be addressed here.

The U.S. Department of Energy Material Protection, Control, and Accounting (MPC&A) Program has completed security upgrades on fissile material in the former Soviet states other than Russia. In Russia, the MPC&A Program is not scheduled to complete the first echelon of improved security ("rapid upgrades") on all 603 tons of fissile material currently in Russia's inventory until 2007, although it is possible that at least rudimentary security improvements could be completed over the next nine months.²

modest technical capabilities would be needed to mount an attack against a civilian nuclear facility or to incorporate a radioactive source into a conventional bomb.

² U.S. Department of Energy (DOE), Material Protection, Control, and Accounting Program, *Strategic Plan—2001* (Washington, DC: DOE, July 2001); Rose Gottemoeller, "Testimony before the Subcommittee on International Security, Proliferation, and Federal Services,

Efforts to protect fissile material in Russia could be significantly strengthened. The most important step would be to accelerate the MPC&A Program; the Bush administration initially opposed new funding to speed this work, but is now seeking significantly increased resources for it. Second, since weapons-quality highly enriched uranium (HEU) could be far more easily used for a terrorist nuclear device than plutonium, U.S. programs to protect and eliminate fissile material in the NIS should be adjusted to concentrate first on securing and eliminating such HEU.³ Finally, diplomatic and economic resources should be concentrated on the U.S. fissile material programs in the NIS (see summary chart below) that will produce benefits most rapidly.

Even if all of these initiatives are adopted, however, large quantities of Russian fissile material will remain vulnerable for the next five years. During this "window of vulnerability," overall counterterrorism efforts to block the formation and activities of large-scale interna-

Committee on Governmental Affairs," U.S. Senate, November 7, 2001.

³ Small, but proliferation-significant quantities of fresh HEU research reactor fuel also can be found at facilities in a number of other former Soviet states and Eastern Europe. Locations of greatest concern are the Vinca reactor in Serbia; the Sosny reactor in Belarus; and the Kharkiv reactor in Ukraine. U.S. programs have improved security at all sites holding such material in the former Soviet states and security in several, but not all, East European states meets international standards. However, the best approach overall would be to convert the reactors in question to use low-enriched uranium (LEU) fuel, and to transfer fresh and spent fuel to Russia for down-blending to non-weapons usable low-enriched material. Also, Thomas Neff, the intellectual father of the current U.S. program to blend down and purchase Russian HEU, estimates that the added cost of an accelerated program to blend down HEU at a rate of 50 tons per year, rather than at the current rate of 30 tons per year, would be only about \$150 million annually, much of which would be recouped when the additional blended material were sold commercially.

tional terrorist organizations—that is, to constrain the “demand” side of the problem—will thus be a particularly important component of U.S. efforts address this aspect of the nuclear terror threat.

NUCLEAR POWER PLANTS

Protecting nuclear power plants against attacks by terrorist groups will also require a multidimensional approach to nuclear terrorism, in which non-nuclear security measures are employed as one of the major bulwarks against this danger.

U.S. nuclear power reactors on flight paths to major airports have containments (reinforced concrete structures surrounding the reactor vessel) able to withstand some commercial jet crashes, although not necessarily the deliberate crash by a fully fueled jumbo jet. Containments at other reactors are less robust. Spent fuel pools at all reactors have little protection against airplane crashes, and, in many cases, attacks on these pools could cause meltdowns with extremely serious consequences. Plane crashes could also destroy vital reactor safety systems that are not protected by containment structures.

It is impractical, however, to make the 103 U.S. nuclear power reactors invulnerable to this danger by reinforcing containment domes or building comparable structures around spent fuel pools and critical plant equipment. Rather, the civilian airliner threat will have to be addressed outside the nuclear regulatory framework. The only effective approach is eliminating the danger of hijacking, establishing no-fly zones near nuclear facilities, and, at least for the immediate future, providing military protection through air patrols and other anti-aircraft measures. None of these responsibilities resides with nuclear regulatory authorities or private electrical utilities that operate nuclear plants.

More broadly, as indicated at the outset of this paper, U.S. nuclear power plant security regulations assume that plant operators are not responsible for protecting against threats posed by an “enemy of the United States.” With the United States now at war against al-Qa’ida, it is clear that modern terrorist organizations can

attain the status of “enemy.” It is also clear that the design basis threat for developing protective measures at nuclear facilities needs to be upgraded to take into account the possibility of a military-style attack involving 10 to 20 highly trained, heavily armed men working in multiple teams. Meeting this threat is not a job for the Nuclear Regulatory Commission and the nuclear plant operators, but one for the National Guard or other military or police organizations (with appropriate coordination and training with nuclear authorities).

The United States has recognized the need for such a multidimensional response to major terrorist threats through the creation of the Office of Homeland Security in October 2001. The fundamental mission of this office is to coordinate a wide range of state and federal capabilities to detect terrorist threats, protect against terrorist attacks, respond to such attacks when they occur, and aid in recovery efforts. As noted above, the mandate of this office specifically includes addressing terrorist threats to nuclear facilities and materials in the United States.

Many questions remain about the future effectiveness of this new organization. What is more important, however, is that this office has been established and that, in a dramatic shift in national policy, the United States is now looking comprehensively at mechanisms for meeting the nuclear terrorism challenge. Similar capabilities will be needed in other states with major nuclear facilities, especially Western democracies, which are the most likely targets of terrorism.

INTERNATIONAL COORDINATION ON PHYSICAL PROTECTION

As the United States moves to confront nuclear terrorism across a broad front, the international community is lagging behind. International efforts to improve physical security standards over nuclear materials and facilities, for example, are stalled. The Physical Protection Guidelines of the International Atomic Energy Agency (IAEA) are voluntary and, because they must address such a wide variety of situations across the IAEA’s member countries, they are

so general as to give little practical guidance.⁴ Little progress is being made toward making these guidelines binding or toward extending the 1980 International Convention on the Physical Protection of Nuclear Materials, which now covers materials in international transit, to also cover materials held within a state.

The international community has also been unable to establish effective programs for controlling radioactive sources, which are used in radiotherapy and industrial radiography equipment. Controlling such sources is essential to reduce the danger of terrorist use of radiation-dispersal devices. According to IAEA Director of Radiation and Waste Safety Abel Gonzalez,

Security of radioactive materials has traditionally been relatively light. There are few security precautions on radiotherapy equipment and a large source could be removed quite easily, especially if those involved have no regard for their own health. Moreover, in many countries, the regulatory oversight of radiation sources is weak. As a result, an undetermined number of radioactive sources have become orphaned of regulatory control and their location is unknown.⁵

Equally telling, the IAEA's 1999 action plan for addressing this risk treats the matter as purely a health and safety issue, not a potential terrorist/military threat.⁶

The foregoing suggests that to advance the physical protection of nuclear assets internationally, and, especially in advanced Western states, it may be time to look beyond the IAEA, at least on an interim basis. Given the solidarity

of U.S. military allies—the NATO countries, Japan, and South Korea—in the current war on terrorism and given the increasing recognition that nuclear terrorism is, in its most dangerous forms, a military threat to the United States and its security partners, it might be useful to engage these countries, *as allies*, in a systematic effort to improve security over nuclear materials, including radioactive sources, and facilities within their respective borders.

Under this approach, senior national security officials in Washington—from the National Security Council, the State Department's Office of Counterterrorism, and/or the Department of Defense—would work with their counterparts in allied capitals to launch, as a matter of alliance policy, parallel national initiatives to improve the security of nuclear materials and facilities. Existing alliance coordinating bodies, such as the NATO Senior Political-Military Group on Proliferation, could also be employed for this effort. The content of new physical security rules could be based upon IAEA standards—appropriately strengthened and fleshed out—which would be implemented through normal civilian channels and augmented through coordination with other national capabilities (i.e., civil air authorities, National Guard equivalents, etc.). The motive for action would be to enhance the defenses of U.S. alliance partners against a new, jointly recognized threat.

Such an approach would have several advantages. It would:

- bypass the stalemate created by consensus decision-making at the IAEA;
- generate new bureaucratic pressure within allied states for improving protection against nuclear terrorism;
- foster the incorporation of military assets in certain aspects of the counter-nuclear-terrorism effort (including specially trained response forces, air patrols, and the like);
- dilute the influence of nuclear facility operators seeking to minimize security expenses; and
- prod national regulators to control radioactive sources more effectively.

NATO members, Japan, and South Korea account for nearly 70 percent of all nuclear power plants worldwide and the bulk of other

⁴ "The Physical Protection of Nuclear Material and Nuclear Facilities," International Atomic Energy Agency (IAEA) INFCIRC/225/Rev.4 (Corr.), (Vienna: IAEA, May 1999).

⁵ "Calculating the New Global Nuclear Terrorism Threat," IAEA Press Release, November 1, 2001.

⁶ "Measures to Strengthen International Cooperation in Nuclear Radiation and Waste Safety," GOV/1999/46-GC (43)/10, (Vienna: IAEA, August 17, 1999).

nuclear fuel cycle facilities. If these states adopted more robust nuclear security practices as part of the alliance response to terrorism, neighboring non-allied states, such as Switzerland, Sweden, and perhaps Russia, would be hard-pressed not to follow suit. As the principal nuclear supplier countries, moreover, the alliance governments could also take steps to ensure that customer states improve their regulation of radioactive sources produced in research reactors supported by these suppliers.

This approach, to be sure, would be a significant departure from past policies, but it is in keeping with emerging trends within NATO and within the U.S.-Japan and U.S.-South Korean security relationships, where coordinated counterproliferation and counterterrorism efforts have received increased attention since the mid-1990s.

CONCLUSIONS

If the capabilities of modern terrorist organizations continue to grow, the threat of nuclear terrorism will surely worsen in coming years. Meeting this multifaceted challenge will require a more comprehensive and diversified response than imagined only months ago, one that goes well beyond a focus on the protection of nuclear assets per se. With the wide-ranging war on terrorism and the establishment of the Office of Homeland Security, the United States is setting the right course. It must now find the political will and financial resources to sustain these efforts and to lead other vulnerable nations to adopt similar strategies.

U.S. NONPROLIFERATION PROGRAMS IN THE FORMER SOVIET UNION

Program (Agency)	Goals	Accomplishments	Challenges/Recommendations
<i>Weapon Security & Elimination</i>			
Strategic Offensive Arms Elimination (DOD)	Accelerate implementation of START I Treaty by underwriting the elimination of Soviet-era nuclear systems and providing related technical support	All n-weapons removed from Belarus, Kazakhstan, Ukraine; >6000 n-weapons deactivated; > 400 ICBMs destroyed; 83 long-range bombers destroyed; 367 ICBM silos destroyed; 184 ballistic missile submarines destroyed; 184 submarine-launched ballistic missiles destroyed	Program running smoothly; management of spent fuel from dismantled submarines and related transparency issues may pose obstacles
Tactical Nuclear Weapons			No arrangements to account for or eliminate tactical nuclear weapons or to confirm implementation of 1991-1992 Presidential Nuclear Initiatives; reducing deployments
Chemical weapons (CW) destruction (DOD)	Assist Russia destroy CW stocks in compliance with Chemical Weapons Convention (CWC)	Some progress towards construction of key CW destruction facility in Shchuch'ye	Much delay because of disputes over choice of CW destruction technology, Russian financial contributions, and environmental issues; Russia now seeking extension of CWC deadlines; program regained momentum during 2001
<i>Fissile Material Security</i>			
Material Protection, Control, and Accounting (MPC&A) Program (DOE)	Assist Russia improve security for 603 tons of n-weapons material at 53 sites and for 1000s of naval n-weapons	All n-weapons material secured in non-Russian NIS states; rapid security upgrades completed on 190 tons of material (including comprehensive upgrades on 90 tons of material); 1000s of n-weapons secured	Rapid upgrades on all 603 tons not to be completed until 2007; comprehensive upgrades not to be completed until 2011; access limited at many sensitive Russian sites; program not fully integrated with other U.S. fissile material protection/elimination programs
Mayak Fissile Material Storage Facility (DOD)	Construct secure facility for 50 tons of Russian weapons plutonium	Facility nearing completion. Loading to begin in 2002	Transparency arrangements, essential before loading can begin, remain under negotiation
Second Line of Defense (DOE, DOD)	Reduce risk of nuclear smuggling by improving border security	Nearly a dozen border points secured in Russia; tens of border points secured in other NIS states	Russia program slowed by inadequate funding; issue addressed in FY 2002 appropriations
Aktau-BN-350 Breeder Reactor Project	Secure 3 tons of high-quality Pu in spent fuel	MPC&A upgrades complete; fuel canned with "hot" fuel	Discussions continuing on site for long-term storage of spent fuel
<i>Fissile Material Elimination</i>			
HEU Purchase Agreement—"Megatons to Megawatts" program (U.S. Enrichment Corporation-USEC)	Purchase 500 tons of weapons grade uranium over 20 years for \$12bn, blended-down to non-weapons usable nuclear power plant fuel	To date, 113 tons of HEU blended down to fuel-grade and purchased by USEC for sale to nuclear power plant operators.	Elimination of HEU will take 20 years; purchase price disputes and questions over long-term profitability of USEC creating uncertainties

Program (Agency)	Goals	Accomplishments	Challenges/Recommendations
Plutonium (Pu) Disposition (DOE)	Eliminate 34 tons of Russian weapons Pu by irradiating material as mixed oxide fuel in Russian nuclear power plants	Agreement establishing U.S.-Russian program signed; extensive cost estimates complete; \$200M appropriated toward future work Parallel program launched to eliminate 34 tons of U.S. Pu	After lengthy review, Bush administration announced support for program in late 2001; program requires significant financial participation by other G-8 members; delay caused by Bush review has led to loss of momentum, especially in obtaining G-8 support
Pu Production Reactor Shut-Down Agreement (DOE)	End annual production of 1.8 tons (total) of weapons plutonium at three remaining Russian production reactors, while providing alternatives	Agreements signed, cost estimates, planning complete to replace reactors with refurbished or new fossil fuel plants	Extensive delays because of failure of initial effort to convert cores of reactors as means for ending Pu production; new U.S.-Russia agreement on fossil option offers path forward; program transferred to DOE from DOD in FY 2002 defense appropriation
Civil Plutonium Initiative (DOE)	Effort during Clinton Administration to persuade Russia to halt separation of 1.5 t/yr of plutonium from civilian nuclear power plant fuel	Clinton Administration proposed construction of spent fuel storage facility for civilian spent fuel.	Program stalled over linkages to Russian nuclear exports to Iran; studies continuing. No new funds in FY 2002; Bush administration reviewing program; support uncertain

Employing WMD Experts

Initiatives for Proliferation Prevention (DOE)	Employ NIS WMD scientists in high-tech projects leading to self-sustaining businesses with U.S. industrial partners	More than 10,000 NIS scientists employed over 5 years; investment by U.S. business greater than U.S. government outlays; new privately financed \$52M venture capital fund	Commercialization of projects in Russia inherently difficult; years required to develop current, successful approach; program now has significant momentum and strong interest of U.S. private industry, as well as Bush administration and Congressional support
Nuclear Cities Initiative (DOE)	Accelerate the planned down-sizing of Russia's nuclear weapon complex, concentrating on three n-cities and two n-weapon assembly plants	Open computing centers established in two cities; int'l development centers established in two cities; 10+ commercial projects initiated; footprint of Avangard plant reduced to create low-security zone for commercial projects; EBRD small loan program established	Congressional and Bush administration skepticism created funding uncertainty for FY2002, but final FY2002 appropriation will permit program to accelerate; initial Russian hesitancy to participate now overcome
Intl. Science and Technology Center (Moscow); Science and Technology Center—Ukraine (Kiev) (DOS)	Provide high-tech employment opportunities for former Soviet WMD scientists	30,000 scientists assisted through hundreds of R&D projects	Program operating smoothly; recent increases in funding
Employ biological weapon (BW) scientists; convert BW facilities (DOE, DOS, DOD)	Reduce threat of leakage of BW expertise by employing Soviet BW scientists in non-weapons work; reconfigure BW facilities to non-weapons work	For facilities not under Russian military control, much progress. Many scientists engaged in U.S.- or multilaterally sponsored projects; key facilities in Russia, Kazakhstan, Uzbekistan now focused solely on non-military activities	Concerns remain regarding offensive military activity at BW facilities that remain under control of Russian military; added transparency urgently needed Action needed to ensure security and/or elimination of working stocks of BW agents

ARMS CONTROL FOR ANTHRAX: A SAFETY-AND-SECURITY APPROACH TO STRENGTHENING THE BWC

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The fall 2001 anthrax attacks in the United States demonstrate both the urgent need to bolster efforts to address the biological weapon (BW) threat, and the inadequacy of the Bush administration's scant and essentially toothless proposals to meet that threat. However, the bioterror attacks also suggest that the administration was right to criticize central elements of the proposed compliance protocol to the Biological Weapons Convention (BWC) as fundamentally flawed.

This paper outlines the nature and dimensions of the "new" BW threat, and urges negotiation of an additional convention grounded in materials and technologies safety and security (MTSS) principles, rather than pursuing expensive and futile attempts at verification through facility inspections as in the proposed BWC protocol. It recommends that for both political and substantive reasons the administration should adopt a "fast-track" approach with the U.S. Senate to increase prospects of successfully negotiating a new Biosecurity Convention that can help avert bioterrorist threats.

THE "NEW" BW THREAT

While underscoring the bioweapon threat, the anthrax attacks also lend credence to the administration's objection to the proposed BWC protocol—though not for the reason anticipated by U.S. officials. Their central BW proliferation concern was that given the difficulty of verifying the location, current use, and future application of dual-use biotechnologies and materials, a determined proliferant state could use deception and denial techniques to maintain an offensive bioweapon capability with little risk of being caught, even by on-site teams of expert inspectors. UNSCOM's frustrating experience in Iraq illustrates the validity of this concern, but the demonstrated BW threat extends far beyond the list of suspected proliferant states.

What the criminal and epidemiological investigations into the fall 2001 anthrax attacks in the United States have revealed is of more ominous proportions. We now recognize that a very small group—perhaps even a lone individual—can acquire a deadly strain of *Bacillus anthracis*, culture a significant quantity of spores, and process them to readily aerosolize. The terrorist(s) then employed a cheap and ubiquitous delivery system—the U.S. mail—to murder five people, sicken thirteen more, force tens of thousands to take powerful antibiotics, disrupt basic functions of the U.S. government, provoke anxiety across the nation and around the world, and impose billions of dollars in economic costs—without being apprehended, much less deterred or prevented. At this point, it appears that only our assailant's intentions stand between the targeted assault that we have suffered so far, and mass-casualty anthrax attacks.

Even more alarming, despite weeks of intensive investigation, U.S. officials still do not know which research or commercial laboratories or other facilities in the United States retain virulent strains, or who has access to them or to the inexpensive, dual-use, laboratory-scale equipment necessary to produce gram quantities of aerosolizing anthrax spores. At present, the United States cannot with confidence verify BW capabilities within its *own* territory, let alone inside other countries, and we have no reason to believe that even picture-perfect implementation of the draft BWC protocol could have averted these attacks. Whether or not the recent bioterror attack proves to be entirely "made in America," it is now evident that the U.S. government cannot protect its citizens from potential BW threats originating from within the continental United States. It will not be able to do so until government agencies successfully develop and implement comprehensive biodefense measures, which will take years even in the best-case scenario.

Worse still, current casualties and disruption do no more than hint at the lethality and social destructiveness of potential BW threats. Set against the backdrop of suicidal terrorists plotting and training for years in order to massacre thousands of people on September 11—possibly as part of an effort to decapitate the U.S. government—we must take seriously the threat of deliberate dissemination of smallpox, plague, or other contagious diseases. In an age of intercontinental air travel, no nation could hope to remain an island in the event of a smallpox outbreak or other epidemic. Moreover, the widespread training of bioscientists and diffusion of dual-use laboratory and production equipment, coupled with ongoing advances in biotechnology, raise the prospect that one day non-state actors might be able to bio-engineer contagious diseases for virulence, stability during dissemination, and antibiotic resistance.

STRENGTHENING COUNTER-MEASURES AGAINST BW THREATS

Yet just as the bioweapons threat has become almost universally palpable, global efforts to control them have come to a standstill. In July 2001, the Bush administration announced its rejection of the proposed BWC protocol, scuttling years of international effort to develop confidence-building and compliance measures to bolster the BWC. Supporters and critics disagree on the merits of that decision, but there is little reason to expect that this administration will reconsider. Even if it were to do so, the pharmaceutical industry remains opposed and the U.S. Senate as presently constituted likely would refuse to ratify the proposed protocol.

Given this political reality, and in light of our emerging understanding of the proportions of the BW threat, the United States should propose a set of new initiatives that build on those announced in Geneva on November 19, 2001. These efforts should include activities that will make immediate progress in addressing the BW threat, such as launching a global campaign to demonstrate that the international community rejects the use of biological weapons as a criminal, evil act that will not be tolerated. Equally important is the need to set in motion longer-term activities, such as negotiations on a new

convention based on fundamentally different and more effective principles than the proposed BWC protocol, to ensure development of a robust national and international infrastructure to address BW threats.

However, the international norm articulated in the BWC is essential; it remains central to any international measures designed to combat BW terrorism or proliferation. In this regard, President Bush was right to declare on November 1, 2001, that the United States is and will remain committed to the BWC. Indeed, the norm against BW must be reinforced. The key to success in both the short and long term is through a high-profile international endeavor led by the United States.

Thus far, however, the administration has not done nearly enough. Certainly, some of the specific suggestions that the administration has outlined do have merit (e.g., national legislation to criminalize the use or possession of BW) but others appear vague and ineffectual (e.g., voluntary investigation of suspicious outbreaks) or in the realm of merely good intentions (e.g., devising a code of bioethics for scientists), and the sum package constitutes a meager effort, one that is dwarfed by the manifest threat. While it is useful that the United States finally has provided some alternatives to the proposed protocol, we are far from an adequate program of action. We therefore urge the administration to undertake an integrated set of measures to reduce bioterrorist threats to the United States and the world.

Short-Term Initiatives: Unilateral Steps to Provide a Role Model for Global Action

First and foremost, the United States should immediately assume a leadership role, promoting a realistic and meaningful agenda that requires both national and international activities. A basic prerequisite for success is that President Bush and his most senior advisors make this issue a top priority inside and outside of the United States.

Second, the president should order a systematic evaluation of all U.S. laws relating to biological agents and toxins to ensure they are sufficiently comprehensive and stringent, and

adequately resourced for their effective implementation.

Third, the U.S. government should quickly determine to rebuild the nation's public health sector, and allocate the necessary resources to develop a surge capacity in the medical community capable of providing adequate response in the event of a large-scale BW attack, and to ensure that in such an event appropriate communication links and networks are functioning as soon as possible in all regions of the country and at all levels of government.

Fourth, as he has already proposed, the president should press all countries to pass laws criminalizing possession or use of biological weapons or toxins with malicious intent.

Longer-Term Initiatives: Developing an Effective International Agenda

First, the United States should immediately assume a leadership role for the long term, pushing forward a realistic and meaningful agenda requiring multilateral cooperation and negotiations.

Second, the executive branch should work quickly to develop with Congress and with the pharmaceutical and biotechnology industries to develop national laws to tighten U.S. regulations controlling trade, transport, accountability, and security of sensitive biological agents. These laws should then be enacted as soon as possible and without partisanship, to provide a basis for a "fast-track" approach to international negotiations (outlined below).

Third, the United States should take the lead in promoting a new Biosecurity Convention to develop and implement progressively higher standards for accountable, safe, and secure use, transport, and commerce of dangerous pathogens. By focusing on materials and technologies safety and security (MTSS) principles, this treaty would be separate from but in support of the BWC. In some respects, the 1994 Nuclear Safety Convention can serve as a useful model, but the Biosecurity Convention should be broader in scope, and the Chemical Weapons Convention (CWC) provides useful guidance for including real "teeth" to encourage membership and help enforce compliance. Negotiations on the Biosecurity Convention

should be held under U.N. auspices, and for obvious symbolic reasons held in New York City.¹ All states parties to the BWC and any other interested U.N. members should be invited to participate in the negotiations.

The proposed Biosecurity Convention would complement the normative foundations of the BWC with concrete agreed-to regulations and activities relating to the control, accountability, safety, and security of dangerous pathogens and toxins as well as certain sensitive dual-use technologies. It would involve four elements: a legal commitment by contracting parties; agreed principles for developing higher standards in regulation and licensing; mechanisms for oversight and progressive refinement; and compliance measures.² Specifically, this convention would entail:

- commitment to and procedures for the development of increasingly higher international standards for accounting for and

¹ Arguably, for legal and procedural reasons it would be better to negotiate an alternative BWC protocol, rather than an entirely new, "freestanding" multilateral instrument. But for political reasons, this would be a bitter pill to swallow for all countries but the United States that contributed to negotiation of the draft protocol. For its part, the U.S. administration would want to avoid reintroduction of elements of the first proposal, a likely outcome if Ad Hoc Group efforts that produced the protocol were to continue in Geneva.

² Paralleling the Nuclear Safety Convention, for several reasons the new Biosecurity Convention would not aim to include language that would exhaustively detail all standards for safety and security. First, standards developed now may rapidly become obsolete with technological change. Second, biotech industry leaders in the United States and Europe can learn from other states' best practices and procedures, notably from those used in the Soviet BW program. Third, it simply will be easier to reach early agreement on broad principles, and then use subsequent procedures to push for their progressive implementation, than it would be to craft and win accession to a comprehensively detailed treaty.

ensuring the safety and security of dangerous pathogens held within national boundaries, and when transported within or exported across national borders;

- identifying the locations of disease cultures of concern and developing national and global registers of this information;
- establishing a requirement for end-use verification of BW-related technology transfers by exporting countries;
- requiring passage of national legislation to establish national licensing, export controls over dangerous pathogens and toxins and sensitive dual-use equipment, and regulatory bodies to implement this system;
- making every effort to persuade all states that it is in their national interest to attain greater safety and security regarding biomaterials, but also requiring signatory states to be in compliance with standards developed under the convention within five years of entry-into-force (EIF) of the convention; and
- terminating all biological commerce and scientific exchanges with any state remaining a non-signatory five years after EIF, or with any signatory state not in compliance.

Fourth, the United Nations should sponsor a joint effort between the members of the World Health Organization (WHO), the BWC, and the Biosecurity Convention, to develop a new International Secretariat with the following responsibilities:

- monitoring efforts of member states to comply with international biosafety and biosecurity standards by reviewing information provided in obligatory, timely reporting from members about development and implementation of their national regulatory systems;
- providing an ongoing forum for discussions related to dangerous pathogens, emerging diseases, biosecurity threats, and biotechnology issues;
- staffing biennial conferences of signatories for peer review of reports on national regulation and licensing systems, which would provide opportunities for evaluating new developments in biotechnology and related

areas, as well as a venue for seeking clarification on national declarations;

- developing a mechanism to more effectively monitor global disease in as close to real time as possible, with this information to be used by each group to address concerns relevant to their specific undertaking; and
- training and maintaining lists of experts to comprise international teams for prompt investigation of suspicious outbreaks, alleged BW attacks, or unaccounted-for dangerous pathogens.

Finally, the international community must effectively address noncompliance issues by states party to the BWC, but should do so through different mechanisms than those employed to reduce bioterrorist threats.

- First, the United States should employ low-profile bilateral discussions to address BWC compliance questions relating to Russia and China, not to embarrass either country with regard to past activities, but to reassure the international community that those activities are in fact only matters of historical concern.
- Second, the international community cannot allow Iraq's flagrant violation of its commitment under the BWC to stand. Accordingly, the United States should collaborate with the other permanent members of the U.N. Security Council to bring combined pressure to bear on Iraq to accept United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC) inspections and ongoing monitoring of dual-use facilities to verify its disarmament of biological weapons and other prohibited armaments.

In sum, in responding to the anthrax attacks thus far, U.S. officials should engage in a thoroughgoing national MTSS effort in any case. By engaging the international community through negotiations on and adherence to a new Biosecurity Convention, the United States can play a leading role in defining international standards for MTSS in the biotechnology sector, learn from any useful measures that have been developed abroad, including in the former Soviet BW program, and forge an effective in-

ternational response to the BW proliferation threat.

FAST-TRACK NEGOTIATIONS

Given the years of diplomatic labor invested in the proposed BWC protocol, and in a context of widespread international perceptions of arrogant U.S. unilateralism, the Bush administration cannot realistically expect to initiate serious negotiations on a new Biosecurity Convention by merely declaring its intention to do so. To restore U.S. credibility—and just as importantly, to spur other governments to immediately begin reconsidering their own positions on strengthening the BWC—the administration should signal a determined, even singular commitment to negotiating a *better* accord to strengthen the BWC. In light of September 11 and subsequent events, Bush administration officials can plausibly argue that their aim is not to “cherry-pick” from the draft protocol according to earlier U.S. preferences, but rather to work for a more effective accord to cope with the new realities. A compelling way to demonstrate such dedication would be to begin with the ultimate arbiter of U.S. participation in any international treaty: the U.S. Senate.

President Bush should press the Senate to grant “fast track” authority to negotiate a new Biosecurity Convention. In conferring such authority, the Senate would commit to committee review and a floor vote on the new convention without attaching amendments or reservations of any kind, either in committee or on the floor, with consideration and debate limited to a set time-period (e.g., 45 days).³ To re-

³ The term “fast-track” typically refers to a procedural mechanism developed under President Nixon and used most often by his Republican successors for promoting trade liberalization. However, the U.S. Congress has adopted streamlined procedures to ensure timely, disciplined consideration of national security and defense legislation, including the 1973 War Powers Act and the 1990 Defense Base Closure and Realignment Act. In employing such measures, the legislature delegates some prerogatives to the executive but retains ultimate veto power. Although doing so encroaches on the ability of individual members to shape legisla-

spect the constitutionally mandated “advise and consent” role of the Senate in treaty ratification, a favorable vote on a new Biosecurity Convention would still require a two-thirds majority to win approval.

To build support for a revised accord, however, the president would instruct executive-branch negotiators to consult closely with leaders of both parties in the Senate and in the biotechnology and pharmaceutical industries. Specifically, in requesting fast-track authority, the administration would outline the objectives and criteria that it would employ in a new round of negotiations. It might also detail specific obligations to inform and consult with the Senate (e.g., quarterly reporting on the status of negotiations with regard to U.S. goals and criteria). International attention to this public process would have the added benefit of helping to reshape international expectations about what can and should be done to meet the BW threat, and the urgent need for all parties to set aside standard governmental procedures to address this urgent threat to U.S. and international security.

Barring filibusters and requiring a simple up/down floor vote would prevent a rogue senator from hobbling U.S. foreign policy, an all-too-frequent occurrence in recent years. It would also prevent a repeat of the CWC ratification debacle, in which senators attached reservations that both changed the meaning of

tion, it leverages the weight of the Congress overall in bargaining with the President, while simultaneously boosting U.S. authority in foreign negotiations. In addition to serving the national interest, expedited procedures shield legislators from special-interest pressures. On such procedures in the U.S. Congress, see: Lenore Sek, *Trade Promotion Authority (Fast-Track Authority for Trade Agreements): Background and Developments in the 107th Congress*, Congressional Research Service (CRS) Issue Brief IB10084, (Washington, DC: CRS, October 12, 2001), <http://www.fpc.gov/CRS_REPS/crs_trad.pdf>; Stanley Bach, “Fast-Track” or Expedited Procedures: Their Purposes, Elements, and Implications, CRS Report 98-888, (Washington, DC: CRS, January 18, 2001), <<http://www.house.gov/htbin/crsprodget?/rl/98-888>>.

U.S. commitment to the treaty and carved out ready-made loopholes for proliferant states to exploit. Limiting debate would thus help ensure a better substantive outcome for any agreement concluded.

Fast-track negotiating authority would impinge on the majority prerogative to control committee and floor deliberations, now exercised by the Democrats. However, they would gain greater influence in shaping the objectives and criteria to be employed by the Republican president in negotiations. In any case, given the level of public alarm, party leaders would find it difficult to resist an urgent presidential request for authority to negotiate a stronger treaty, especially as Democratic constituencies favor arms control regardless of which party holds the presidency. A fast-track commitment would exemplify the kind of problem-solving bipartisanship that the American people have long craved, as well as providing reassurance that the U.S. government is doing all that it can to protect the populace at a dangerous moment in our nation's history.

Fostering U.S. and international security by winning agreement to strengthen the BWC is an issue that demands presidential leadership. Gaining approval now for expedited consideration by the Senate would remove incentives for individual members or either party to "out-bid" the president by demanding stronger measures after the conclusion of international negotiations. In the early 1970s, President Richard Nixon earned respect for decisively terminating the U.S. bioweapon program and signing the BWC. In the mid-1980s, President Ronald Reagan won acclaim for negotiating a much stronger accord on U.S. and Soviet intermediate-range nuclear forces (INF) than most observers initially believed possible. By the year 2004, President George W. Bush could reasonably expect to claim credit for leading the world in strengthening the ban against germ weapons, to the benefit of the nation and the world.

IMPLICATIONS OF THE WAR AGAINST TERRORISM FOR THE NPT REGIME

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The almost exclusive attention given to the threat of conventional and non-conventional terrorism since September 11 could lead some, especially in the public, to think that traditional proliferation concerns have somehow become less germane to U.S. and international security. This of course is not so. Moreover, as a decade of U.S.-Russian cooperative threat reduction activities attests, concern for the subnational terrorist nuclear threat is not new. However, the rising salience of this threat certainly complicates, even while it makes ever more important, the longstanding goal of the Treaty on the Non-Proliferation of nuclear weapons (NPT) of averting state proliferation.

But now we must address more directly the possibility that a subnational group funded, harbored, or assisted by a state may acquire access to nuclear explosives. Such a group might use nuclear weapons for terrorist purposes in pursuit of its own agenda, or on behalf of a host state unwilling to act directly in fear of retaliation. Iraq, which came perilously close to acquiring nuclear weapons capability a decade ago, and where U.N. inspectors have been unable for years to verify that WMD reconstitution efforts are not underway, is a potential case in point. President Bush's definition of the war on terrorism as including nations that develop weapons of mass destruction to terrorize other nations implies such hypothesized linkages and concerns.

This situation presents challenges, but also opportunities that could result in strengthening of the nonproliferation regime in a number of ways. For example, response and enforcement mechanisms have been uncertain and problematic in the past (e.g., the U.N. Security Council or coalitions of likeminded states operating pursuant to Security Council mandates). Bringing them more effectively to bear on recalcitrant proliferants could strengthen the regime. This could, alternatively, weaken the regime if it leads to discounting multilateral approaches in exclusive favor of unilateral or alliance-of-convenience means of pursuing security, strate-

gies that often work in the short term but do little to contribute to international security, stability, and predictability in the longer term. Either way, the nonproliferation agenda reflected in the NPT review conferences, and involving, as it does, realization of the treaty in all of its aspects, will persist and continue to be central to international security as we go forward.¹ NPT review and preparatory conferences are an almost annual affair, and they will continue to be dominated by their traditional agendas even as they accommodate new challenges and exigencies. The menace of nuclear terrorism will not displace nuclear nonproliferation on the international security agenda—it will only add more problems, but also, perhaps, more urgency to dealing with all of the threats on that agenda.

State proliferation and subnational nuclear terrorist threats are different levels of the same problem. Preventing access to the means of imposing nuclear threats, and removing incentives to acquire nuclear capabilities, are respectively the supply- and demand-side approaches to dealing with proliferation. Some nonproliferation supply-side measures bear directly on the nuclear terrorism challenge, and the latter is a potentially powerful stimulus for the international community to take steps that can address both threats. More specifically, the September 11 tragedy, and the attention it has drawn to the prospect that terrorists might acquire access to WMD or materials to produce WMD, may motivate states to act more quickly and with greater determination to shore up key elements of the nonproliferation regime.

¹ This agenda includes nonproliferation; systematic and progressive reductions by NWS of their weapons pursuant to their unequivocal undertaking to accomplish total elimination; bringing the CTBT into force; negotiating a fissile material cutoff convention; and pursuing effective safeguards while facilitating peaceful nuclear cooperation.

As is discussed below, three types of measures would put roadblocks in the way of terrorist access while simultaneously furthering traditional nonproliferation goals. There are “upside opportunities” for progress on safeguards, physical protection, and export controls, a range of useful efforts in which even the non-NPT states with nuclear weapons can participate. But there are also “downside risks” that the coalition strategy for anti-terrorism could negatively affect the nonproliferation regime.

UPSIDE OPPORTUNITIES

Safeguards: Safeguarding nuclear material serves nonproliferation and helps counter nuclear terrorism. In concluding a comprehensive (full-scope) safeguards agreement with the International Atomic Energy Agency (IAEA), states undertake to establish a state system of accounting and control (SSAC) which provides the basis both for reporting to the IAEA, and for independent IAEA verification. It also gives states a detailed picture of nuclear materials under their jurisdiction, which in turn provides a basis for establishing comprehensive and effective means for controlling materials and preventing unauthorized and unaccountable access. If fully implemented by all states, comprehensive safeguards agreements would thus serve both verification and material control objectives.

One problem is that 50 states party to the NPT have yet to enter into treaty-obligated safeguards agreements with the IAEA. These states have little nuclear material (and in some cases none at all), which helps explain the low completion rate. But as the North Korean case reminds us, delay can eventually carry heavy consequences. Moreover, states lacking basic means to remain alert to possible transfer of nuclear material across their borders or through their territory via illicit trafficking, provide gaps in the system of global oversight of nuclear activities. Closing such gaps to avoid unpleasant nuclear surprises should be a straightforward proposition. The same is true for implementing the 1997 Additional Protocol to safeguards agreements, which provides the IAEA with tools to verify not only declared nuclear material, but also to confirm the absence of undeclared material or activity. Although more than three years have passed since the IAEA Board of Governors approved the

model protocol, it has entered into force for just 22 states, and these include only a few states with significant nuclear activity. The prospect of subnational/terrorist access to nuclear material should provide some impetus to speeding up the process. The five nuclear-weapon states (NWS)—and in particular the United States as a strong advocate for strengthening the safeguards system—would help if they quickly completed the necessary steps. This could remove lingering concerns among the non-nuclear-weapon states (NNWS) of further discrimination between the NWS and NNWS parties to the NPT, and also reinforce the universal, global essence of the regime.

Physical Protection: While the purpose of international safeguards is to verify nonproliferation commitments by states, and although states are responsible for the security of nuclear material, effective physical protection has always been seen as inherently crucial to nonproliferation. However, the 1987 Convention on the Physical Protection of Nuclear Material, the only significant international instrument dealing with physical protection, addresses only international transport of nuclear material, not domestic shipping, storage, or use. Moreover, only 69 states currently are party to this convention, which is now under review to broaden its reach more comprehensively into domestic practice, law, and regulation. Once again, heightened awareness of nuclear terrorist threats can stimulate not only conclusion of a more robust and far-reaching convention on physical protection, but also much wider state participation. The goal should be to achieve universal participation. Physical protection goes beyond preventing unauthorized access to nuclear material, and includes controlling radiological sources, and protecting nuclear facilities against sabotage or attack similar to that carried out against the World Trade Center. Since September 11, many now see nuclear terrorism as a global threat along the same lines as nuclear proliferation by states, and this understanding can spur convergence in strategies, approaches, and instruments for contending with these risks.

Export Controls: Export policies, including agreement among key members of the Nuclear Suppliers Group (NSG), have been an effective component of the nonproliferation regime. In

recent years, however, strains have emerged within the group over whether to maintain a rigorous policy of not concluding new cooperation agreements with states that do not accept full-scope safeguards. Loosening restraints on nuclear transactions—especially under current circumstances—could undermine the effectiveness of an important arm of the nonproliferation regime. Arguably, NSG practice should be moving in the opposite direction, toward converting informal understandings among key suppliers into formal, legally binding obligations. NSG members could take this even a step further to increase export transparency more generally, by reporting to the IAEA not only their exports of items on the safeguards trigger list, but also their decisions to deny export licenses for trigger-list and dual-use list items. Such transparency, undertaken by supplier states as though it were a legally binding obligation, even if not one based on a legally binding instrument, would help illuminate who is seeking what, and potentially identify companies that might be serving as fronts for al-Qa’ida or other non-state entities. Here again, there are concrete actions that can be taken to support both nonproliferation objectives and to foreclose opportunities for subnational/terrorist access to nuclear assets.

Non-NPT States: Whether non-NPT states with nuclear weapons (i.e., India, Pakistan, Israel) have provided assistance elsewhere in the past, this is an opportune time to draw them more closely into supporting nonproliferation regime measures, including safeguards, export controls, and physical protection. While at present acceptance by these states of full-scope safeguards is not feasible, one or more of them could submit additional unsafeguarded facilities that are not part of their nuclear weapons programs to IAEA safeguards, as the NWS have done in varying degrees.

These three states could also commit even more directly to not assist any other state or entity in nuclear matters, except under safeguards and with adequate national physical protection arrangements. France’s nonproliferation policy prior to joining the NPT offers a precedent. As well, insofar as these states have not become party to the Convention on Physical Protection of Nuclear Material or embraced the non-binding guidelines on physical protection out-

lined in INFCIRC/225, they should be called upon to do so. Gaining their active support for and involvement in tightening controls over nuclear and radiological materials—which could be used against them as against others—should not be discounted. Of course, we should recognize the limited scope that such involvement would entail, and that these states may make counter-requests for cooperation, support, or assistance that could compromise our nonproliferation policies, principles, and obligations.

DOWNSIDE RISKS

This last observation leads to consideration of four downside risks to the nonproliferation regime that may result from the coalition strategy to countering terrorism. Three risks in particular deserve attention. First are the potential costs of partnering with some states with which the United States has differences on nonproliferation issues. A second has to do with South Asia, where two coalition partners are also non-NPT nuclear weapon states, which were until recently the focus of sanctions for having conducted nuclear weapon tests. A third relates to the impact on peaceful nuclear cooperation that may result from measures to combat nuclear terrorism. Finally, there is the broad question of how the current U.S. approach to national security may impact the nonproliferation regime and its institutions.

Regime Norms at Risk: First, to counter terrorism effectively, the United States has built coalitions and partnerships with states that were and remain of concern in U.S. nonproliferation policy. Russia is a case in point. U.S. relations with Russia have been strained over export policy practices, including Russian nuclear cooperation with Iran (which the United States believes is pursuing nuclear weapon development), and with India (despite the policy agreed by Russia as an NSG member not to engage in significant nuclear cooperation with any state that like India has not accepted full-scope safeguards). Although the United States continues to press Russia to terminate cooperation with Iran and to limit its participation in the Indian peaceful nuclear program, the exigencies of promoting and consolidating anti-terrorism alliances may relegate such issues on the traditional nonproliferation agenda to a lower priority.

Nonproliferation has long been touted as a priority objective for the United States, but it has always had to compete with other national security, political, diplomatic, and economic objectives. Unfortunately, it is easier to find cases where the latter have trumped nonproliferation than to encounter the reverse. The urgency of effectively meeting the terrorism threat may put other policies on hold or diminish the diplomatic and political effort behind them, and the partnering strategy against terror raises the bar that nonproliferation policies have to clear in order to be a U.S. priority.

If partners in the war on terrorism already have differences with the United States over the facts in a particular case (e.g., whether Iran is or is not pursuing a weapons program under cover of peaceful nuclear activities) or the regime consequences of relaxed behavior on certain baseline principles (e.g., requiring safeguards on specific nuclear transfers to India for peaceful purposes, but not requiring that India acquiesce in full-scope safeguards), then hard choices may have to be made. Thus short-term economic or political interests may override long-term regime consolidation.

If economic or political opportunism are seen to take precedence over nonproliferation norms, principles, and rules of regimes that purportedly sustain national and international security and stability, then some states may be emboldened to push the envelope in pursuit of their own particular agendas. If such states successfully press for relaxation of regime rules or of full compliance with their undertakings, confidence in the regimes will weaken and international politics could backslide toward earlier national security practices of self-reliance and alliances, in which nuclear weapons may end up taking a larger rather than a diminished role in world affairs.

The South Asia Challenge: Second, South Asia provides a key instance of the above problem. Both India and Pakistan are de facto nuclear weapon states and both are important to successful prosecution of the war against terrorism. This is so not only because of their geopolitical position, but also because of uncertainty (especially in the case of Pakistan) about the safety and security of their nuclear weapons in terms of unauthorized or accidental use or accessibility to

theft or seizure by terrorist groups, as well as concern about how responsibly these states will act with regard to outside nuclear cooperation or transactions and whether they will hew to, or derogate from, nonproliferation regime rules. The irony here, of course, is that both states were subject to significant and far-reaching sanctions in the wake of their 1998 nuclear tests. Moreover, Pakistan was subject to even earlier sanctions based on U.S. law mandating that military and economic assistance was contingent on presidential certification that Islamabad did not possess nuclear weapons—a conclusion that President Bush could not reach as far back as 1991.

The urgent need to ensure that these states' nuclear weapons not fall into the hands of terrorists, and that India and Pakistan support the campaign against terrorism, led to removal of these sanctions and restoration of economic, financial, and military cooperation. The question is not whether the lifting of sanctions can be justified by the urgency of addressing the risk that terrorists might gain access to nuclear weapons or weapons-relevant materials, but rather whether there may be resulting costs to the regime, and if so, how these costs can be averted or minimized. The issue is complicated by the recognized need to take steps to ensure the safety and security of nuclear weapons in South Asia, arms whose acquisition the international community has protested and censured. The question is whether taking such steps will be perceived as conferring special stature on India and Pakistan as nuclear weapon states, leading to preferred political status and recognition or special technological and economic consideration. Such outcomes could signal ambivalence about the priority of nonproliferation, and raise questions about the major powers' dependability in maintaining and implementing the NPT. The challenge for the United States and other nuclear weapon states is to deal with the problem without frustrating important non-nuclear-weapon state (NNWS) parties to the NPT, and without undermining or impairing their confidence that the treaty's objectives of nonproliferation and ultimate elimination of nuclear weapons will be sustained.

Peaceful Cooperation under Stress: A third downside risk has to do with how terrorist

access to nuclear materials, equipment, or technology—not to speak of nuclear weapons—might affect international nuclear cooperation. For many NNWS, a central feature of the NPT is the assurance it provides for the “fullest possible access” to peaceful uses of nuclear energy. Use of this term in Article IV of the NPT has been long interpreted by most parties to mean cooperation and access to the maximum extent consistent with the nonproliferation purpose of the treaty. This view has led key nuclear supplier states to agree upon (and in light of changing circumstances, to update and tighten) conditions under which nuclear cooperation and transfer would take place (such conditions including safeguards, adequate physical protection, peaceful use undertakings, etc.).

The constraints and limitations imposed with respect to certain technologies (e.g., enrichment and reprocessing) have occasioned controversy, and the increasing importance of dual-use technologies has been a source of debate and tension. Some developing countries have interpreted the limitations and constraints as a form of “technological imperialism,” which denies them the opportunity to move more quickly and completely into the modern technological age.

The risk here is that in light of heightened concern about terrorist access to nuclear weapons or explosive-relevant nuclear materials, equipment, and technology, the nuclear supplier states may call for even tighter constraints, greater limitations, and more demanding conditions. This could deepen the sense of frustration felt by developing countries, intensify their demands for economic and technological equity, and potentially deflect the attention necessary for consensus on and support for nonproliferation measures that can frustrate terrorist efforts to acquire nuclear capabilities. How key nuclear

suppliers manage this challenge will bear substantially on whether the inevitably more restrictive approach to technology transfer and international cooperation is seen as technological imperialism, or instead as a measure motivated by the common interest of nonproliferation.

Multilateralism on the Defensive: Finally, lurking in the background of these specific concerns is the matter of current U.S. attitudes toward multilateral institutions and arrangements in general. Coalition-building to deal with terrorism can be seen as turning back in the direction of multilateral approaches to security and stability, or as “multilateralism a la carte”—an ad hoc rather than an institutionalized process. The latter seems to be a much more apt description than the former.

However, the more the United States bypasses or minimizes the relevance of multilateral institutions, processes, and regimes, the less confidence that other states will have in the credibility and reliability of those arrangements. This decline in confidence would lead to a general weakening of the formalized, legally anchored foundation that multilateral institutions have provided in support of efforts to achieve a more predictable, stable, and secure world order. In the short term such a development may suit the purposes of the global leader, but in the longer run, power shifts and so does the capacity to influence and control change in international affairs. Consolidating multilateral structures and regimes and influencing the values, norms, and principles they reflect while the United States is in a strong position to do so may be the better path to building and preserving a preferred world order. This consideration deserves close attention when calibrating policy choices for dealing with current security threats of terrorism and weapons of mass destruction.

REGULATING SCIENTIFIC RESEARCH OF POTENTIAL RELEVANCE TO BIOLOGICAL WARFARE

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In recent years, dramatic advances in the fields of molecular biology and biotechnology have yielded numerous benefits for humanity, including improved health and nutrition. Yet these scientific breakthroughs also have a dark side: the potential to yield more deadly instruments of biological warfare and terrorism. The creation of an advanced pathogen, either accidentally or deliberately, could pose a major threat to the well-being and even the survival of the human species.¹

Harnessing the powerful knowledge emerging from the new genetic technologies in a manner that benefits humankind—while preventing its misuse—will require a set of mutually reinforcing policies and institutions at the domestic and international levels. With respect to the scientific community, specialists in the biological, biomedical, veterinary, and plant sciences must become more aware of the potential dangers resulting from advances in genomics and genetic engineering techniques. They must also take the difficult but vital step of regulating research with direct offensive applications in biological warfare.

NEW RISKS AND RESPONSIBILITIES

In January 2001, an inadvertent discovery highlighted the potential risks associated with the new genetic technologies. Australian scientists developing a contraceptive vaccine for controlling field mouse populations sought to enhance the vaccine's effectiveness by inserting the gene for the immune regulatory protein interleukin-4 (IL-4) into mousepox, which was

being used as the carrier virus. IL-4 is a substance that is normally produced in mice, but insertion of the IL-4 gene into the mousepox genome unexpectedly transformed the normally benign virus into a virulent strain that shut down the mouse immune system and killed all the animals in the experiment. In addition to rendering mousepox lethal in mice that were genetically resistant to the virus, the inserted gene made the mousepox vaccine ineffective—the recombinant virus killed even those mice that had previously been vaccinated.² Although the Australian team debated for months over the wisdom of publishing their disturbing results, they finally decided to do so as a means of warning the scientific community.

The mousepox experiment demonstrated that the novel gene combinations produced by genetic engineering can, on rare occasions, yield a more virulent pathogen—a possibility first raised in the 1970s by scientists concerned about the safety of recombinant-DNA research.³ The Australian finding also highlighted the potential of genetic engineering to create new and more lethal instruments of biological warfare. Indeed, since human beings possess the interleukin-4 gene, it is possible that inserting this gene into a poxvirus that infects humans, such as smallpox or monkeypox, could create a highly lethal strain that would be resistant to the existing smallpox vaccine. Inadvertent discoveries of this type, as well as deliberate efforts to employ the new genetic technologies for nefarious purposes, may be-

¹ Andrew Pollack, "With Biotechnology, a Potential to Harm," *New York Times*, November 27, 2001; Claire M. Fraser and Malcolm R. Dando, "Genomics and Future Biological Weapons: The Need for Preventative Action by the Biomedical Community," *Nature Genetics* 29 (2001), pp. 253-65.

² R. J. Jackson *et al.* (2001), "Expression of Mouse Interleukin-4 by a Recombinant Ectromelia Virus Suppresses Cytolytic Lymphocyte Responses and Overcomes Genetic Resistance to Mousepox," *Journal of Virology*, 75 (2001), pp. 1205-10.

³ Stewart A. Newman, "Australian Mouse Study Confirms CRG Warning," *GeneWatch* 14 (2001).

come increasingly common as scientific research continues to generate a flood of new information about the structure and function of microorganisms at the molecular level and the host response to infection.

The potential also exists for the deliberate creation of “designer pathogens.” Until at least 1992, the former Soviet Union and then Russia secretly pursued the world’s largest and most sophisticated biological warfare program. This effort encompassed four military microbiological institutes run by the Ministry of Defense and a vast complex of ostensibly civilian pharmaceutical facilities, known as Biopreparat, that secretly engaged in offensive biological weapons development and production. Soviet military scientists employed genetic engineering techniques to develop more lethal strains of anthrax bacteria, smallpox virus, and other biological warfare agents.⁴

SCIENTIFIC COMMUNITY OVERSIGHT

The scientific community will need to deal with the problem of hazardous research, ideally through self-governance. Although many scientists view any restrictions on scientific inquiry as anathema, the alternative could be far worse. If a novel pathogen is created in the laboratory, the resulting public outrage could compel the U.S. Congress to impose draconian restrictions on scientific inquiry. In the interest of avoiding such an outcome, scientists should act proactively to make their research safer.

There is, of course, some precedent for this type of regulation. In February 1975, some 140 biologists, lawyers, physicians, and journalists met at the Asilomar Conference Center near Monterey, California, to discuss the potential risks associated with recombinant-DNA technology, which had only recently been developed. This conference resulted in a set of research guidelines established by the National Institutes of Health and implemented by a Re-

combinant DNA Advisory Committee (RAC). The Asilomar analogy goes only so far, however. Whereas the 1975 conference focused on the possible *unintended* consequences of recombinant DNA research, the current concern is over the potential *malicious* use of this technology for harming or killing people (or for attacking crops and livestock to inflict economic damage).

In order to prevent the deliberate misuse of scientific knowledge for nefarious purposes, a system for “prudential review” of potentially hazardous research is urgently needed. Because science is an inherently international activity, a regime focusing on the U.S. scientific community alone would not be effective. Thus, the oversight mechanism would have to be international in scope. As a condition of government funding, legitimate but high-risk projects would be reviewed by a scientific oversight board, which would be similar to the RAC but would operate at the international level. Certain types of research with direct offensive military applications would be forbidden outright, while others would be subject to close monitoring.

The regulated activities would constitute a fairly small subset of the spectrum of scientific research in the fields of microbiology, infectious disease, veterinary medicine, and plant pathology. Areas of particular concern include the cloning and transfer of toxin genes and virulence factors, and the development of antibiotic- and vaccine-resistant strains of microorganisms and genetically engineered toxins. For example, the same technology used to create fusion toxins for the purpose of killing cancer cells could be redirected to produce novel toxins that target normal cells of almost any tissue.⁵ Another area of potential concern involves the engineering of viruses to evade or manipulate the human immune system. Gene therapists, seeking to prevent an immune reaction to the viral vectors that are used to introduce therapeutic genes, are designing “stealth” viruses that can evade the immune system. Yet such tech-

⁴ Ken Alibek with Stephen Handelman, *Biobazard: The Chilling True Story of the Largest Covert Biological Weapons Program in the World—Told From Inside by the Man Who Ran It* (New York: Random House, 1999).

⁵ Raymond Zilinskas, Monterey Institute of International Studies, personal communication, November 28, 2001.

niques might also be misused to convert viruses into particularly deadly biowarfare agents.⁶

The proposed review and oversight system should be designed to be capable of identifying hazardous lines of research, without being so intrusive as to have a chilling effect on legitimate scientific inquiry or to inspire defiance and attempts at circumvention. Because no universal set of criteria is possible, the judgments of the oversight board would have to be scientifically informed and made in the context of specific research proposals. Hazardous research that is justified for protecting public health or defending against biological warfare would be restricted to a few high-containment laboratories, as is already the case with research on the smallpox virus. All such work would be transparent and the results reported to the international oversight board on a regular basis. Inadvertent discoveries with dangerous implications, such as the Australian mousepox discovery, would have to be reported to the oversight board and advice sought on whether or not to publish.

To avoid gaping loopholes in the oversight mechanism, it could not tolerate any exceptions. Because genetic engineering has become a burgeoning commercial business, many senior academic researchers have extensive ties to the private sector that complicate attempts at self-regulation. For this reason, proprietary industrial information must not be exempt from the reporting requirement. The international oversight board might also establish anonymous web sites and other mechanisms to facilitate whistleblowing by scientists who suspect that a colleague is engaged in the development of pathogens for military purposes or is otherwise violating basic norms of scientific integrity and responsibility. Although protecting the identity of whistleblowers would be essential to prevent intimidation or retribution, safeguards would also be required to preclude false accusations and character assassination.

CHALLENGES AHEAD

The process of developing an international mechanism to regulate hazardous “dual-use” research will be complex and difficult, requiring the active participation of a variety of stakeholders including scientists, lawyers, and politicians from several countries.⁷ The devil will be in the details: it will be extremely difficult to achieve consensus within the scientific community on any regulatory mechanism. Moreover, U.S. policymakers will be extremely reluctant to allow an international body to have detailed, binding review authority over biodefense activities. Thus, agreeing to notify the oversight board that such activities are being conducted, and describing them in general terms, may be all that can reasonably be achieved.⁸ Because negotiations extending over several years will be required to hammer out a practical system, preparatory work should begin as soon as possible.

In crafting an international oversight regime for scientific research of potential relevance to biological warfare, a number of difficult issues will need to be addressed. First, how will dangerous “designer pathogens” be identified in advance? What types of inserted genes or gene fragments would make a garden-variety microorganism declarable?

Second, how can one give the international oversight board the authority and power it requires to enforce the rules, while preventing it from becoming corrupt and autocratic? Because of the potential for abuse, the oversight board must be structured with checks and balances so that it does not unduly constrain scientific freedom or abuse its privileged access to sensitive and proprietary information. Obviously, the members and staff of the oversight body must meet the highest standards of professional ethics. Yet how can one ensure the reliability and integrity of the board members? Would they be subjected to a periodic vetting or clearance procedure?

⁶ Peter Aldhous, “Biologists Urged to Address Risk of Data Aiding Bioweapon Design,” *Nature*, 414 (November 15, 2001), pp. 237-38.

⁷ John Steinbruner, University of Maryland, personal communication, September 10, 2001.

⁸ Gerald L. Epstein, Institute for Defense Analyses, personal communication, December 13, 2001.

Third, how can one alert the scientific community to potential biological warfare threats from research activities without creating self-fulfilling prophecies? For example, scientists from states with biowarfare programs should not be allowed to serve on the international oversight board because of the possibility that they could be directly involved in clandestine weapons development. Yet making such distinctions would be politically difficult for national governments and would also require the scientific community to adopt a “counterintelligence” mentality that is alien to its prevailing culture of openness.

Fourth, should the publication of certain scientific papers be blocked in part or in their entirety on the grounds that the information

they contain is inherently dangerous or could be misused? Given that the ethos of the scientific community is opposed to censorship of any kind, a strong professional consensus would be required to support a decision not to publish research data because its dissemination could be harmful to society.

In developing a workable oversight mechanism for hazardous scientific research, public perceptions will play a key role. Even if the scientific community ultimately decides that controls on research are impractical, ill-advised, or do not meet risk-benefit criteria, it will be necessary to explain and justify these arguments to a skeptical public in an open and understandable manner.

IMPLICATIONS OF SEPTEMBER 11 FOR MIDDLE EAST SECURITY

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One of the most commonly used phrases since the horrendous September 11 attacks is that “the world has changed.” On the one hand the phrase is correct, on the other it is a cliché that has been used loosely throughout the world by columnists, pundits, analysts, and the media.

Is it really true that September 11 will entail far-reaching implications for the Middle East region generally? What are the security and political ramifications of this event, especially with respect to the regional security situation? Given that I do not define Afghanistan as part of the Middle East in the traditional sense, and given that there was never any questions of a balance of power between the United States and the Taliban in the classical military sense, I believe that the answer to this question is not as clear cut as the cliché would suggest. If security is viewed from the prism of state-to-state relations among its traditional members, then September 11 does not usher in a new world in the Middle East.

The attacks on Washington and New York did not change the geopolitical considerations that guide the security concerns of any of the key regional actors, Arabs and non-Arabs alike (Israel, Iran, and probably Turkey). Beyond those states that immediately border the Central Asian security zone, the war in Afghanistan does not fundamentally alter the immediate security situation faced by Middle East states. The military balance of power in the various sub-regions—the Gulf, the Arab-Israeli arena, North Africa, the Horn of Africa—has not been affected. Nor has the regional arms proliferation dynamic been altered in any significant way.

Furthermore, the ethnic hot spots that have plagued certain states—for example, involving the Kurds in Iraq and Turkey, and the southern insurgency in the Sudan—have been relatively unaffected, and seem to be influenced by the same autonomous set of factors that have operated for decades.

Even with respect to the Arab-Israeli conflict, September 11 has not affected the key issues that constitute the defining core of any final settlement between Israel and the Palestinians: i.e., Jerusalem, refugees, borders, and the settlements, although some may argue that the United States has engaged in its recent Middle East peace efforts in order to preserve the anti-terror coalition.

I would even go further to say that if security is defined as constituting national, religious, or ethnic problems in the Middle East, here again one finds that the equation did not change as a result of September 11. Even if security is to be redefined to include the general threat of terrorism, post-September 11 does not necessarily reveal a new security landscape for the Middle East, in that the terrorism threat has been part of the regional security situation for decades.

On the other hand, post-September 11 is not the same as September 10 for the Middle East. While the transforming events of Washington and New York have not yet affected the nature of the regional security landscape, they can have a potentially significant impact on the agenda that will define how these issues are addressed. Here one can discern a number of considerations that will factor into the regional security and political landscape over time:

- The September 11 terrorists had the audacity to directly take on the United States and the international community in a manner comparable to the challenge mounted by Saddam Hussein in 1990 with the Iraqi invasion of Kuwait, even if the analogy is not a precise one. Terrorists, and/or acts of terror, will be held accountable by a much larger group of states, from well beyond the region.
- The audacity of the September 11 attacks has made transparent many of the issues in the region and beyond that in the past could be left unaddressed. The international com-

munity itself will be under pressure to react and address Middle East issues.

- The regional actors, including non-Middle East peace process players that have an influence in regional politics, are under unparalleled scrutiny globally and regionally; every issue or position will be held to a litmus test, both by the international community as well as by their domestic constituency.

Nowhere are these considerations better exemplified than in the complex linkage between September 11 and the Arab-Israeli conflict, an issue that has been the subject of much controversy. There is no casual linkage between 9/11 and the crisis that has erupted on the Israeli-Palestinian arena. However, the breakdown of the peace process cannot be divorced from the broader war on terrorism. The cumulative frustration due to the stalemate in the peace process generates an environment for indiscriminate violence on the part of both sides. Furthermore, the persistent calls for the Middle East to positively engage in the emerging global order will not resonate with the publics of the region if the international community does not respond positively to address the problems that have plagued the Middle East for decades.

All of these factors will place tremendous pressure on global and regional players to address a multitude of issues and/or resolve them in a much clearer manner and with a higher standard, creating a momentum to address outstanding issues, which otherwise could have negative repercussions.

The answers to many of these questions and their implications for security in the Middle East can be affected quite significantly by results of the U.S.-led campaign against the Taliban and Usama bin Laden. If the campaign is to succeed in its first phase, the probability that there will be wise and constructive action in pursuing the second phase dealing with wider consequences of terrorism is greater—although one does have to caution against excessive zeal or overconfidence. There will be a greater possibility that regional and non-regional actors will take this opportunity and seize the momentum created by the global anti-terrorism campaign to respond to serious regional problems. This development will provide more political latitude for constructive engagement, including on issues related to dis-

armament and arms control. Needless to say, Israeli and Palestinian acts of violence since U.S. Secretary of State Colin Powell's Middle East speech of November 19, 2001, have once again raised serious questions.

On the other hand, a prolonged, inconclusive first stage will most probably lead to an extremely agitated international community at the helm of the coalition, which will generate a negative spillover affect in the Middle East with some trying to define another "deliverable" for an expedited stage two, and other countries trying to ensure that they do not become deliverables. The debate about Iraq is a case in point.

If the beyond-Afghanistan deliverables of stage two are pursued too quickly, the effect of such haste on Middle East security will be disruptive at the very least. If coalition efforts are not generally realized in Afghanistan, it could trigger a reassessment of security priorities on the part of non-Arab U.S. allies in the Middle East, with some questioning the efficacy of relying on American security guarantees for their defense. If skepticism were coupled with a parallel effort on the part of the United States to widen the war to include Middle Eastern states, then it could result in the realignment of security postures and strategic alliances by Arab U.S. allies, with serious consequences for regional stability. Such a dynamic will only generate a climate of severe political uncertainty that will provide an opportunity for the resurgence of terrorist activity, both regionally and globally.

The security implications of this dynamic will be compounded by another potential impact of the global war on terrorism that relates more broadly to the potentially transforming effect of September 11 for U.S. national security policy. How the war on terrorism is prosecuted can affect—or in some cases even supplant—other issues on the global security agenda. This will be especially relevant to the global arms control and nonproliferation regime, and its potential impact on the Middle East. How the requirements of the global anti-terrorism coalition will influence U.S. policy in these areas is still to be determined. However, it seems that the requirements of coalition politics have only affected the pace of trends and policies that were evident before September 11, rather than ushering in a shift in administration priorities toward more interna-

tionalization. For example such requirements have only tempered, not altered, U.S. pursuit of a global anti-missile shield that would violate the tenets of the ABM Treaty. Similarly, the administration's stand towards the draft protocol to the BWC, even after the latest anthrax attacks, reveals a marked distrust in the efficacy of multi-lateral arms control, in favor of a more unilateral approach to dealing with proliferation issues. Perhaps more important, we are now witnessing acceleration in the trends towards de facto recognition of the nuclear status of India and Pakistan, with the waiver of the sanctions imposed after the 1998 nuclear tests, the creeping trend towards solutions by which the international community can assist in securing their nuclear arsenals rather than calling for their dismantlement, and the fact that their accession to the NPT has now been effectively dropped from the international agenda.

Such trends will have profound security implications for the Middle East. The proliferation dynamic in the Middle East has always been influenced by a global/regional interface. The transformation of the global nonproliferation agenda ushered in after the May 1998 nuclear tests in South Asia, and accelerated by the geopolitical requirements of anti-terrorism coalition, will have a definite spillover in the Middle East, beginning with erosion of Israel's nuclear ambiguity posture, thus triggering acceleration of existing WMD programs, or reactivation of once-dormant programs on the part of other regional states.

If these developments are further compounded by a shift in the focus of the military campaign from Afghanistan to Iraq, then the security repercussions could be severe. While it is difficult to gauge whether in fact a decision has

been taken within the administration on this issue, the debate as to the status of Iraq within anti-terrorism efforts is indicative. Here we find a tendency to confuse the issue of Iraq as a WMD problem on the one hand, and as a part of the terrorism problem on the other. Those who advocate an aggressive posture towards Iraq within the global anti-terror effort have tended to deliberately merge both issues, while a more rational approach would entail the necessity of keeping them separate, dealing with each one on its own merit and applying one standard to all in the Middle East on each issue.

In these circumstances, what I envisage is a Middle East where complex macro-problems dissolve into a multitude of more complex micro-security issues, which will be fundamentally more difficult for states to address. This trend will be reflected not only in state-to-state security concerns, but also in sub-regional ethnic conflicts.

My conclusion therefore is that the security equation in the Middle East has not changed due to September 11, at least not yet. It will, however, definitely be affected by how the international community chooses to prosecute the war against terrorism.

It is important to emphasize that terrorism cannot be allowed to stand. Global and regional players have said that before, and they say that now. The terrorist actions of September 11 have in many respects placed the challenge before us. They—the terrorists—were responsible for thousands of deaths. We—the international community led by the United States—in our response as manifest in the focus and credibility of the anti-terrorist campaign, will determine the security ramifications of this act for the Middle East.

PROLIFERATION ASSESSMENT: IRAN'S STRATEGIC ENVIRONMENT AFTER 9/11

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The terrorist attacks of September 11, 2001 against civilian and military targets in New York and Washington, D.C. came as a shock to most of the world, and prompted an outpouring of sympathy and grief by both allies and adversaries of the United States. In the Middle East, however, from whence all of the perpetrators of this heinous attack originated, the reaction was qualified. The governments of most Arab states in the Middle East allied with or sympathetic to the United States expressed official condemnation of the terrorist action itself and sympathy for the victims. But with few exceptions, most of these sentiments were accompanied with statements that the September 11 attacks had roots in American policies in the Middle East, especially in Washington's handling of the Palestinian question and sanctions imposed on Iraq. On the popular side, many people in the Arab streets welcomed the attacks on the United States as just retribution, and some even openly celebrated this horrendous act of brutality.

The Islamic Republic of Iran—viewed by many as the United States' archenemy in the Middle East—reacted to September 11 in a very different manner, both at the official level and especially in the streets, as recounted below. Coupled with the fact that al-Qa'ida and its Taliban hosts in Afghanistan have been long regarded by Tehran as serious threats, Iran's reaction encouraged some observers in both Iran and the United States to express optimism for U.S.-Iranian understanding and even hope for some form of diplomatic contact in coordinating efforts to weed out al-Qa'ida from Afghanistan. Since Pakistan was the main supporter and in some senses the creator of the Taliban, and given Afghanistan's landlocked status, some analysts went as far as predicting a coordinated U.S.-Iranian military campaign against al-Qa'ida in Afghanistan.

In this paper I review official and unofficial Iranian reactions to the September 11 attacks, and analyze how they changed as the United States found an ally in Pakistan's President Pervez Musharraf and began its military campaign in Afghanistan. I then turn to Iran's threat assessment and possible further reliance on weapons of mass destruction (WMD) to confront the perceived or real threat emanating from a U.S. military presence on Iran's eastern borders. Here I also look at the lessons Tehran may have learned about the utility of nuclear weapons from observing the Pakistani case. I conclude with an epilogue on the future of U.S.-Iran relations in light of President George W. Bush's State of the Union address, which included Iran with Iraq and North Korea as members of an "axis of evil."

POPULAR IRANIAN REACTIONS

The immediate Iranian reactions to the September 11 terrorist attacks in the United States somewhat mirror Iran's domestic political sentiments toward America. They were unlike reactions in most states of the Middle East, where the popular response to the events of September 11 ranged from open euphoria to qualified condemnation of the terrorist acts coupled with justification for anger that drove the perpetrators to respond to what has been described as an unjust U.S. policy in the Middle East. In contrast, ordinary citizens of Iran reacted to the attacks on the United States with a genuine outpouring of sympathy. The habitual chants of "Death to America" that accompanied Friday prayer sermons throughout Iran were missing in the two weeks immediately after September 11. Perhaps most striking were the spontaneous candlelight vigils organized in memory of the victims of the terrorist attacks in the United States by the people of Tehran, and impromptu observance of a moment of silence by 60,000 soccer fans at a Tehran stadium. Such public displays of sympathy for a country that is

officially regarded as the “Great Satan” must be understood as entailing considerable risks for the Iranians who participated in them. Echoing popular sentiments, the mayors of Tehran and Isfahan sent messages of condolence to New York Mayor Rudolph Giuliani. The spokesman of the Iranian Parliament (Majlis) Presiding Board, Ahma Bourqani, signed a memorial book placed at the Swiss Embassy in Tehran (which houses the U.S. interest section), condemning the terrorist attacks in the United States. This was the first publicly recorded contact between an Iranian parliamentarian and the U.S. interest section since the 1979 revolution.

OFFICIAL IRANIAN STATEMENTS

The official position of the government of the Islamic Republic of Iran to the September 11 events was an unequivocal rejection of terrorism in all of its forms and a show of sympathy toward the United States, which reportedly was reciprocated with a message from Washington to the Iranian leadership.¹ However, whereas President Muhammad Khatami's expression of sympathy had no qualifications, Iranian Supreme Leader Ayatollah Khamenei condemned the terrorist attacks against the United States but warned Washington against unilateral interference in Afghanistan. Instead, he suggested that the United States should utilize the United Nations as a tool to end the presence of al-Qa'ida terrorist camps and Usama bin Laden in Afghanistan. Khamenei hinted that although Iran condemned the attacks, he would also condemn any action that, in his view, would be catastrophic to Afghanistan. On the surface, this message basically suggested that Iran would oppose any military action by the United States in Afghanistan that would prolong the suffering of ordinary Afghans. However, Iran was more concerned with the prospect of a United States military presence next door as well as the risk that more Afghan refugees would cross into Iran. Already home to 1.5 million Afghan refugees, Iran closed its borders with Afghanistan in fear of an

influx of more people fleeing anticipated U.S. attacks.

Looking at the internal dynamics of the Iranian political landscape, the difference between the initial reactions of Khatami and Khamenei to the events of September 11 echoed the political divide in Iran's officialdom. Khatami represents the “moderate” or pragmatic camp, and enjoys the overwhelming support of the Iranian people. Since first being elected as president by a clear majority of Iranians in 1997, he has tried to bring Iran out of its international pariah status. In the process, Khatami has attempted to offer “olive branches” to the United States through good words and, at times, good deeds. Khamenei, on the other hand, represents the conservative hardliner camp, commands Iran's military and intelligence agencies, and has the final word in the overall foreign policy direction of the Islamic Republic. The camp he represents is first and foremost interested in safeguarding the Islamic Republican regime, specifically safeguarding the special status of the clergy in the nascent democratic system in Iran. As such, the Ayatollah regards rapprochement with the United States as detrimental to the survival of Iran's regime, unless it is accomplished by *his* camp and with assurances that the regime's survival is not put in jeopardy.

Seen from this angle, Khamenei's initial strong condemnation of the terrorist attacks against the United States was a signal to Washington that Iran's hardliners were ready to do business with their archenemy, but only if *they* were the interlocutors—not Khatami's pragmatic camp. Again, leaving aside the rhetorical and theatrical sides of Iranian politics, the hardliners in Tehran will deal with Washington if they deem such an act to be in the interest of the regime. We should recall that even while Ayatollah Khomeini (Khamenei's predecessor and founder of the Islamic Republic) was publicly denouncing the United States, he was simultaneously seeking and receiving, through intimidation and the use of terror, U.S. military equipment while Ronald Reagan, a U.S. conservative, was president of the United States.

President Khatami, directly or by proxy, seemed to have been trying to use the catastrophic events of September 11 as an opportunity

¹ Alan Sipress and Steven Mufson, “U.S. Explores Recruiting Iran into New Coalition,” *Washington Post*, September 25, 2001, p. A1.

to court the current U.S. administration to work with Tehran directly and officially in tackling the problem of al-Qa'ida and other terrorist groups being sheltered in Afghanistan. For the first time since 1979, Iran and the United States shared a common goal: destruction of al-Qa'ida and ousting the Taliban from power in Afghanistan. Since Iran is a neighbor of Afghanistan, the situation was primed for real cooperation between the two adversaries. At least this was the feeling among the pragmatic camp in Tehran.

It ought be noted that since 1998, U.S. and Iranian diplomats have participated in formal discussions on the Afghan question as part of the Six-plus-Two group—composed of Afghanistan's six neighboring states (China, Iran, Pakistan, Tajikistan, Turkmenistan and Uzbekistan), plus the Russian Federation and the United States.² Voicing the opinion of the “moderates,” Vice-Speaker of the Majlis and brother of the Iranian President, Muhammad Reza Khatami, praised his country's officials for condemning the 9/11 terror attacks, adding that the terrorist threat was serious and hinting that Iranian officials should talk to Americans using the “Dialogue of Civilizations” process for such contacts.³ The only condition that he placed on

² Moreover, the text of the “Tashkent Declaration,” adopted during a meeting of the group in Uzbekistan on July 19-20, 1999, reflected general agreement between the governments of Iran and the United States on such issues of common interest such as combating terrorism and the narcotics industry. Furthermore, after the Tashkent gathering, Washington and Tehran stood as the two most vocal opponents of the Taliban regime in Afghanistan.

³ President Khatami conceptualized the “Dialogue of Civilization” as a way to bring the Islamic and Western cultures closer through dialogue rather than confrontation. It was in part a response to Samuel Huntington's concept of a “Clash of Civilizations,” in which Huntington viewed Islam and Western culture as fundamentally opposed to one another. In response to Iranian efforts, in 1998 the United Nations proclaimed the year 2001 as “United Nations Year of Dialogue among Civilizations.” See U.N. General Assembly, Resolution

dialogue with the United States was that Iranian officials not deal passively with such issues, suggesting that any interaction between Washington and Tehran be reciprocal in nature and that Iran be engaged as a partner.

U.S.-IRANIAN COOPERATION IN AFGHANISTAN?

A Canadian newspaper reported on September 18, 2001, that in a message from the “highest levels” of the Iranian government, transmitted through the Canadian delegation to Washington, Tehran would not oppose any targeted military strike against terrorist bases in Afghanistan.⁴ The Iranian Foreign Ministry, however, immediately rejected the report. But other signs of possible U.S.-Iran rapprochement were evident in the days before the visit of the British Foreign Secretary, Jack Straw, to Tehran on September 25, 2001. There were rumors in Tehran that Straw was carrying a message from Washington, particularly since the historic visit—the first of a British foreign secretary to Iran since 1979—took place a day after Straw met with U.S. Secretary of State Colin Powell. Again, official Iranian media sources rejected this report, but U.S. Department of State officials were anxious to hear what Straw had to say and some U.S. officials apparently informed the press that the Bush administration was divided on how to approach Iran. According to unnamed sources, the State Department wanted to “push forward” on exploring broad Tehran-Washington cooperation and had White House backing at the time. However, Pentagon hardliners reportedly were resisting such an approach due to skepticism about Iran's intentions.⁵

Still, Powell hinted in a December interview that some warming of relations between

A/RES/53/22, November 16, 1998, <<http://www.un.org/documents/r53-22.pdf>>.

⁴ Robert Fife, “Iran Uses Ottawa as Conduit to Bush,” *National Post*, September 18, 2001, <<http://www.nationalpost.com>>.

⁵ “United States Debates Approach towards Iran,” Reuters, *Gulf News*, September 21, 2001, <<http://www.gulf-news.com>>.

Tehran and Washington had taken place after September 11. He stated:

I am open to explore opportunities [with Iran]. We have been in discussions with the Iranians on a variety of levels and in some new ways since September 11. Jim Dobbins spoke with Iranians in Bonn as we put together the new interim administration in Afghanistan, and I had a brief handshake and discussion with the Iranian Prime Minister [Actually, Powell shook hands with Iran's Foreign Minister, Kamal Kharrazi—Iran has no Prime Minister] in the United Nations. So there are a number of things going on and we recognize the nature of that regime and we recognize that the Iranian people are starting to try to find a new way forward and we are open to exploring opportunities without having any Vaseline in our eyes with respect to the nature of the government or the history of the past 22 years.⁶

TRIUMPH OF THE HARDLINERS

While pragmatists in Tehran and in Washington were entertaining the idea of rapprochement and possible cooperation between Iran and the United States, hardliners in both capitals did not remain on the sidelines. Khamenei must have determined that the United States did not need Iran's help in Afghanistan, and therefore was not desperate to make a deal with his camp, and that hence any cooperation between Tehran and Washington would strengthen Khatami's camp. Even if the United States did not seek Iran's active support in the initial phase of the military campaign in Afghanistan, the prospects of an extended American military presence in Afghanistan and possibly in Pakistan and Uzbekistan would mean more chances for contact between those Iranians who wish to align their country with realities on the ground by somehow coming to

terms with the United States. Such Iranians include those opposed to the Islamic Republican system altogether, as well as pragmatists who prefer some ideological and policy shifts while retaining the present regime.

For Khamenei and his supporters, the best way to prevent any dealings with America was to revert to the policies of the early years of the Islamic Republic, through rhetoric and perhaps action. The first and most obvious stage to push this policy was for the Iranian hardliners to become "more Palestinian than the Palestinians."⁷ While Iranian officials in all camps have consistently supported the Palestinian cause and have been critical of Israeli policies vis-à-vis the Arabs, the conservatives often use anti-Israeli rhetoric as a domestic tool to battle the pragmatists. Of course, on the ideological front, significant increases in violence in the West Bank or Gaza usually prompt increased anti-Israeli action regardless of Iranian domestic politics. Iranian conservatives also use anti-Israeli statements, especially calls for the destruction of the state of Israel, to block any undesired rapprochement between the pragmatists and the United States. Sometimes the anti-Israeli and anti-American statements are buttressed by political actions and even terrorism. Therefore, it is conceivably possible that conservative elements within the ranks of the Islamic Republic Guards Corps (IRGC) may have helped some members of al-Qa'ida to slip into Iran. These hardcore terrorists might later be unleashed to harm Israel or the United States if either country were to attack Iran, since at present Iran is incapable of mounting any direct military challenge to either country. Rhetoric aside, when Iranian Defense Minister Admiral Ali Shamkhani warned that if attacked by Israel, the Iranian response would be "unimaginable to any Israeli politician," he most likely was referring

⁶ Colin L. Powell, "Press Briefing on Board Plane En Route Moscow," December 9, 2001, U.S. Department of State, <<http://www.state.gov/secretary/rm/2001/dec/6759.htm>>.

⁷ President Khatami's advisor Muhammad Reza Tajik reportedly told a conference in Tehran in December 2001 that the reason for Iran's isolation is that the country's leadership "is more Palestinian than the Palestinians." See "Official Iran Is Not the Only Iran," *Ha'aretz*, February 7, 2002, <<http://www.haaretzdaily.com>>.

to the use of terror rather than direct military confrontation.⁸

Meanwhile in Washington, President Bush seemed to have joined the hardliners in his administration. Instead of working to establish some sort of an understanding between Iran and the United States, he apparently concluded that with hardliners in Tehran, the only appropriate language is that of force and not of compromise.

While some Bush administration officials were heralding talk of U.S.-Iran cooperation, others were categorizing Iran as an enemy and calling for overthrow of the clerical regime in Tehran. When asked if he considered Iran an ally in America's war on terrorism, U.S. Secretary of Defense Donald Rumsfeld responded, "Oh, my goodness, Iran is certainly not an ally... [but rather] Iran is a state like Iraq, North Korea and Cuba and Syria and Libya that's on the terrorist list."⁹ Chairman of the Defense Policy Board Richard Perle, formally not a member of the Bush administration but generally regarded as the voice of its hardliners, stated in early December that the United States should do everything "to encourage the centrifugal forces in Iran that, with any luck, will drive that miserable government from office."¹⁰

Faced with public U.S. statements calling for the overthrow of the regime in Iran, even moderate elements in the Iranian political spectrum began to distance themselves from the United States, fearing retribution from hardliners who increasingly associated cozying-up to America as disloyalty to the Islamic Republican system.

SEPTEMBER 11 AND IRAN'S PROLIFERATION POLICIES

Whereas in the immediate aftermath of the tragic events of September 11 the focus in Washington may have momentarily shifted from Iran's pursuit of WMD to the more immediate business of fighting al-Qa'ida and perhaps eliciting Iran's participation in such a campaign, subsequent developments have only encouraged Tehran's determination to acquire such weapons, especially a nuclear weapon capability.

Iran's pursuit of nuclear weapons prior to September 11 can be divided into two phases: under Muhammad Reza Shah Pahlavi before the 1979 Revolution, and since the Iran-Iraq War began in 1980. Under the Shah, Iran's main external security threat came from the Soviet Union; however, the Shah's flirtation with the idea of turning Iran into a nuclear power had more to do with his view of regional supremacy and control over the Persian Gulf. The Shah was also aware of Pakistan's nuclear activities and would not have waited for any neighbor to achieve any sort of unchallengeable advantage over Iran. In 1979, the Shah's dreams of regional supremacy ended with the triumph of the Islamic Revolution. Ayatollah Ruhollah Khomeini's initial view of nuclear weapons as "un-Islamic," whether genuine or rhetorical, changed suddenly when Iraqi troops poured into Iran in 1980. For the first time since the Second World War, Iran saw itself as vulnerable to states other than superpowers.

This shift in threat perception and other events in the 1990s strengthened Iran's resolve to pursue a nuclear capability. From 1980 to September 11, 2001, the prime motivation for Iran to acquire nuclear weapons was to deter Iraq. But Israel, Turkey and Pakistan also posed potential threats to Iran's security, either directly as in the case of Iraq and Turkey, or indirectly through Islamabad's support for the Taliban regime in Afghanistan. Moreover, since the Gulf War there exists a notion in the Middle East that the United States only respects states with nuclear weapons, and that possessing them prevents U.S. intervention. Nuclear weapons also would allow Iran to compensate for its strategic isolation in the face of an increasing U.S. presence in the Persian Gulf region. In

⁸ "Iran Denies Israeli Claims It Has Supplied Rockets to Hezbollah," *Ha'aretz*, February 6, 2002, <<http://www.haaretzdaily.com>>.

⁹ "Secretary Rumsfeld Interview with CNN Novak and Hunt," U.S. Department of Defense, November 30, 2001, <http://www.defenselink.mil/news/Nov2001/t11302001_t1130cnn.html>.

¹⁰ Amy Waldman, "In Louder Voices, Iranians Talk of Dialogue with U.S.," *New York Times*, December 10, 2001, p. A12.

addition, nuclear weapons are viewed in Tehran as a substitute for conventional military weakness. Iran's conventional deficiency leaves it feeling vulnerable when compared to the militaries of such countries as Saudi Arabia and the United Arab Emirates. Beyond threats, nuclear weapons have domestic "benefits" for the regime in Iran. Following the examples of India and Pakistan, the leadership in Iran can showcase nuclear technology as a substitute for the lack of progress in most economic sectors.

NEW ROLES FOR NUCLEAR WEAPONS

Shortly after September 11th, it became clear that al-Qa'ida was mainly responsible for the terrorist attack on the United States and that military action would be taken against that organization and its host country, Afghanistan. Undoubtedly, policy makers and military planners in Washington were keenly aware that given Afghanistan's landlocked status and Pakistan's special relations with the Taliban regime, Islamabad's help would be essential for any large-scale military operation in Afghanistan. However, the way that the United States approached Pakistan has strengthened the belief of leaders in the Middle East that nuclear weapons matter a great deal, and that only by having them can a state influence U.S. policy.

Consider the following points:

- After the most devastating attack on its soil since 1941, the United States not only had the right, but also had no choice but to respond with force against the terrorists who carried out the attacks and against any state that harbored them.
- Al-Qa'ida was based in Afghanistan and sheltered by the Taliban regime, which in turn enjoyed not only full political and military backing from Pakistan, but in some senses only came to power at the behest of Islamabad. Afghanistan has neither access to the sea nor indigenous munitions factories or oil reserves, and excepting Pakistan it was surrounded by hostile neighbors; without Islamabad's direct support, the Taliban's war machine would have crumbled within days and with it would have

ended the presence of al-Qa'ida in Afghanistan.

- The United States had repeatedly requested since 1999, both directly and using international forums such as the U.N. Security Council, that Pakistan stop supporting the Taliban regime, specifically because of the presence of Usama bin Laden and his terror network in Afghanistan.¹¹
- The current Pakistani regime headed by General Pervez Musharraf seized power through a military coup d'état, dismantling the democratic process, however rudimentary, in Pakistan.

Under normal circumstances, given all of these facts, the United States would have demanded that Pakistan cooperate with any planned military action in Afghanistan, citing Islamabad's consistent failure or refusal to stop aiding the Taliban. In case Pakistan refused to cooperate, the U.S. would have carried out its plans—obviously not as smoothly without access to bases in Pakistan—and would have warned Islamabad to keep clear of the zones of operation. Or, Washington would have offered Islamabad some minor incentives for its cooperation. Alternatively, given the fact that some of the most hardcore anti-American terrorist organizations are based in Pakistan, the United States might have punished Pakistan as well as Afghanistan.

However, the circumstances were anything but normal. Pakistan demonstrated in 1998 that it was a nuclear weapons state. A prime objective in Washington, prior to execution of military plans in Afghanistan, was to ensure that Pakistan's nuclear arsenal did not fall into the hand of elements sympathetic to al-Qa'ida or

¹¹ U.N. Security Council Resolution 1333 of December 2000 specifically required that all member states of the United Nations cut off arms supplies to the Taliban regime. Former U.S. Assistant Secretary of State for South Asian Affairs Karl Inderfurth in several occasions called on Pakistan to end its support of the Taliban. Concurrent resolutions from U.S. Congress in October 2000 (House Resolution 414 and Senate Resolution 150), also called on Pakistan to stop supporting the Taliban.

the Taliban. As such, once President Musharraf had declared his intention to abandon the Taliban and join America's war on terrorism, the stability of the Pakistani regime became the answer to U.S. concern for Pakistan's nuclear weapons. As part of the price for General Musharraf's cooperation, sanctions pursuant to the 1994 Glenn Amendment, which had been imposed on Pakistan since 1998 for conducting a nuclear test, were lifted.

The United States needed to act against al-Qa'ida quickly and with the least possible obstacles, and for this objective, nuclear nonproliferation has suffered a grave long-term setback. But a very wrong message has been sent: *not only does access to nuclear weapons affect U.S. policy vis-à-vis the possessor state, but any regime—democratic or otherwise—can ensure its survival if it possesses nuclear weapons and safeguards them.* The Iranian leadership, conservative or moderate, undoubtedly took notice of General Musharraf's treatment by the United States, and is likely reassessing these "positive" values of acquiring nuclear weapons.

EPILOGUE ON TWO TRAGEDIES

In his January 29, 2002, State of the Union address to the U.S. Congress, President George W. Bush shifted the focus of America's war on terrorism to target regimes that threaten the United States with WMD, naming Iran, Iraq and North Korea and calling them an "axis of evil." While Iran's pursuit of WMD is nothing new, the United States has not presented any evidence that in the past few months Iran made any significant advances in its WMD programs. Inclusion of Iran as part of the "axis of evil" should be understood as a clear triumph of the hardliners in both Washington and in Tehran.

As matters stand, the goal of WMD nonproliferation—and especially that of dissuading or preventing Iran from acquiring nuclear weapons—has suffered a setback. While there are voices in Iran blaming the conservatives for worsening the animosity with the United States, any official cooperation by the pragmatists with Washington will be held as tantamount to treason in the eyes of the conservatives. As hinted by the remarks of President Bush that "an unelected few repress the Iranian people's hope for freedom," perhaps the strategy of Washington's hardliners is to promote a regime change in Iran since the democratic elements have not been able to rule the country. And it may be that political pressure brought on Iran will spur a change in behavior in Iran's clerical regime, either in the form of noninterference in the internal affairs of Afghanistan or even curtailment of anti-Israeli activities. However, the sad note is that no matter what regime comes into power in Iran, if it seeks to preserve some level of independence in dealing with the United States, it will presumably seek the only bargaining tool demonstrated effective vis-à-vis the United States—nuclear weapons.

The September 11 tragedy presented an opportunity for beginning a constructive and mutually beneficial relationship between the United States and the Islamic Republic of Iran after more than twenty years of hostility. Regardless of which side first failed to take advantage of this opportunity, it is also tragic that in both countries voices of reason have now been overpowered by cries for war reminiscent of two decades ago.

LIP SERVICE IS NOT ENOUGH: TAKE RESPONSIBILITY FOR THE NONPROLIFERATION REGIME

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BEFORE SEPTEMBER 11

Prior to September 11, 2001, the nuclear nonproliferation regime was like an aging but functioning dam in need of patching, refurbishment, and capital investment. The most portentous cracks in the dam were already well known to specialists in the field and do not need to be described in detail here:

India and Pakistan. These two states did not violate the NPT by testing nuclear weapons in 1998, but their overt possession of nuclear weapons highlights the NPT's non-universality. Several major international security risks emanate from these nuclear states, while the strictures of the NPT complicate efforts to engage India and Pakistan positively in redressing these risks. This challenge is discussed more fully below.

Iraq. Iraq remains noncompliant with U.N. Security Council (UNSC) resolutions that are meant to enforce the international WMD nonproliferation regime. Iraq's WMD status poses material security threats and a challenge to the U.N. system and the nonproliferation regime, as discussed below.

Israel. Israel quietly occupies a formal category with India and Pakistan as a possessor of nuclear weapons that lies outside the boundaries of the broader nonproliferation regime. Moreover, Israel's nuclear weapons simultaneously defend against and exacerbate proliferation threats from the Arab world and Iran. Iraq and Iran's determination to acquire nuclear weapons stem from each other and also, at least politically, from Israel. Failure to address Israel's nuclear status, and to deal with the Palestinian challenge, may increase Egypt's interest in acquiring nuclear weapons. More broadly, Arab political willingness to support the nonproliferation regime over time will depend in part on Israel's nuclear status.

Iran. Iran seeks at least a nuclear weapon option. On the supply side, the major challenge is to persuade Russia and perhaps China to stop

assisting Iran's effort to acquire a nuclear option. On the demand side, as discussed below, Iran must be persuaded that its political and security standing will be improved by adhering fully to the NPT and foregoing acquisition of nuclear weapons, more than by acquiring them. Developments in Iran will affect the potential nuclear calculations of Saudi Arabia and Turkey.

Russia. Russia is the greatest potential source of nuclear weapons, material, and expertise sought by proliferators. This manifold problem must be addressed through improved physical and security capabilities around Russian facilities and, as importantly, through Russian political determination to make nonproliferation a top state priority. Russia will affect the future of proliferation/nonproliferation most importantly in Iran, India, and Iraq.

China. China poses threats of vertical proliferation—tied to U.S. policies—and of horizontal proliferation, particularly to Pakistan and, indirectly, in India, and also perhaps in the Persian Gulf. For the nonproliferation regime to be strengthened, China must determine that doing so is a high national priority.

North Korea. While the 1994 Agreed Framework continues to offer the prospect that this acute proliferation challenge can be redressed, much work remains to be done to assure implementation and/or negotiated improvements of the agreement.

United States, Russia, China, United Kingdom, and France. The nuclear nonproliferation regime depends heavily on heightening the international community's determination to strengthen safeguards and regime enforcement. This in turn depends in part on the willingness of the recognized nuclear-weapon states to keep their part of the bargain and make real progress toward fulfilling their "unequivocal" NPT commitment "to accomplish the total elimination of their nuclear arsenals." In May 2000, these states agreed to important benchmarks of progress toward this

end. Unfortunately, since that time the nuclear-weapon states—and others—have made almost no progress on these benchmarks. The nonproliferation regime also depends on engaging the three nuclear-weapon states not party to the NPT bargain—India, Israel, and Pakistan—in a productive manner that encourages them to be part of the solution, as is discussed below.

AFTER SEPTEMBER 11

Since September 11, the cracks in the nuclear nonproliferation regime have widened. The conflict between the United States, the United Kingdom, and most of the international community, on one side, and suspected radical Islamists on the other has coincided with horrible violence in Israel and the occupied territories. There is plenty of blame to assign all around, but the net effect is greater antagonism in the Islamic world toward Israel and the United States, and vice versa. The war now underway in Afghanistan creates perceptions of insecurity or uncertainty that may heighten interests in Iran, Iraq, Egypt, and Saudi Arabia in acquiring nuclear weapons or other WMD. In short, the political and security environment stretching from India to Israel arguably poses the greatest challenge the nonproliferation regime has faced since its inception.

In South Asia, post-September 11 events exacerbate risks of proliferation and possible use of nuclear weapons in several ways. The prospect has grown that nuclear weapons, fissile materials, and/or know-how could leak from the Pakistani state to extremist groups or other states. The most real threat of leakage stems from possible insiders within the Pakistani nuclear establishment transferring fissile or non-fissile radioactive materials and/or know-how. The next most likely threat is the possibility that a regime change could occur in Pakistan in which custody and control over nuclear “assets” would pass from relatively responsible, internationally cooperative leaders to a government of extremists determined to challenge the international order and/or to intensify conflict with India over Kashmir. Thirdly, it is possible that Indo-Pak violence in Kashmir could escalate and that a South Asian missile crisis could ensue. India and Pakistan do not have confidence in the “location” of each other’s threshold for using nuclear

weapons. Nor do they have the sorts of intelligence and warning capabilities desirable for managing conflict under the shadow of nuclear threats. In the absence of agreed confidence-building measures and clear “rules of the road” for managing a nuclear stand-off, the two states could back themselves into a nuclear conflict.¹

The post-September 11 nuclear dangers in South Asia also extend to the broader nonproliferation regime. As part of an effort to build political relations with both countries in the fight against terrorism, the United States lifted post-1998 proliferation sanctions on India and Pakistan. Japan followed suit. While these policies may make strategic and political sense, they also raise questions about the long-term enforceability of nonproliferation norms.

Yet, for all of the ominous signs facing the nonproliferation regime after September 11, the fluidity of international security relationships also creates opportunities to repair the cracks in the regime. The first challenge is to recognize that the nonproliferation regime is only what states make of it. Speaking of the “nonproliferation regime” as a proper noun—as a subject—diverts us from the reality that the regime truly is only what states make of it. The United States, Russia, China, the United Kingdom, France, India, Pakistan, Israel, Germany, Japan, and other vital actors are the subjects who determine the strength and durability of this regime. Once the responsibilities of these states are recognized and accepted, it will become possible to demand more from them and to specify actions that they must take if the threats of nuclear terrorism, proliferation, and use are to be eliminated or greatly reduced. Thus, the first-order challenge for concerned actors is to design and pursue strategies for persuading leading states to act more decisively, creatively, and constructively on this problem.

One way to persuade key states to act is to offer them plausible processes and policy approaches that would enable them to make progress. It is much easier for governments to take

¹ This text was written in late November 2001, before the December 13 attack on the Indian parliament and the ensuing mobilization of military forces.

on a challenge if they have a sense whether and how success might be achieved.

Space and competence do not allow me to present an off-the-shelf approach to any or all of the challenges identified above. Here I simply summarize some of the more obvious requirements to address the challenges in South Asia, Iraq, and Iran. Then I suggest that a new international process should be undertaken to address these particular dangers and the overall need to strengthen the regime. I propose that countries that possess nuclear weapons and fissile materials should acknowledge that they face a global proliferation crisis and should immediately form a “contact group” to address it. The contact group should be charged with taking actions necessary to reassure the international community that every possible measure is being taken to preclude the proliferation and use of nuclear weapons by terrorists or states.

SOUTH ASIA

The challenge now is not to roll back India and Pakistan’s nuclear weapon capabilities. That will not happen under currently foreseeable circumstances. Rather, the current challenge is to prevent further proliferation, especially from Pakistan, and to prevent use of nuclear weapons by India or Pakistan. Optimally, these objectives should be pursued without saying or doing things that increase appearances that either country is gaining political standing and other benefits from possessing nuclear weapons.

To stem further proliferation, especially from Pakistan, the United States, perhaps in conjunction with other nuclear-weapon states, should engage with Pakistani authorities to design a range of cooperative steps to strengthen the security of Pakistan’s weapons, fissile materials, and other critical components from theft. The most likely risk is from insiders, and security measures should be designed accordingly. Such measures should focus on securing sensitive materials in storage and transit, but should not assist Pakistan in deploying assembled weapons. The latter would violate both the spirit and the letter of the NPT and the fundamental underlying objective of preventing the use of nuclear weapons.

Current and former government experts know well the range of procedures and technologies that can serve this task. However, U.S. interaction with Pakistan in this area quickly bumps up against national and NPT-legal constraints. Know-how in the form of manuals, discussions of best practices, and other types of advice in designing physical and procedural systems to protect nuclear assets from diversion can be most readily proffered. Provision of equipment such as vault locks, closed-circuit video cameras, and other items would require export licenses from the U.S. government. Lawyers should explore which types of equipment, if any, would and should be permissible under the NPT. But even if strong cases can be made for tolerance under the NPT, national legislation and executive policies likely would have to be adjusted. Consultants can fairly readily schematize the exact legal and policy decisions that would have to be made for each envisioned technology. Developing and providing this schematization to qualified NGO leaders would be extremely useful as a means for developing a comprehensive, government-quality briefing that would give opinion shapers and policy makers a detailed road map of the steps that would have to be taken and the decisions made to work with Pakistan on this vital matter. A detailed road map of how to do heighten the security of Pakistan’s nuclear “assets” would enable proponents then to build a more persuasive case *why* to do it. Resistance to assisting Pakistan secure its nuclear assets against diversion would come from several identifiable quarters inside and outside the government. If a solid core of the NGO community were mobilized in favor of the proposition, it is possible that congressional opposition could be diminished and the executive could proceed.

For several reasons, provision of assistance in securing Pakistan’s nuclear assets should be as secretive as possible. Public discussion of such cooperation would provide ammunition to anti-American elements in Pakistan and weaken the current government. Public discussion also would increase the sense that the United States (or others) is “rewarding” or at least legitimating Pakistan’s possession of nuclear weapons. To the extent that public mention of these issues is unavoidable, the discussion should focus on the solemn burdens and onerous responsibilities attendant to possessing nuclear weapons. That is,

nuclear weapons are dangerous; the risks of proliferation are grievous; Pakistan is now experiencing some of the dangers and uncertainties that led many to urge the country not to acquire nuclear weapons; but now that Pakistan has done so, Pakistanis must face up to their enormous responsibilities. The United States should help because Americans, too, recognize that the world would be safer without any nuclear weapons, but as long as they exist, we cannot avoid the responsibility to protect others and ourselves from the dangers inherent in their existence.

India, too, is not above concern regarding the safety and security of its nuclear materials and plants. One focus of the broader contact group recommended below would be to elaborate international best practices in materials protection, control, and accounting, and in warhead security, and then press all relevant states to adopt such measures.

Going beyond the risks of proliferation, the danger of an Indo-Pak crisis analogous to the 1962 Cuban Missile Crisis must be addressed. The United States, and perhaps Russia and/or China, could help. First, India and Pakistan have come very close to agreeing on nuclear confidence-building and risk reduction measures. If the Lahore process had been continued, rather than interrupted by the Kargil war, the two states likely would have formalized agreements on these matters. The task now should be to find ways for Pakistan and India to specify and affirm their agreement on such measures. Political difficulties in their relationship preclude formalizing such an agreement at high levels bilaterally. However, U.S. officials should explore whether the United States could be a transmission belt to clarify each state's understanding and commitments regarding risk reduction. This would be done quietly, but the result could be a shared understanding between India and Pakistan on acceptable procedures for testing missiles, notifying each other of relevant movements and exercises, clarifying ambiguous events, and so forth. China could contribute here by encouraging Pakistan to cooperate in this exercise, and Russia could do the same with India.

In the event that India and Pakistan escalate their conflict over Kashmir, the United States should deploy monitoring and other warning resources to South Asia. The increased U.S.

presence in the region offers a potential benefit insofar as the United States is more likely to detect a brewing nuclear crisis. The intensity of U.S. communications with Indian and Pakistani leaders affords opportunities to urge caution on both parties and to reassure each that the United States will do everything it can to prevent either India or Pakistan from taking military action in and around Kashmir. In simplest terms, the United States must impress upon Pakistan that militant-created violence in Kashmir will prevent development of the positive U.S.-Pakistani relationship desired by both sides. Washington must reassure New Delhi of its vigilance on this issue, and obtain in return Indian commitments not to cross the Line of Control in Kashmir. India's forbearance during the Kargil war yielded a major political and diplomatic gain in the form of clear statements by Washington that the Line of Control is the de facto border in Kashmir. India should be persuaded that this gain would be reversed if New Delhi projected forces across the line.

The current crisis environment in South Asia also should strengthen the case by NGOs and officials that deployment of nuclear arsenals by India and Pakistan would significantly increase the risks of war, including nuclear war. Given the acute uncertainties and tensions in the region, the imperative should be to heighten stability and national protection by dispersing and securing nuclear assets rather than by mobilizing them toward launch-readiness. In a foggy strategic environment, deployed nuclear forces would put both India's and Pakistan's policy makers in unnecessarily precarious positions, fearing imminent nuclear crisis and possible use. Neither side possesses a clear enough view of the nuclear "battlefield" to know what the other is preparing to do. Given this dangerous blindness, it would be better to focus on dispersal and security of components to ensure the survivability of nuclear assets against attack, and to forestall the possibility of their acquisition by sub-national actors.

In sum, the actions sketched incompletely here would attend to the most immediate nuclear dangers in South Asia. By highlighting the dangerous and sober responsibilities required to prevent proliferation and possible use of nuclear weapons, this approach would not heighten the

perceived benefits of nuclear weapons. Rather than “giving India and Pakistan a pass” on nuclear weapons, the United States would be demanding more from them. The message would be that India and Pakistan—and other possessors of nuclear weapons—must take decisive measures to reassure the rest of the world that these weapons will not be used and that further proliferation will not occur. American NGOs and officials should network with opinion shapers and leaders in Europe, Japan, Argentina, Brazil, South Africa, and other influential states to develop and promote this message.

IRAQ

Iraq’s challenge to international security and the nonproliferation regime is relatively well understood. Saddam Hussein symbolizes it. Yet, even when Saddam passes from the scene, the proliferation challenge will remain.

Geoffrey Kemp of the Nixon Center, in collaboration with others in the United States, the United Kingdom and France, has begun to develop a project that identifies the probable proliferation challenges following a regime change in Iraq. The project recognizes that much of the international community would respond to regime change in Iraq by seeking to rehabilitate it diplomatically, politically, and economically. While understandable and in many ways desirable, moves to rehabilitate Iraq may outpace comprehension that a post-Saddam government would likely retain interests in possessing WMD. No matter who is in charge of Iraq, the state will have ambitions and face security problems that may call forth reliance on WMD. More complicated still, other Arab societies and states may welcome a rehabilitated Iraq’s possession of strategic weapons that could equalize Israel’s and perhaps Iran’s capabilities.

Kemp has outlined factors that must be analyzed and addressed to help policymakers chart a course for dealing with these possibilities. He has proposed formation of a multilateral, high-level series of workshops with U.S., European and Middle Eastern experts and officials to refine the policy agenda and begin developing recommendations for government action. This project outline does not need to be reviewed in detail; rather, the Iraqi challenge and this particular ap-

proach to addressing it should be integrated into the wider set of activities sketched here.

IRAN

The post-September 11 environment also poses opportunities to take more constructive measures to prevent Iran’s acquisition of nuclear weapons. On the supply side, fears of instability and proliferation emanating from Pakistan should make Russia, China, and other potential contributors to Iran’s nuclear capabilities wary of the risks inherent in Iran’s possession of fissile materials or nuclear weapons. Iran’s political future is unknowable; does anyone want to risk a future where dangerous nuclear assets in Iran could be implicated in a civil war or other crisis? Do we want a repeat in Iran of the alarm many now feel toward Pakistan? This inherent danger of proliferation should be more recognizable in Moscow at a time when cooperation is tentatively growing between the United States and Russia. Russian commitments to foreclose assistance to Iran’s acquisition of a nuclear weapon option should be more obtainable in a climate of increasing cooperation. Indeed, this should be among the conditions of cooperation.

The United States must do its part to make cooperation attractive to Moscow. Here again the heightened concerns over the risks of proliferation should help motivate Washington to narrow its visions and plans for ballistic missile defenses. The case for missile defenses as a last line of defense against proliferators may be strengthened since September 11, but the primacy of that mission over more ambitious architectures that allow strategic domination and negation of the Russian and Chinese deterrents is also clearer. That is, the United States clearly has greater interests in winning Russian and Chinese cooperation in nonproliferation than it does in being able to negate the deterrents of these two states. This realization could be formalized in agreements limiting the prospective architecture of missile defenses and manifesting a willingness to cooperate with Russia and China on nonproliferation while reassuring them on missile defenses. Iran is a prime case for demonstrating nonproliferation cooperation in the form of Russian and Chinese vigilance in preventing exports of sensitive equipment, material, and know-how to Iran.

The Atlantic Council, among others, has sketched criteria that could inform definitions of acceptable versus unacceptable nuclear and/or non-nuclear energy cooperation with Iran. This is a subject on which reasonable people can and should debate. NGOs should encourage this discussion within the United States, and between Americans, Iranians, Russians, and others.

On the demand side, the need for international attention is even greater. Any objective observer must acknowledge that Iran finds itself in a precarious security and political environment. Iraq remains an adversary and has used weapons of mass destruction against Iran. Pakistan is an unstable possessor of nuclear weapons, and Sunni Islamist extremists in Pakistan have demonstrated willingness to kill Shiites. Iranians generally are unwilling to acknowledge that their state would not be threatened by Israel if Iran stopped supporting violent militancy against Israel and did not develop WMD and missiles with ranges that go beyond Iraq to Israel. That said, Tel Aviv's possession of nuclear weapons does encourage political demands for an Iranian equalizer. The United States also remains a perceived military threat to Iran, as does Turkey, as was Afghanistan under the Taliban. In any case, Iraq alone would be sufficient to stimulate Iranian interest in acquiring nuclear weapons. Indeed, descriptions of the Iraqi threat by American officials such as U.S. Deputy Secretary of Defense Paul Wolfowitz could be adopted by Iranians as justification for acquiring nuclear weapons.

In order to persuade Iranians that nuclear weapons are not in their interests, Americans and others must show Iranians how they will be more secure without these weapons. Why are nuclear weapons not in Iran's interests? How will Iran protect itself against an Iraq that, with or without Saddam Hussein, is likely to possess or seek WMD? What role would the United States and the UNSC be willing to play in protecting Iran against Iraq? What security system in the region could reassure the smaller Gulf states that neither Iraq nor Iran will threaten their security? What commitments, deployments and operational practices on the part of Iran would satisfy its defensive needs while not projecting offensive threats? What role would U.S. military forces

play in this reassurance without at the same time posing threats to Iran?

I am not aware of any governmental or non-governmental study that seeks to answer these questions. Yet, these are questions that any American strategist or official would want answered if he or she were in the shoes of Iranian leaders. Clearly these questions cannot be answered by American strategists alone, but if we are serious about the nonproliferation challenge in the Gulf, we must develop answers to them. Iranians, too, must do much more to answer these questions. Then dialogues must be established between Iranians and Americans on their various perspectives on these questions. This should occur first at the track II level, with the aim ultimately of advancing the discussion to the official level.

CONTACT GROUP

The challenges sketched above signify a real crisis in the nuclear nonproliferation regime. The regime's remarkable effectiveness must not be overlooked—as the most extreme proponents of ballistic missile defense tend to do. It is precisely because the regime is worth saving that leadership must be mobilized to strengthen it.

The contact group model developed around the Bosnia conflict fits the current situation because it represents the mobilization of key parties determined to solve a problem that more formal, established diplomatic forums are not suited to solve. Today, it is imperative to reassure the international community that every feasible action is being taken to ensure that terrorists do not acquire nuclear materials or weapons. The world must be reassured that the horrors visited on New York City will not be experienced in magnified form through the detonation of nuclear weapons, either at the hand of terrorists or states, whether by purposeful action or accident or inadvertent escalation. An informal contact group would address these imperatives.

A contact group would invite participation from the states that have the weapons, materials and facilities whose mere existence pose threats to international security. Participants would be acting on the exceptional responsibilities they have as custodians of these enormously danger-

ous materials, weapons, and facilities. Participation would be invited from the following states: the United States, Russia, China, the United Kingdom, France, Belgium, Germany, Japan, South Africa, North Korea, India, Israel, and Pakistan. These are the states that possess nuclear weapons, or significant quantities of separated plutonium and/or highly enriched uranium. Those that chose not to participate would highlight for the international community their unwillingness to take constructive action against the threat of nuclear terrorism, proliferation, and use at a time when greater responsibility is expected.²

The innovation here is the process. Experts would outline the contact group's functional goals in advance. The following would be high on the list of topics and objectives:

- Dissemination and adoption of best practices in fissile materials protection, control, and accounting.
- Improved measures to protect against insider threats of theft or diversion of fissile materials.
- Cessation of further production of fissile materials outside of safeguards.
- Cooperative measures to block supplies of sensitive technology and know-how to Iran, Iraq, and/or other states seeking WMD.
- Measures to decrease risks of escalation to nuclear threats and/or use in crises, due to asymmetries in warning capabilities, alert rates, or capacities to analyze events like nuclear accidents or detonations from undeclared sources.
- Initiatives to strengthen adherence to and enforcement of the NPT.

The actual work plan of the group would be developed in the process of its generation and initial meetings.

² If there are additional states that possess very small quantities of HEU or plutonium for use in experimental/research reactor programs, perhaps they should also be invited to join the contact group. In general, its membership should include the highest possible number of states that are part of the "problem" that also are willing to work harder for "solutions."

The immediate requirement is to begin quiet, informal consultations with potential contact group members to make the case for the basic process and to refine a work plan based on these consultations. This initial exploration could best be undertaken by respected former officials and independent experts.

At the outset, we must acknowledge and address several important reservations that would greet the basic concept. Most likely a contact group would be seen to undermine the established processes of the NPT and the U.N. Conference on Disarmament (CD). Moreover, skeptics would argue that a group that included India, Israel and Pakistan would give these states "nuclear legitimacy" and status purposefully denied them in the NPT. It also would be argued that a contact group would devalue the established NPT process of review conferences.

While important, these criticisms fail to address two vital material realities. First, whether we like it or not, India, Israel, and Pakistan possess nuclear weapons and they are extremely unlikely to abandon these capabilities in the foreseeable future. Meanwhile, the NPT's underlying purpose of preventing the further proliferation and possible use of nuclear weapons cannot be satisfied without cooperation from these three states. They must act to adopt the most stringent practices for securing vital "assets," safeguarding against exports, and preventing use. Adoption of these practices to the satisfaction of the international community will not occur without direct inclusion of these states in a cooperative dialogue and program of action with the other states that affect their security calculations, as well as their sense of standards and equity. This reality is "uncomfortable" for the NPT, but it cannot be wished away.

Second, as valuable as the NPT review process is, it is not likely to meet the immediate requirements posed by the current situation. A contact group would not replace the NPT process, but rather would complement and strengthen it by providing a venue for key states actually to make the sort of progress demanded by NPT parties in 2000. Indeed, a contact group should be seen as a means by which states are acting on their responsibilities under the NPT and the broader nonproliferation regime. A contact group would do what the NPT process has not: put international nonproliferation issues on

the agenda of the highest levels of government in Washington, Moscow, Beijing, London, Paris, New Delhi, Islamabad, Tel Aviv and other participating states.

A contact group would also minimize the “risk” of creating a new, high-status club of the “nuclear eight,” while at the same time avoiding the ineffectiveness of the too-diffuse CD. Participants such as Belgium, Germany, Japan, and South Africa would dilute the symbolic “clubbiness” of the nuclear eight and would represent some of the important perspectives of non-nuclear-weapon states in the CD. Some non-nuclear-weapon states would still object, but, again, these objections over form do not address the substantive imperative to make progress, which for various reasons the CD has been unable to do. Moreover, if a contact group actually made substantive progress, the critics would be silenced, or their criticisms would seem petty. If a contact group failed to make progress, then criticism would be deserved and could help to increase pressure on recalcitrant actors through the CD, the NPT review process, and the United Nations.

Another possible criticism or reservation would focus on Israel. Tel Aviv, perhaps with sympathy from Washington, would resist any initiative that would hold Israel to greater account under the nonproliferation regime. Egypt, Iran, Iraq, and others might cynically seize on such a group as evidence that Israel is being legitimated as a nuclear-weapon state. But neither Israel’s stonewalling nor Egypt and others’ rhetorical posturing will stem dangerously rising levels of water against the dam. To Israel and its

diplomatic protectors, the argument would be that Tel Aviv must be seen to act more positively to shore up a nonproliferation regime whose failure, ultimately, could have the most negative consequences for Israel. Pretending there is not a problem will not be a durable strategy. To Egypt and others, the argument would be that a contact group is not giving Israel (or India and Pakistan) a “pass” on nonproliferation, but rather is increasing the international community’s demands that these states address the insecurities posed by nuclear arsenals and ongoing production of fissile materials.

An informal contact group would accomplish the important task of bringing India, Israel, and Pakistan into account for their responsibilities as nuclear-weapon possessors without formally undermining the NPT. Rather than a “reward” for proliferation, it would represent a demand for international reassurance. More broadly, a contact group of this composition would provide the first-ever venue for the five recognized nuclear-weapon states to engage on nuclear arms control and nonproliferation. Each of these states affects the nuclear policies, strategies, and proliferation/nonproliferation concerns of the others, either directly or indirectly through the proliferation chain. A contact group would recognize the interaction (in two directions) along the U.S.-Russian-Chinese-Pakistani-Indian chain, as well as the U.S.-Russia-China-Iran-Iraq chain. The web of interactivity amongst these countries simply cannot be disentangled through bilateral diplomacy or the episodic and unwieldy 191-state NPT process.

TERRORISM, PAKISTAN, AND NUCLEAR WEAPONS

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Before the World Trade Center and Pentagon attacks on September 11, 2001, many international security specialists claimed that terrorists were simply not interested in creating mass fatalities. Before the October 2001 anthrax attacks in Florida, Washington, and New York, many specialists also insisted that public fears that terrorists would use weapons of mass destruction were unwarranted. Brian Jenkins' 1975 aphorism—"Terrorists want a lot of people watching and a lot of people listening, but not a lot of people dead"—was perhaps the most widely quoted statement in the scholarly literature on terrorism. This view of terrorists' motives, Jenkins argued, helped explain why "terrorists have not done some of the terribly damaging and terrifying things they could do, such as poisoning a city's water supply, spreading chemical or biological agents, or other things that could produce mass casualties."¹ Despite growing concerns after the 1995 Aum Shinrikyu gas attacks in the Tokyo subway, many specialists continued to be skeptical about whether a new paradigm was necessary. For example, in 1998, Ehud Sprinzak insisted that "the chances of a successful superterrorism attack are minimal," arguing that public and governmental "obsession" with superterrorism was due to "sloppy thinking," government agencies' "vested interests" in increasing their budgets, and the "morbid fascination" of "suspense writers, publishers, television networks, and sensationalist journalists."²

¹ Brian M. Jenkins, "International Terrorism: A New Mode of Conflict," in David Carlton and Carlo Schaerf, eds., *International Terrorism and World Security* (London: Croom Helm, 1975), p. 15. Also see Brian M. Jenkins, "Will Terrorists Go Nuclear?," *Orbis*, 29, (Fall 1985), pp. 507-15.

² Ehud Sprinzak, "The Great Superterrorism Scare," *Foreign Policy*, 112, (Fall 1998), pp. 116-18. For other optimistic assessments see Bruce Hoffman, "The American Perspective," *Survival*, 42, (Summer 2000), pp. 161-66; and Paul R.

After September 11, 2001, no one doubts that terrorists might be interested in killing a lot of people. But three kinds of questions remain worth discussing in our effort to understand how serious is the risk of nuclear terrorism in the future. First, why might bin Laden and his potential successors be interested in nuclear weapons? What might be terrorists' strategic purpose for acquiring and using nuclear weapons? Second, how serious is the risk of terrorist theft or seizure of nuclear material or nuclear weapons from Pakistan today? Third, what can the U.S. government and nongovernmental organizations do about the problem?

TERRORISTS' INTERESTS

Prior to the September 11 attacks, Usama bin Laden was quite open in stating his desire for nuclear weapons, indeed claiming that "to possess the weapons that could counter those of the infidels is a religious duty."³ Although bin Laden later emphasized, after the U.S. strikes in Afghanistan began, that he needed (and supposedly possessed) nuclear weapons to deter U.S. nuclear attacks, his earlier comments expressed his desire to punish American citizens and soldiers for what he sees as an evil U.S. foreign policy. "We do not differentiate between those dressed in military uniforms and civilians; they are all targets in this fatwa," he stated in a May 1998 interview:

We must use such punishment to keep your evil away from Muslims, Muslim children, and women. American history does not distinguish between civilians and military, and not even women and

Pillar, *Terrorism and American Foreign Policy* (Washington DC: Brookings Institution, 2001), pp. 21-23.

³ Rahimullah Yousafzai, "Interview with Usama bin Laden," ABC News, December 22, 1998, <http://abcnews.go.com/sections/world/DailyNews/transcript_binladen1_981228.html>.

children. They are the ones who used the bombs against Nagasaki. Can these bombs distinguish between infants and military?... We believe that the biggest thieves in the world and the terrorists are the Americans. The only way for us to fend off these assaults is to use similar means.⁴

Hatred and shame lurk behind such views. But I also fear that there is considerable method in bin Laden's madness. Immediately after the September 11 attacks, many people wondered how bin Laden could think that he could get away with killing thousands of American citizens. In October 2001, for example, Gary Anderson, a Red Team leader in terrorist war game simulations at the Center for Emerging Threats and Opportunities, said that he had considered mass casualty attacks before September 11, but did not think they were serious threats because they would not serve terrorists' interests. After all, Anderson argued, killing lots of Americans would simply enrage the U.S. public and galvanize the U.S. and allied governments for a protracted war.⁵ How could such an attack serve bin Laden's political purpose of overthrowing conservative Muslim regimes in the Middle East and destroying Israel, given that a massive U.S. military response was inevitable?

The answer is that there is a kind of a strategic logic behind his use of mass murder, a logic that he also outlined in interviews. Two factors appear to be important. First, there was belief that the U.S. public lacked the will to support a long war. Second, bin Laden hoped that large-scale U.S. intervention in the Middle East would destabilize the regimes that he seeks to overthrow. In May 1998, bin Laden expressed his views about the lack of U.S. willingness to fight quite clearly:

⁴ John Miller, "Interview with Usama bin Laden," ABC News, May 28, 1998, <http://abcnews.go.com/sections/world/DailyNews/miller_binladen_980609.html>.

⁵ Greg Jaffe and Chip Cummins, "War Game Helps Army's Mock 'Red Team' to Simulate Tactics of Low-Tech Fighters," *Wall Street Journal*, October 2, 2001.

We have seen in the last decade the decline of the American government and the weakness of the American soldier who is ready to wage Cold Wars and unprepared to fight long wars. This was proven in Beirut when the Marines fled after two explosions. It also proves they can run in less than 24 hours, and this was also repeated in Somalia. We are ready for all occasions. We rely on Allah.⁶

In addition, he argued that the Saudi government would eventually fall because of its support for the United States, just as the Shah's government fell in the Iranian revolution. U.S. military activities in the region could increase the likelihood of an uprising from the streets and mosques. "We predict that the Riyadh leader and those with him that stood with the Jews and the Christians... will disintegrate. They have left the Muslim nation." Bin Laden concluded: "The Muslims are moving toward liberating the Muslim worlds. Allah willing, we will win."⁷

Any terrorist leader with this strategic vision, whether it is bin Laden or a successor in al-Qa'ida or a similar terrorist network, is not likely be deterred from using nuclear weapons or radiological weapons against the United States. U.S. threats to use conventional military forces to kill or capture such a terrorist over the long term may not be believed. Not only might the American public's willingness to engage in a long campaign be underestimated, but it is also possible that nuclear weapons could be delivered in a covert manner (by a commercial airliner, ship, or truck, or by a cruise missile). In such cases, there would not be a "return address" against which to retaliate. Finally, even if the perpetrator of such an attack were discovered (through intelligence sources or the "nuclear forensics" programs started at the U.S. national laboratories), U.S. threats to retaliate in kind might be welcomed, since the U.S. use of nuclear weapons could hasten the downfall of allied regimes in the Muslim world through protests in the mosques and riots in the streets.

⁶ Miller, "Interview with Usama bin Laden."

⁷ Ibid.

I conclude that the best way, by far, to prevent Islamic fundamentalist terrorists from ever using nuclear weapons is to prevent them from ever possessing such weapons. This anti-terrorist imperative adds yet one more compelling reason to believe that the spread of nuclear weapons to potential proliferant states is unlikely to produce even the kind of moderately stable balance of terror that eventually emerged, through trial-and-terror learning, during the Cold War.⁸ The best way, by far, to prevent Islamic or other terrorists from possessing nuclear weapons is to prevent unstable states from possessing nuclear weapons.

PAKISTANI NUCLEAR WEAPONS

Of course, one Islamic state—Pakistan—already has nuclear materials and weapons. How concerned should we be about the danger of insider or terrorist theft of Pakistani nuclear materials or nuclear weapons? In early November, when asked to rate the security of Pakistani nuclear weapons sites on a scale from 1-100 scale, President Pervez Musharraf declared: “I would certainly give it over 90.”⁹ How confident should this make us feel?

Good news and bad news can be glimpsed through the veil of secrecy that covers the Pakistani nuclear program. The good news is important to recognize: the Pakistani arsenal is small (an estimated 25-50 nuclear weapons), with weapons apparently normally maintained in an unassembled state (with nuclear cores kept apart from the other weapons components) and not mated to delivery vehicles. That low level of operational readiness makes the weapons harder to use in a crisis or war, but far more secure from theft.

There are, however, many more pieces of bad news. First, it is believed that Pakistani weapons (probably because of both technical design and because they are kept in an unas-

sembled state) lack the advanced permissive action link (PAL) locks and environmental sensing devices (ESDs) that make it difficult for a terrorist or other unauthorized individual to use an assembled nuclear weapon if assembly occurs in a crisis alert and the weapon is then stolen. This possibility is worrisome, since there is some evidence that Pakistan did begin to alert its nuclear forces during the 1999 Kargil crisis.¹⁰ Moreover, it has been reported that Pakistan’s nuclear weapons were moved to new secret locations in an emergency operation within days after the September 11 attack.¹¹ Although details are not available, the operation was probably due to the Pakistani government’s fear that India and the United States might attack its nuclear storage sites.¹² If that is the case, it is likely that the operation decreased the risk of a successful surprise attack on the arsenal, but also increased the risk of theft of a nuclear weapon.

Second, according to officers in Pakistan’s Strategic Plans Division, as reported at a Center for International Security and Cooperation (CISAC) workshop in March 2001, there is no dedicated personnel reliability program (PRP) in place for the officers and guards of Pakistan’s nuclear forces. The only such system currently

⁸ See Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate*, 2nd ed., (New York: W.W. Norton, forthcoming 2002).

⁹ “Pak Nukes Not Ready to be Fired,” *The News*, November 11, 2001, <<http://www.jang.com.pk/thenews/nov2001-daily/11-11-2001/main/main6.htm>>.

¹⁰ Raj Chengappa, “Pakistan Tried Nuclear Blackmail,” *The Newspaper Today*, January 12, 2000, <<http://www.thenewspapertoday.com/>>.

¹¹ Molly Moore and Kamran Khan, “Pakistan Moves Nuclear Weapons,” *Washington Post*, November 11, 2001, p. A1, <<http://www.washingtonpost.com/wp-dyn/articles/A9038-2001Nov10.html>>.

¹² Other explanations include Pakistani concerns that the storage sites were on the flight paths of U.S. attacking aircraft and the need to move weapons to even more secure locations than their normal peacetime storage sites. Musharraf, however, did stress the danger of an Indian attack in his September 18th speech, stating that “our forces are on full alert and ready for a do or die situation.” See “Highlights of General Pervez Musharraf’s Address to the Nation,” *Dawn*, 19 September 2001, <<http://www.dawn.com/events/speech/20010919/indx.htm>>.

in place is a physical examination given to officers when they receive their initial commission into the armed forces and a series of counterespionage background investigations, given by the Inter Services Intelligence (ISI) when officers and soldiers are being considered for nuclear weapons duty. Unfortunately, the ISI is the military institution in Pakistan most closely tied to the Taliban and this procedure is vulnerable to insider/outsider collusion. Third, no specialized teams have been trained inside the Pakistan Army on how to seize or dismantle a nuclear weapon if one was stolen from the arsenal. In June 2001, Foreign Minister Sattar formally announced that the Pakistani government recognized these problems and was studying how to implement programs based on the U.S. PRP and NEST (Nuclear Emergency Search Team) programs.¹³ Unfortunately, these studies had just started when the September 11 attacks occurred.

Finally, it is only partially reassuring that President Musharraf forced a number of senior and mid-level officers of the ISI to leave office in mid-September because of their ties to the Taliban (and according to some reports, also to al-Qa'ida).¹⁴ This is mixed news, because we should be pleased that Musharraf purged the ISI of at least some pro-Taliban officers, but we should be worried that terrorist sympathizers will come out from the shadows in the future. Neither we, nor Musharraf, can know how close those shadows will fall to nuclear storage sites. Guarding the guardians has never been a more vexing problem.

¹³ "Honorable Abdul Sattar," June 18, 2001, Carnegie International Non-Proliferation Conference, Washington, DC, <<http://www.ceip.org/files/projects/npp/resources/Conference%202001/sattar.htm>>.

¹⁴ Kamran Khan and Molly Moore, "Leader Purges Top Ranks of Military, Spy Service," *Washington Post*, October 8, 2001, p. 1; Sanjay Singh, "'Indian Intelligence Inputs Behind ISI Chiefs Exit,'" *Statesmen*, October 9, 2001; John F. Burns, "Pakistan Atom Experts Held Amid Fear of Leaked Secrets," *New York Times*, November 1, 2001, p. 1.

WHAT SHOULD BE DONE?

What role can and should the U.S. government and nongovernmental organizations play in improving security at Pakistani nuclear weapons and storage sites? The Bush administration was contemplating making a nuclear security assistance offer to Pakistan prior to September 11. The terrorist attack forced a high-level decision, which was taken quickly. When Secretary of State Powell went to Islamabad, he therefore took with him an offer to assist in providing increased security for Pakistani nuclear weapons and nuclear materials storage sites.¹⁵ Despite public assurances by the Pakistani Foreign Ministry that "Pakistan's strategic assets are under foolproof custodial controls," President Musharraf and Foreign Minister Sattar eventually accepted at least the principle of U.S. technical assistance in early November 2001.¹⁶

What kinds of assistance should be given and by whom? Four different kinds of concerns have been expressed about nuclear security assistance. First, many nonproliferation specialists have argued that U.S. assistance could provide "legitimacy" to the Indian and Pakistani decisions to test nuclear weapons in 1998, and would therefore lead other potential nuclear states to believe that the United States is no longer serious about global nonproliferation. The Bush administration has not placed much weight on these concerns, however, and the nonproliferation impact of any assistance program would in any case be minor compared to the broader policy change of lifting U.S. government sanctions on India and Pakistan. Second, officials in the State Department have argued that other nuclear states may use U.S. government assistance to Pakistan as an excuse to justify their nuclear-related exports to Iraq and Iran. Any such excuses, however, are simply unpersuasive and should be condemned as such. There is a world of difference between

¹⁵ Douglas Frantz, "US and Pakistan Discuss Nuclear Security," *New York Times*, October 1, 2001, p. A3; Greg Myre, "US Wants to Advise Pakistan on Nukes," AP, November 3, 2001.

¹⁶ *Ibid.* The quote is from Abdul Sattar, Pakistan Ministry of Foreign Affairs, November 1, 2001.

providing nuclear security assistance to an existing non-NPT sanctioned nuclear state and assisting a non-nuclear state to develop its own arsenal.

Third, it is possible that sharing specific technological devices and information would be counterproductive if it encourages Pakistan to mate warheads and bombs to delivery vehicles and to deploy weapons into the field, in the belief that these operations would now be safe. In my view, this is the most legitimate concern about U.S. nuclear assistance. I therefore recommend that assistance programs focus on encouraging safe-and-secure storage, transport, and maintenance of nuclear materials, components, and warheads. It should not include technical assistance or studies of organizational best practices regarding nuclear alert operations such as mating warheads to missiles or transporting fully assembled weapons. There will inevitably be some ambiguity about this line, since many steps (such as improved personnel reliability programs) presumably improve security of nuclear weapons both in storage and in the field. Still, the principle behind U.S. nuclear assistance should to focus on organizational practices and technologies that would encourage Pakistan to maintain its current policy of keeping components stored separately and not mated to delivery vehicles. This principle would exclude sharing PALs and ESD technology, but in any case it is unlikely that Pakistan would accept U.S. assistance in any such steps that require getting secret details about their weapons designs, or worse yet from their perspective, letting Americans place devices on their crucial strategic assets. The UNSCOM record in Iraq is not forgotten.

Fourth, many have expressed concerns that U.S. nuclear security assistance would be in violation of U.S. export control laws and would cut against its Nuclear Non-Proliferation Treaty (NPT) commitments. The Bush administration is currently revising the export laws, however, and has argued that most forms of nuclear security assistance do not violate the NPT. This is clearly a contentious issue and will be the subject of much debate in the coming year.

Finally, it is not yet clear what role NGOs can best play, now that the U.S. government has taken on this important issue. Let me conclude with four observations. First, NGOs have already played an important role in paving the way for current assistance efforts by exposing influential Pakistanis to the complexity of the problems and persuading them of the need for improved nuclear security efforts. Second, NGOs can play a valuable role in both critiquing U.S. nuclear security programs—the United States may also need to rethink some of its own practices after September 11—and in turning “U.S. assistance” efforts into more acceptable joint efforts to “share best practices.” Third, many thorny nuclear problems will still remain in South Asia, even if nuclear security is improved in Pakistan. Efforts to identify and implement solutions to problems of false warnings, crisis instability, the potential role of defenses, and the modalities of arms control agreements remain vital to the future of the region. Finally, improving nuclear security in Pakistan should be seen as the first step, not the last. India faces different, but not dissimilar, challenges and it would be wise to help reduce the nuclear security problems there, before a future crisis turns wisdom into necessity.

MAJOR POWERS IN THE 21ST CENTURY

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THREE CHALLENGES

At the dawn of the 21st Century, the major powers face three challenges. First, on September 11, 2001, a non-state actor demonstrated that it could have a strategic impact on world affairs. The regional and global implications of the events of that day are so numerous and diverse that the list of impacted areas is almost endless: the Middle East, the Muslim world in general, the reshaping of Central Asia, the U.S.-Russia relationship, global financial system, immigration policies, the safety of hazardous materials, and so on.

For the major powers, the most important consequence undoubtedly has been the demonstration of the potential rivalry they might face in coming decades from non-state actors able to inflict on them a level of destruction that previously has been unthinkable in peacetime. Al-Qa'ida may be particularly well organized and may have exceptional global reach, but its existence at the present time is far from accidental. Rather, it reflects a permanent trend: as a result of the globalization of the economy, trade, and knowledge, more and more destructive power is falling into the hands of more and more people. The significance of this new reality was immediately understood by the international community, as shown in U.N. Security Council Resolution 1368, which was adopted by consensus just one day after the attacks in New York and Washington, DC. No country can afford a U.S. failure in the campaign against global terrorism, and this common interest is probably the main asset available to the United States.

Second, regional wars do not always remain minor wars. By the 1980s, it was already clear that the major powers were no longer able to exercise full control over regional rivalries. The Iran-Iraq War, which lasted eight years and inflicted massive casualties, was foreign to the U.S.-Soviet confrontation and neither superpower was able to prevent or channel the conflict. That war had considerable consequences in

the region: it encouraged Iraq to continue fighting its neighbors, played a significant role in Iran's decision to embark on WMD programs, and showed that chemical weapons could be used not only against soldiers but also against civilians without prompting reactions from the rest of the world.

In 1990, when Iraq invaded Kuwait, the coalition gathered to fight the intruder was the largest since the 1950-53 Korean War. Although the actual hostilities were limited in duration and casualties, the lack of a formal settlement in 1991 and the permanent fear that Saddam Hussein continues to inspire in the region and beyond, have in effect made that apparently month-long clash a continuing ten-year conflict. Today, after more than three years without international inspectors in Iraq, new hostilities may start at any time. In his January 29, 2002, State of the Union Address, President Bush made clear that the United States was again considering military action against Iraq. The potential global significance of regional wars is an increasingly worrisome phenomenon, particularly if one takes into account the presence of WMD in regions of major tension, i.e., the Middle East, South Asia, and East Asia.

Third, new powers are aspiring to become part of the major-power "club." Twelve years after the end of the Cold War, power has shifted dramatically. Russia has declined to become a regional power. It still retains huge WMD arsenals but lacks major economic, diplomatic, or conventional military power. Unified Germany is the most important European power, and will continue to grow as it "normalizes" its foreign and defense policies. But only the European Union, with a potential membership of 23 nations, is itself a possible major power in the European region. India increasingly resents the unequal role it plays on the world stage in comparison to China.

Thus the U.S. Security Council's five permanent members no longer represent the current

status of world affairs, and as a result the body is perceived as lacking legitimacy. The inability to find a solution to this situation that would be agreeable to all has prevented implementation of necessary reform. One result is the absence of serious multilateral handling of security issues, at a time when the United States shows a clear preference for a solitary path.

NEW STRATEGIC LANDSCAPE

Three different views of the new strategic landscape are emerging. First is the view that the new age is no longer a world of major powers—or indeed even of nation-states—but rather of large regional agreements, economic and/or political (the EU, NAFTA, ASEAN, etc.) and of transnational networks. The symbol of the postmodern world is the EU: an interdependent entity composed of states that have agreed to relinquish a substantial degree of their sovereignty to common institutions. It represents a breaking down of the distinction between domestic and foreign affairs, and the growing irrelevance of national borders. Robert Cooper, for example, expresses this view.¹ A different approach, though one equally dismissive of traditional “major powers,” sees network forms of organization attuned to the information age as the real winners in the new era. This hypothesis is made in a recent RAND study that has received public attention since September 11:

The fight for the future makes daily headlines. Its battles are not between the armies of leading states, nor are its weapons the large, expensive tanks, planes, and fleets of regular armed forces. Rather, the combatants come from bomb-making terrorist groups like Usama bin Laden’s al-Qa’ida, drug smuggling cartels like those in Colombia and Mexico, and militant anarchists like the Black Bloc that ran amok during the Battle of Seattle...What all have in common is that they operate in small, dispersed units that can deploy nimbly—anywhere, anytime.²

This development has numerous strategic implications, particularly when amorphous “free-floating” terrorist groups and criminal networks may possess WMD.

Second, a sharply different perspective emphasizes the continuity of the traditional power game. According to this view, far from witnessing the end of the major powers and their rivalry, international relations now involve dealing with new forms of nationalism. This is true in the United States after September 11, where “the application of power has returned to the forefront of American foreign policy,” as the *New York Times* underlined after Bush’s State of the Union Address.³ For different reasons (i.e., recent decolonization), the nationalist trend is also very prominent in Asia, particularly in countries like India and China. Under this reading, the European Union represents a unique experience that cannot serve as a model for other parts of the world. And indeed, although international networks will expand, the fight against their darkest forms (e.g., catastrophic terrorism) will require increasing power on the part of central authorities and committed governments. Therefore, after an eclipse of ten years following the collapse of the Soviet Union, the “come-back of politics” is also impressive, and particularly remarkable in the United States where the Republicans were elected to implement a totally different agenda.

This opposing view interprets the current events not only in terms of the increasing power of central authorities, but also in terms of a return to tough geopolitics and power relations among countries. It does not necessarily entail confrontations or conflicts between states, however, since cooperation could alternate with tension. But in essence, according to this view, each country essentially continues to pursue its own national interest.

A third view underlines the new impetus for cooperation among states, and expands it to a number of significant issues that require collective action. According to this view, divisive is-

¹ Robert Cooper, *The Post-Modern State and the World Order* (London: Demos, 1999).

² John Arquilla and David Ronfeldt, eds., *Net-*

works and Netwars: The Future of Terror, Crime, and Militancy (Santa Monica: RAND, 2001).

³ “The Limits of Power,” *New York Times*, January 31, 2002.

sues will recede because of increasing pressures to solve common security and economic issues. And the trend towards collective endeavors will eventually prevail as a consequence of recognition of interests that are broader and higher than national ones. In particular, worldwide agreement on the fight against terrorism will open an area of increased cooperation among states, which face common problems and challenges that they are unable to address alone (e.g., regarding the environment, health, drugs, weapons proliferation, international crime, etc.). This view holds that the impetus for cooperation will overwhelm differences over traditional national interests, and that September 11 offers an historic opportunity to make the world safer, not only from terrorists with global reach, but from rivalry between the world's major powers. This new international environment would also be conducive to development of multilateral cooperation and a sustained collective battle against WMD proliferation.

MAJOR-POWER RESPONSIBILITIES

If the common aim of all the major powers is to maintain a relatively stable world in the 21st Century, then they must accept significant changes. In particular, they must assume major responsibilities commensurate with their major roles in world affairs.

As the world's leading power, the *United States* has some significant responsibilities to fulfill.

- If the United States needs the rest of the world, then it should listen to it—something the current U.S. administration often appears unwilling to do. The legitimate U.S. vision of a new world order that is rules- and values-based would have greater worldwide appeal if it were not so often perceived as the solitary pursuit of U.S. self-interest.
- Formal agreements may limit U.S. freedom of action, but they are essential for international security and stability. At a time when strategic surprises are so frequent that they almost define the strategic scene, such agreements tend to reduce unpredictability. Since predictability is such an essential part of stability, it appears particularly important for a major power like the United States

with numerous security commitments in regions of tension.

- Far from being a bad word, nation-building is a necessity when dealing with failed states, which now present a clear strategic challenge because of their potential as breeding grounds for terrorists.
- Review of U.S. policy in the Middle East—where it is increasingly obvious that left to themselves the Israelis and the Palestinians will only prepare for war—has become urgent. In no other part of the world is WMD use more likely in the near future. The components of Middle East peace are already available in the Taba negotiations of January 2001.

According to President Putin, *Russia* has chosen integration with the West. Several consequences flow from this decision.

- In the absence of independent information in Russia, it will be increasingly difficult to exercise any form of control over regional and central power in that country, including on security and nonproliferation issues.
- If Russia wants to avoid a U.S. military operation in Iraq, then it should make unambiguously clear to Iraq that UNSC Resolution 1284 must be implemented and that Iraq must accept unconditionally the return of international inspectors.
- Suspicions concerning ongoing offensive CBW activities in Russia should be alleviated.
- Russian export controls should be enforced more decisively.

China should revise its tendency to remain a self-obsessed country.

- Antagonistic patriotism arising from the government's "patriotic education" campaigns may be the only new ideology available in China after the collapse of communism, but manipulating jingoistic public opinion is increasingly absurd in a globalized world, where China's future and success will be related to its degree of openness.
- Threats to use force against Taiwan—seen by many observers as incompatible with UNSC permanent membership—should

give way in Beijing to commitments to resolve the issue peacefully.

- China still does not have a responsible non-proliferation policy, and in 2001 Chinese companies reportedly again have been caught selling hazardous materials (i.e., chemical and biological weapon agents) to Iran.
- More generally, China is expected to become an international player, committed to international security even when there are no direct consequences for China at stake.

Europe should become a more serious security contributor in world affairs.

- The enlargement of the European Union is widely perceived as a contribution to stability in the Eastern part of Europe, but it should also contribute to enlarge the European strategic vision, now still limited to its immediate geographic periphery.
- Fears that a war against Iraq might destabilize the whole Middle East should be accompanied by more effective containment

of the Iraqi threat, and a smarter combination of sanctions and inspections.

- A European cooperative threat reduction program—similar to the Nunn-Lugar efforts in the United States—should be put in place, with priority given to the safety and security of chemical and biological weapon agents. Within Europe, there is significant agreement on the threatening nature of the remaining gigantic Soviet WMD complex. Of particular concern are theater nuclear weapons, offensive BW capabilities, and Russian difficulties in disposing of the Soviet CW stockpile.
- It is time for Europe to take more seriously its own pledge to “play its full role on the international stage.” It should acknowledge that it has more security responsibilities, beginning with the Balkans, Eastern Europe, and Africa. The process of European unification must be accompanied by a more coherent and significant contribution to regional and international security.

U.S.-RUSSIAN RELATIONS AFTER THE CRAWFORD SUMMIT

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OPPORTUNITY LOST

In the aftermath of the U.S.-Russian summit meeting at Crawford, Texas, in November 2001, bilateral relations are in danger of entering into a period of drift. Despite the burst of energy that ensued after President Vladimir Putin decided that Russia would join the U.S.-led fight against terrorism, the summit produced little in the way of concrete agenda items for the two countries to pursue. New activities, especially intelligence sharing and military cooperation, continue to develop at the tactical level in the anti-terrorism campaign. However, these were already in train prior to the summit. Progress on the big strategic issues, and especially on the development of a new framework for strategic cooperation as called for at earlier meetings between Putin and Bush, appears to have stalled.

The reasons why Crawford was so unproductive seem rooted in President Bush's political preferences. His warm relationship with Putin, established in the three meetings that preceded Crawford, did not counterbalance his need to mollify powerful forces on Capitol Hill. Just prior to the summit, nine strongly anti-ABM Treaty senators wrote Bush with the clear message that he would undertake amendments to the treaty, even time-limited ones, at his peril.¹ Bush evidently heard that message loud and clear, and backed away from any effort to craft a compromise that would leave the ABM Treaty intact for a transitional period while testing of U.S. missile defenses went forward.

Putin had clearly signaled that such a compromise would be acceptable to him, but when Bush drew back Putin did as well, returning to a harder position on sustaining verifiable arms control treaties. As a result, Putin returned to Moscow with only half of what he needed—a

promise of further offensive strategic force reductions by the U.S. side, but no progress on the defensive aspect of the strategic partnership. Moreover, Putin's insistence on legally binding instruments received only a whiff of acquiescence from Bush, when he stated offhandedly in a November 13, 2001, White House press conference that if he had to write something down, he would.

More startling than the arms control agenda, however, was the fact that no progress was recorded on other major cooperative activities in the economic, security, and foreign policy arenas. In the security sphere, the lost opportunity to accelerate progress on nonproliferation and threat reduction projects was especially notable. Even if no new money were to be made available, the summit could have publicly launched new approaches to financing such as debt swaps. It could also have launched efforts to accelerate the programs, for example through the new access agreements that have recently been concluded and could have been signed with some fanfare in the summit context. Finally, the summit could have launched new processes, such as an effort to resolve long-standing differences over Russian nuclear and missile technology cooperation with Iran. In the end, the two presidents were left to continue developing their personal relationship while foregoing other summit accomplishments.

In addition to the president's political preference noted above, it is worth considering other factors that may have contributed to the unproductive nature of this meeting. One factor may be the reaction to the Gore-Chernomyrdin Commission that was so evident during Bush's electoral campaign. The Bush team reacted strongly against the notion of regular high-level meetings in that model, complaining that the Commission ground along as a government-to-government bureaucratic exercise that did not answer to needs in the business community and other nongovernmental sectors. They therefore

¹ Reference to the letter appears in Stephen Fidler, "Summit Agrees Cuts in Nuclear Forces," *Financial Times*, November 14, 2001.

may have felt that progress on government-to-government priorities was not especially important to the political health of their president. Evidently, the president himself felt no need to bring “deliverables” out of Crawford.

If this factor reigned, then a related factor was also at work—lack of a bureaucratic process that would drive toward results. Normally, a president wants a summit to be judged a success, as measured in the problems solved, new initiatives launched, and agreements signed. Normally, in fact, tangible progress on issues is the only reason that presidents get together in summit meetings—the opportunity to knock heads in their respective governments and achieve results that no one else can achieve is the *raison d'être* for meeting. This urge from the president in turn puts the “fear of God” into bureaucratic players, leading to compromises and solutions that would otherwise have been impossible.

To ensure that the president gets what he wants out of a summit, one or two bureaucratic players—in the U.S. context often in the National Security Council but sometimes in the State or Defense departments—will drive the process. Such “bit between the teeth” individuals were notably absent in the Crawford case. Indeed, according to some accounts, key bureaucratic players applied force in the other direction, to prevent tangible progress. As long as Bush was indifferent to summit results, their actions were acceptable. However, as a result, Crawford was a wasted opportunity.

A PATH TO FUTURE PROGRESS

The lack of a bureaucracy empowered and willing to come to grips with a new relationship with Russia will contribute most to drift in the wake of the Crawford meeting. The president may continue to articulate the new relationship as a goal, but if key bureaucratic players are pushing in the other direction, then few among the career ranks will risk sticking their necks out with new ideas. This effect will also be evident on the Russian side, where bureaucratic risk-taking is not normal, and long-standing anti-U.S. feeling is still strong in many quarters.

A further trend away from cooperation is likely to grow in the geostrategic arena, as the

United States and Russian Federation pursue quite different goals in further stages of the fight against terrorism. Already, Secretary of State Powell has had to telephone Russian Foreign Minister Ivanov to object to the sudden arrival in Kabul of a large contingent of Russian military and diplomats. Ostensibly arriving to launch humanitarian programs, these individuals re-opened the old Soviet embassy at the invitation of Burhanuddin Rabbani, the Soviet Union's former client in Afghanistan but no one else's choice for leader of the re-emergent Afghan government.² Continued problems of this kind are likely to further sour new efforts at partnership.

This environment is quite different from the mood set by earlier Bush-Putin meetings as well as by Putin's decision in September 2001 to join the anti-terrorism campaign. The question is, can progress nevertheless be made toward a more positive U.S.-Russian relationship and, eventually, a new framework for strategic cooperation? I would suggest that progress *can* be made, as long as it is built on three principles: existing precedent, dispersed action, and low profile.

Existing precedent is not the detritus of the Cold War relationship, but the advances that have been made in U.S.-Russian interactions over the past decade. In the security arena, for example, cooperative threat reduction, nuclear risk reduction, laboratory-to-laboratory projects, and Y2K mitigation are a few of the initiatives that have created new areas of cooperation that can continue to be developed as U.S. and Russian experts confront new problems. CTR programs are very well known in this regard, but other arrangements such as the Warhead Safety and Security Exchange Agreement (WSSX) give quite broad scope for new activity in the counterterrorism arena, and specifically in responding to the WMD terrorism threat.

Dispersed actions can be carried out in several venues: at cabinet and lower levels in the U.S. and Russian governments, in the Congress and Duma, and among nongovernmental organiza-

² Steve Mufson, “U.S. Talks to Moscow about Force in Kabul,” *Washington Post*, November 29, 2001, p. 25.

tions. For example, immediately following the Crawford summit, U.S. Secretary of Energy Spencer Abraham traveled to Russia with Ambassador Linton Brooks, the newly confirmed Deputy Administrator for Defense Nuclear Nonproliferation. They conferred with the Russian Navy and with the Russian Ministry of Atomic Energy about accelerating material protection, control, and accounting (MPC&A) programs, and also took proactive steps with the Ministry of Atomic Energy (MinAtom) to renew dialogue on nuclear technology sales to Iran. They also launched several new access agreements with their Russian counterparts. All of these activities could properly have been part of Crawford summit “deliverables,” but since President Bush was not pressing for them, they can also be effectively deployed in this way at a sub-cabinet level. The important step, in this case, is high-level, intensive, and consistent interaction with Russian interlocutors.

Action by congressional players and non-governmental actors can also be productive, although it is trickier to coordinate with governmental priorities. At times, of course, one must go beyond what the President wants to do to make progress, just as Congress and the NGO community pushed for and achieved higher FY 02 budgets for nonproliferation and threat reduction programs than the Bush administration had requested. This outcome was, we might say, a beneficial result of our checks-and-balances system of government.

In a more cooperative sense, however, Congress and the NGO community can participate in developing new policies and concepts to advance cooperation between the two countries. A prime example of this is the work that has been done on Capitol Hill and among non-government actors to develop the concept of “debt-for-nonproliferation swaps.” Under this concept, the United States and its allies would forgive Soviet and other debt held by the Russian government, in return for which the Russian government would pump rubles into previously agreed nonproliferation projects. While interagency work proceeds inside the government to examine the feasibility of the concept and plan the diplomacy that will be required to bring it into implementation, Congress has embarked on developing a legislative

package to underpin such a program. At the same time, the NGO community has continued to flesh out the concept. Such a division of labor can be effective in developing new or unique forms of cooperation, but the actors involved have to remain in close communication while the process unfolds.

Given the ambivalence that has been displayed within the Bush administration about a new partnership with Russia, *keeping a low profile* in the policy development process is probably a basic requirement. This approach is eased by the fact that the administration is finishing its early period, when a number of highly charged reviews were carried out regarding Russia policy, threat reduction and nonproliferation programs, and strategic nuclear weapons. Although these reviews have slowed various programs—most prominently the plutonium disposition program—in the end they have not produced enormous upheaval in the overall Russia and nonproliferation portfolio.

AIMING AT QUIET PROGRESS

Thus, in the wake of the Crawford summit, it will be possible to develop new and innovative policy toward Russia, but not with the burst of high-level support and enthusiasm that the early Bush-Putin meetings seemed to herald. Rather, government actors, along with Congress and the nongovernmental community, should be able to make considerable progress on new concepts and ideas for cooperation under the generalized presidential enthusiasm in both the White House and Kremlin for a “new strategic relationship.” In the near term, however, this enthusiasm does not seem like it will translate into significant challenges, particularly by Bush, to key political actors in his own party.

For this reason, quiet progress toward the new relationship is probably the best course to pursue over the next six months, progress that will also be an antidote to drift. By the time the two presidents meet again in Moscow and St. Petersburg, however, both will have to decide whether domestic political accord or the U.S.-Russia relationship is the more important. Putin has already decided that he is capable of confronting some of his key political interlocutors; Bush will have to decide whether he can do the same.

MAJOR-POWER RELATIONS AND NONPROLIFERATION: THE IMPACT OF SEPTEMBER 11

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PROSPECTS FOR MAJOR-POWER CONCERT

Relations among the major powers appear to have been greatly influenced by the attacks of September 11 and the unfolding U.S.-led war on international terrorism. In the short term, the implications for their willingness to cooperate to prevent the proliferation of nuclear, biological, and chemical weapons appear quite positive. The longer-term implications are much less clear.¹

The positive short-term prognosis has its roots in the common interest created by the September 11 attacks. None of the other major powers can afford to see America lose this war. For them, a U.S. loss would mean the release of al-Qa'ida to pursue a broader agenda (not just against the United States), the erosion of the stabilizing role of the United States in regions of interest to the other major powers, economic costs including a weakening of the global trading regime, and potentially the legitimization of WMD, including for terrorist political purposes. But if they cannot afford to see they United States lose, neither can the other major powers afford to see a U.S. victory without them. They must be seen in Washington's eyes to count, not least in order to be able to shape outcomes to the conflict in ways that suit their interests.

Greater concert among the major powers bodes well for the nonproliferation effort. Moscow may be more inclined than ever before to close the door on its leaky WMD programs (especially BW), and Washington more willing to spend funds toward that end. Beijing may be more inclined to lend its firm support to nonproliferation, as it comes to terms with the fact that the interests put at risk by further proliferation are not merely the hegemonic interests of a

dominant power but the stability interests of the international community more generally. Greater concert may also pay dividends in terms of managing instabilities in the trilateral offense/defense relationship. Chinese strategic modernization, the U.S. move to deploy ballistic missile defenses, and Russia's own evolving offense/defense posture hold the possibility of new arms races and regional repercussions in Asia—all of which could significantly undermine the nuclear nonproliferation regime.

But the challenges of staying the course of major-power concert in the period ahead may be considerable. If and as the hot war expands to include U.S. attacks on other states supporting international terrorism, Russia, China, or perhaps both may oppose U.S. actions. And as the war becomes a long-term campaign, all of the major powers will need to change in order for that campaign to succeed. Russia will have to account more seriously for the security dimension of international relations (and clean up its export act). China will have to shift from its preoccupation with its own problems (and the U.S. relationship) to more fully embrace its responsibilities as a guarantor of international stability. Europe will have to begin to “punch at its own weight.” The United States will have to take meaningful (and consistent) steps to foster and lead “the community of nations”—a role and community seemingly oft forgotten in the United States. Policymakers in Washington will have to stop using “multilateralism” as a dirty word and instead see multilateral institutions as a tool for “burden sharing.”

In weighing these prospects, the record of the last decade is hardly reassuring. In the period since the end of the bipolar Cold War confrontation, two key themes have emerged in relations among the major powers.

The first: *opportunity lost*. The end of the Cold War might have been expected to bring with it a new era of cooperation and concert

¹ The views expressed here are the author's personal views and should not be attributed to IDA or any of its sponsors.

among the major powers in the realm of peace and security—a promise that was evident in the context of the 1990-91 Persian Gulf War. But that promise was squandered. Increasingly, it seems that others expect the major powers to fall out among themselves in the search for short-term gains, rather than to cooperate for longer-term benefits. The implication for the nonproliferation project is simply that the guarantors (in their role as the five permanent members of the United Nations Security Council) might have so squandered their credibility and authority as to ruin any future efforts to act to protect the regimes—even if they were to act in concert.

The second theme: *wariness of Washington*. Despite the best efforts of Beijing, Moscow, and others to sell the notion of an emerging multipolarity in the international system, the singular place of the United States has grown only more pronounced in the decade since the end of bipolar confrontation. Accordingly, both Beijing and Moscow have grown increasingly cynical regarding Washington's intentions. Beijing especially worries that Washington aspires to escape from the balance of power in the decades before China's emergence as a peer competitor. This worry is magnified by China's fear of what some there see America's pursuit of its own "Brezhnev Doctrine"—export of American ideology (i.e., democracy and human rights for all), backed by the iron fist of American military supremacy. The implication for the nonproliferation project would be that suspicion will attach to any U.S. action, however directly related to the war on terrorism.

With these themes as context, how confident can we be that the major powers will manage to find concert and cooperation in their best interest in the period ahead? The "opportunity lost" theme points to one alternative possibility—that the U.N. Security Council system might somehow be swept aside as a meaningless vestige of a war now more than a half-century past. In this circumstance, it seems possible that the nonproliferation project would also be set aside by many states, as another vestige of a world order now past. The "wariness of Washington" theme points to another possibility—that Moscow and Beijing will limit their cooperation with Washington in anticipation of

a coming move by Washington to consolidate its gains. In Russia, Putin's critics worry about this possibility in the wake of the Crawford summit, as they question whether America will pay the price Moscow may ask for sustained cooperation. China's leaders too have worried on this score, as they fear an American attempt to consolidate a long-term military position in Asia in service of encirclement and containment of China (and they look at the 2001 Quadrennial Defense Review, with its emphasis on new threats in Asia, as confirmation of their fear).

In sum, the attacks of September 11 appear to have laid some new foundations for a greater concert among the major powers, a concert that can be expected to pay positive dividends for the nonproliferation project. But that concert may prove short-lived. Or it may prove long-lived but irrelevant to the nonproliferation project, given past underperformance.

UNFOLDING UNCERTAINTIES

Given the profound uncertainties associated with the war on international terrorism, we are compelled also to consider how much this landscape might be changed by what has yet to happen.

- What if al-Qa'ida resorts to the use of biological weapons to kill millions? What if bin Laden attempts the collapse of Western society and economy through BW attack on food stocks or introduces contagion in ways targeted to make containment impossible (with the ensuing political firestorm)? What reactions would seem necessary and appropriate? What lesson would be important to "teach" in responding to such provocation?
- What if an unfolding "hot war" between a U.S.-led coalition and an anti-U.S. coalition somehow sees the use of chemical and biological weapons "conventionalized?"
- What if growing concern about the terrorist use of biological weapons leads states—both minor powers and major ones—to develop deeper interest in such weapons?
- What if the conflict as it unfolds somehow raises basic political questions about the cast of major powers—whether because some have "proven" themselves not up to

the label, or other states demonstrate that they are somehow essential and demand a seat with the P-5?

The list of “what-ifs” may be long indeed, unless the United States is successful in terminating war soon on its terms. The so-far successful war against the Taliban suggests that this outcome may well be achieved. The entirely unanticipated character and massively destructive intent of the September 11 attacks suggests that this result may yet prove elusive.

WINNING THE WAR —AND THE PEACE

This exercise in “what ifs” helps to make three further points. First, there is an important distinction between winning the war on international terrorism and winning the peace to follow. Alas, international society is notorious for winning the war only to lose the peace that follows, though perhaps this is especially a U.S. dilemma. To win the peace at the major-power level—i.e., to facilitate major-power concert on peace and security issues post-war—undoubtedly has implications for how the war is prosecuted. For Washington this implies a double-sided challenge—acting in ways that sustain the coalition, while ensuring that restraints imposed by the coalition do not prevent achievement of core objectives.

Second, we cannot gauge the challenges of winning the peace until we know how hard-won it proves to be. A war that stops in the next few weeks will present one set of essentially familiar challenges. A war that rages on will present less familiar ones. Such a war can be expected to create interests that divide the major powers—but it can also be expected to create interests that bring them together. This is especially so if it touches on questions associated with nuclear use and the reputation of biological weapons.

Third, if past wars are any guide, arms control will be seen as a useful tool for winning the peace to follow. Arms control played an important role in the effort to consolidate the peace after World War I, to consolidate the post-WWII order in both Europe and Asia, in cooling down and ultimately transforming the Cold War, and in the post-Gulf War effort. But it is also the case that each conflict made new things seem necessary in arms control—especially in the chemical and biological domains, from the Geneva Protocol through the BWC to the CWC and special UNSC implementation measures in Iraq. Whether the current arms control agenda will look like the right agenda post-war will be determined by the lessons that are drawn from the war itself.

ASSESSING RISKS AND CRAFTING RESPONSES

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MAKING SENSE OF DISASTER

The terrorists who murdered thousands of people on September 11, 2001, succeeded in their attempt to wreak destruction in New York and Washington, DC, and arouse horror across the United States and around the world. They will not, however, determine the meaning of that terrible day, because its ultimate impact will be decided by how the world responds to their provocation. The calamity they inflicted on 9/11 immediately brought out the best in many people, from the brave self-sacrifice of police officers and firefighters lost at the World Trade Center, to the expressions by people in nearly every country of mourning for the victims and their families. The September 11 attacks also awakened widespread conviction that officials in the United States and elsewhere must devote urgent attention to addressing threats posed by terrorism and mass-destruction weapons. This determination—if oriented by an accurate assessment of new and longstanding risks of mass destruction, and focused through policy measures that can effectively address these risks—can help to make this a safer world in spite of al-Qa’ida.

The authors in this collection bring considerable expertise and dedication to the tasks of appraising such risks and fashioning effective responses.¹ When we planned this effort in early October 2001, we did not yet know that

¹ This essay is based on the deliberations of the Monterey Nonproliferation Strategy Group in its December 3-4, 2001, meeting, which considered draft versions of papers in this collection. In developing this paper, I sought to draw upon the sense of the members’ deliberations, but am alone responsible for their specific expression here. A list of the participants—who engaged in not-for-attribution discussions as individuals rather than as institutional or national representatives—concludes this publication.

the civilian population of the United States was again under terrorist attack. An anonymous person or group had filled ordinary letters with weapons-grade anthrax spores and begun mailing them through the U.S. Postal Service. Although the first victims had already been infected, physicians had not yet identified the cause of their sickness.² What this attack sought to accomplish remains a mystery, but we soon learned of its lethal consequences and frightening potential. The perpetrator(s) killed five people, sickened many others, and put thousands at risk. We witnessed how a faceless assailant can pervert modern science to disseminate unseen pathogens to disrupt everyday life and spread fear. We recognize—as, unfortunately, so must other would-be bioterrorists—that the assailant(s) benefited from the incubation period of the disease, and the time required for doctors to diagnose it as anthrax, to thus far escape detection and arrest. Though doubts remain, it appears that the culprit(s) employed several ruses to try to divert blame for the attack, perhaps to help evade capture, but possibly in a calculated scheme to provoke a hasty military reprisal by the United States against a foreign adversary.

This essay derives preliminary lessons from these painful experiences and the still-unfolding responses to them, and reviews options for averting such attacks in the future. It is presented in two parts. The first offers a reassessment of threats posed by mass-destruction terrorism and weapons proliferation after 9/11 and the anthrax attacks. It emphasizes lamentable evidence of continuing prospects for nuclear, biological, and chemical (NBC) weapons proliferation, as well as increased risks posed by non-state actors and biological weapons.

² See Eric Lipton and Kirk Johnson, “Tracking Bioterror’s Tangled Course,” *New York Times*, December 26, 2001, p. 1.

Informed by these assessments, the second part considers a range of feasible responses, which include specific policy instruments as well as domestic and international processes that can generate new policy options. Some are “traditional” tools that need strengthening or updating; others are innovative ideas to address emerging vulnerabilities or make use of new political opportunities for effectively countering terrorist and proliferation threats. Driving many of these proposals is the evident necessity to curb unauthorized access to dangerous materials within countries, and to forestall further NBC proliferation to more states. This review highlights the grave risks incurred by states that acquire and refuse to relinquish nuclear weapons, and their urgent responsibilities to their own people and the international community to ensure that nuclear weapons do not fall into unauthorized hands and are never again used in war.

Enduring Risks

What has *really* changed since 9/11? The events of that day called into question basic assumptions that many people understandably took for granted: that political extremists would not be willing to commit suicide en masse; that air travel is a mode of mass transportation, not mass destruction; that skyscrapers in New York would not be blown out from under office workers. Since then, the anthrax attacks jarred public confidence that little could be more safe or innocuous than the daily mail. Yet despite declarations that everything changed in September 2001, looking closely we see much continuity in international affairs—in fact, far too much constancy, if we consider enduring proliferation threats and regional insecurities.

While U.S. military responses to 9/11 may make many contributions to U.S. and international security, it is hard to see how these efforts can resolve some of the most serious and intractable NBC weapons proliferation and terrorism problems. Notably, the Israeli-Palestinian peace process will not be revived by the U.S. “war on terrorism” and could possibly be undermined by it. Ethnic and sectarian religious conflicts and terrorism have afflicted the Middle East for decades, and no prospects for their elimination are in sight today. Without

comprehensive and credible peace, most NBC and ballistic missile programs in the region will likely continue apace. The lone but crucial exception might be that of Iraq, in the event of either decisive U.S. military action, or of Saddam Hussein’s acceptance of the UNMOVIC inspection and monitoring system to verify Iraq’s elimination of proscribed NBC weapons and ballistic missiles.

In South Asia, military responses to September 11 offer no hope for “rolling back” nuclear proliferation. At minimum, Indian and Pakistani officials and the international community must avert the accidental or deliberate use of nuclear weapons. At best, we can hope to forestall or at least delay deployment of nuclear weapons, especially on ballistic missiles, and avert further proliferation of nuclear weapons, especially to non-state actors. Given past wars, current tensions, geographic proximity, and limited early-warning capabilities, we must fear in particular that the unstable process of deploying nuclear-armed missiles in the subcontinent could beget a situation as acute as the 1962 Cuban Missile Crisis.

Stepping back to consider nonproliferation affairs from a global perspective, some observers warn that the five nuclear-weapons-state (NWS) members of the NPT have made little progress toward fulfilling the commitments that they made at the 2000 Review Conference. This lack of momentum toward disarmament may pose indirect, long-term incentives for some non-nuclear-weapon-states (NNWS) to reconsider their nonproliferation commitments, and may undercut international comity essential for effective cooperation on export controls, nuclear safeguards, and other measures. Nonproliferation collaboration in general and the NPT bargain between NWS and NNWS in particular may also suffer if efforts to lessen the risks of nuclear proliferation and terrorism result in constricted technology transfers for legitimate, peaceful uses of atomic energy.

The September 11 and anthrax attacks demonstrated, moreover, deficiencies in extant nonproliferation regimes, notably with respect to non-state threats and biological weapons. These must be taken more seriously than in the past, and so are given detailed attention here.

Non-State Actors and Bioweapon Threats

As Thérèse Delpech observes, 9/11 exemplified an ongoing trend in which “more and more destructive power is falling into the hands of more and more people.” Concern that non-state actors might acquire capabilities sufficient to carry out mass-destruction or mass-disruption assaults, however, is not new. Many nongovernmental specialists and government officials had long warned of this possibility. This risk was among those motivating Cooperative Threat Reduction (CTR) programs to prevent unauthorized access to nuclear weapons and fissile material in the former Soviet Union. Still, following the sarin gas attacks conducted by Aum Shinrikyu in the Tokyo subway in 1995, the 9/11 and anthrax attacks inflicted this past year have made addressing such threats a higher priority.

Indeed, as articulated by Usama bin Laden and implemented by a series of terrorist attacks that include the bombings of the U.S. embassies in Kenya and Tanzania in 1998, the USS Cole in 2000, and most recently the 9/11 attacks, al-Qa’ida poses a threat of unprecedented proportions for a transnational actor. Bin Laden openly seeks to acquire nuclear weapons, and refuses to distinguish between civilians and military targets. Moreover, the perpetrators of the 1998 embassy bombings and 9/11 did not distinguish between citizens of the United States and those of other countries, or between Christians and Jews and those of the Islamic faith. Many Muslims and citizens from countries other than the United States were killed or injured in the 1998 and September 11, 2001, attacks; while few of the casualties in the embassy bombings were Americans. We cannot expect discriminate targeting from al-Qa’ida; mass murder is not incidental but fundamental to the group’s operations.

The threat its members pose is made more serious by the fact that at least some of the 9/11 hijackers were willing to commit suicide. It may be difficult or impossible to deter attacks by subnational or transnational actors whose members are unconcerned with either their own personal safety or that of their putative constituents—the peoples, groups, or classes they ostensibly claim to defend. Worse, some actors may deliberately seek to provoke retaliation in

service of their political or strategic ambitions. During the 1990-1991 Persian Gulf War, Saddam Hussein launched Scud missiles at Tel Aviv in an effort to provoke Israel into entering the war, a gambit that sought to cleave Arab states apart from the coalition arrayed against Iraq. Similarly, al-Qa’ida may have sought through the 9/11 attacks to provoke a U.S. military response that would foment popular uprisings and regime changes in Saudi Arabia and other countries.

Some transnational organizations, especially al-Qa’ida, have demonstrated a sophisticated capacity for tactical adaptation and innovation in their terrorist operations. Although the full extent of the threat cannot be assessed with confidence, such actors clearly pose some degree of increased risk to civilian infrastructure, transportation and communication systems, chemical and nuclear plants, and to radioactive sources used in medicine and industry. Unfortunately, mass media reports and “expert” commentary since 9/11 have publicized a range of specific possibilities that terrorists might exploit for targeting purposes or to develop new modes of attack. In addition, al-Qa’ida’s cell-based organizational structure may encourage intra-group competition to develop ever more deadly tactics, while aiding members in evading identification and arrest by law enforcement officials. The threat, however, may now extend far beyond that organization. Worldwide, every individual or group disposed toward violent action in pursuit of their objectives may now draw “inspiration,” if it can be called that, from the tactical cunning and awful impact of the 9/11 attacks.

The disruptive effects of the anthrax letters, especially coupled with the lengthy failure to apprehend whoever was responsible for them, may provide a comparable demonstration for other terrorists or for states considering use of bioweapons. Specialists have long recognized that given incubation periods and the “background noise” of naturally occurring diseases, it might be difficult to attribute responsibility for bioweapons attacks or even recognize that a BW attack had taken place, and hypothesized that perpetrators might deliberately leave a false train of evidence to cast blame on others. Now each element of this scenario has been illus-

trated for a global audience, which likely includes some terrorist organizations that previously had not considered or seriously pursued bioweapons.

In particular, two types of NBC hazards are now of greater significance. The first is that of *insider threats* within states that possess NBC capabilities. Pakistan exemplifies this risk, as members of the nuclear weapons establishment, the armed forces, and the intelligence services had ties to the Taliban in Afghanistan, and allegedly to al-Qa'ida and other jihadi groups in the region. The danger is that those entrusted with the nation's most destructive instruments—nuclear weapons—may have allegiances other than to their national authorities. By no means, however, is this risk singular to Pakistan; indeed, the available evidence suggests that the anthrax assailant was probably involved in biodefense activities conducted under U.S. government auspices. But given the immense scope and uncertain status of NBC weapons programs and facilities in the former Soviet Union, it is these Cold War legacies that pose the most troubling potential source for insider threats. While diversion of fissile material for nuclear weapons production would require a sizable team or organization to constitute an effective threat, small groups or even lone individuals may pose serious risks if they can acquire bioweapon capabilities from within a national biodefense or BW program.

The second type of increased danger may be posed by actors that do not discriminate among people in carrying out terror attacks and who are unconcerned with the well-being of their professed constituents. We now face a much greater risk that if such actors were able to gain access to *contagious lethal pathogens*, either from laboratories or from natural sources, they may be more likely to use them than any state or terrorist organization had ever been before. In an era of intercontinental air travel, no nation or population group might remain entirely secure if contagious agents were unleashed in any populated region of the world. The intrinsic difficulty of controlling the scope of a contagion had served as an inherent deterrent in the past, but this prospect may not deter some present or future terrorist organizations that are

willing to kill thousands of people, including themselves and their supporters.

The year 2001 marked a major expansion in the geographic scope and substantive dimensions of the threat environment that policymakers must consider in making security policy. There are, however, encouraging indications that decisionmakers have begun to take BW threats more seriously than they did in the past, and more importantly, have started to look more comprehensively—if not yet systematically—at the full range of potential threats posed by mass-destruction terrorism and weapons proliferation.

EFFECTIVE RESPONSES

The continuing and emerging threats outlined above can only be addressed effectively with a multifaceted set of policy measures implemented both within national boundaries and at the international level. This review considers in turn basic guiding principles; bureaucratic, institutional, and international processes; and selected policy measures that together with existing efforts can generate an adequate program of action to diminish risks of mass-destruction terrorism and weapons proliferation. In addressing some problems, fortunately, constructive synergies will facilitate efforts to deny NBC weapons both to state and non-state actors. For instance, more effective implementation of IAEA safeguards on civilian nuclear fuel-cycle facilities would serve both counterterrorism and nonproliferation objectives.

Nevertheless, crafting policy responses will require balancing priorities and making a number of difficult tradeoffs on other issues, between the relative risks posed by state and non-state actors; between preventing NBC war and averting NBC terrorism; and between unilateral decisiveness and multilateral deliberation. Such trade-offs are exemplified by the urgent need to secure the Indian and Pakistani nuclear arsenals, but to do so without legitimizing these states' blatant violation of international nonproliferation norms. Among the most important and perhaps the most contradictory responses to the 9/11 and anthrax attacks are U.S. defense efforts. For example, the dramatic boost in funding for U.S. biodefense activities undoubtedly will make vital contributions to addressing

BW threats. However, if internal security in these programs is as lax as it reportedly has been in the past, by increasing the number of individuals working with lethal pathogens and relevant processing technologies, this expanded effort will increase insider risks of bioterrorist actions against the United States.

Guiding Principles

Effective responses to 9/11 and the anthrax attacks should be informed by several principles. The most basic principle, of course, is to aim for the outcome that prevents NBC-related security threats from ever materializing: *nonproliferation*. Obviously, nuclear weapons and fissile materials that are never produced cannot be employed by states or stolen by terrorist organizations. In general terms, the nonproliferation of NBC weapons offers the soundest basis for preserving both international security and U.S. national security. This principle has oriented the most effective campaign in history to curb the spread of advanced strategic technology, effectively limiting the spread of the most destructive military instrument ever invented—nuclear weapons. Over the past five decades more and more countries have developed advanced technological and industrial infrastructures, but fewer and fewer of them have chosen to apply their capabilities to producing nuclear weapons. Over time, acquisition, testing, and threats to use nuclear weapons have become increasingly infrequent, to such an extent that in literal terms these have become deviant behaviors for the international community of nations. However, chemical and especially biological weapons-relevant materials and technologies differ because of their diverse, important, and legitimate civilian purposes. Given their societal contributions, it is impractical to deny access to such dual-use items. Five other principles, however, can orient effective responses to terrorism and proliferation.

The first is that of *preventing unauthorized access* to NBC weapons and other capabilities that can be employed for mass-destruction strikes. This principle is most obviously involved in efforts to increase physical protection of fissile materials, deny outsiders access to nuclear power plants, and prevent suspected terrorists from boarding aircraft. Such activities enable

states to gain effective control over actors and activities within their national territory, preventing non-state actors from acquiring, shipping, storing, or launching NBC weapons from within national borders. Where functioning states do not exist or where they lack control over some regions, as in present-day Afghanistan, state-building or capacity-strengthening efforts may be necessary to create the institutional foundations for denying access to non-state actors.

A second principle is that of crafting *mutually reinforcing domestic and international measures*, in order to leverage scarce financial, human, and political resources; avoid creating loopholes or vulnerabilities that terrorists or states seeking NBC capabilities can exploit; and to create multiple layers of prevention, deterrence, and defense against mass-destruction threats. Stated conversely, focusing too narrowly on one type or arena of possible risk, or relying too heavily on one type of policy response, invites failure. For example, denying terrorists access to fissile material will require effective implementation of both national and international safeguards, and no world region or country can be ignored in safeguarding fissile materials as the least-secure area would then become the target of illicit procurement activities.

A third principle is to craft *dual-purpose* responses. For example, disease surveillance and public health capabilities offer societal benefits even in the absence of deliberate BW attack. Research investments, training exercises, and communications systems can aid in the fight against emerging infectious diseases and other health risks, whether or not specific BW threats ever materialize. In prioritizing expenditures, efforts should be weighted to address the broad range of BW threats that overlap with natural sources of infection. This principle also applies to efforts to secure transportation, communication, and energy facilities, which should be prioritized so as to also help prepare for natural disasters.

A fourth principle applies to efforts to thwart terrorism. Forceful *interdiction* to identify, disrupt, and if possible destroy terrorist organizations is imperative to prevent transnational groups from again turning prosaic tools of modern life into terror weapons. Hopefully,

disrupting al-Qa'ida and toppling the Taleban will create a deterrent effect that will discourage state sponsorship of non-state actors that engage in terrorism, and will also reduce international toleration for actors that use terror in ostensible pursuit of such legitimate goals as national self-determination. However, conventional military force may be useful in only a relatively small portion of counterterrorist activities. Such measures as inter-state intelligence sharing, domestic law enforcement, and disrupting terrorist financial networks are apt to be of greater utility for interdiction tasks in most places and times.

A fifth principle that will shape prospects for stemming terrorist and NBC proliferation threats to international security is that of *justice*. Real and perceived violations of human rights, economic justice, political freedom, national sovereignty, and other normative values have no automatic, direct consequences for international security. However, as in the present Israeli-Palestinian and Indo-Pakistani conflicts over disputed territories demonstrates, historical and present-day grievances provide underlying motivations that can be mobilized by societal activists and government officials, with consequences that unfortunately often fall most heavily on noncombatants. In this regard, economic development assistance may serve non-proliferation insofar as aid creates societal benefits that reduce the motivations of subnational and transnational actors to engage in terrorism or acquire mass-destruction weapons.

Innovative Processes

Among the most promising developments since 9/11 are new approaches and processes that have emerged or been proposed for generating new policy options. In this regard, the U.S. "war on terrorism" is a process of a magnitude and significance all its own, and hence it is examined below in detail. But one aspect of this U.S. campaign has broad potential application. That is for the United States or other international or regional leaders to work with "coalitions of the willing:" informal, ad-hoc, problem-oriented groupings of two or more states, whose national interests are at risk and that have the resources to confront a specific terrorist or NBC proliferation threat. Such an

approach has many advantages, not least the decisiveness possible when the number of actors is reduced to the absolute minimum necessary for success in resolving a specific problem. Possible risks of this approach, however, include lack of continuity over time, inconsistency with efforts in other regions, and undermining support for multilateral approaches to security affairs and fostering disregard for international institutions. One way to avoid this would be to employ ad-hoc coalitions and perhaps formal military alliances (e.g., NATO) to build political consensus and implement concrete measures within a sub-set of countries. These could serve as building blocks to prepare for subsequent efforts in additional regions or at the multilateral level.

One process of potentially broad relevance is that of self-governance by scientific communities to avoid creating unintended biological, chemical, or other mass-destruction risks. Such efforts may generate a wide range of policy options that could effectively stem NBC weapons proliferation and terrorism at the individual, lab, and scientific society levels. Potentially even surpassing nuclear physics and modern chemistry, biotechnology development and the biosciences offer tremendous opportunities for bettering the human condition, but as always, powerful knowledge can be misused. Government regulations and law enforcement can only go so far in preventing the misuse of scientific and commercial advances, and for the sake of efficiency alone it would be best if scientific communities carried out as much of the governance responsibilities as is feasible.

Another potentially useful process applies to the U.S. political system, in which the executive branch would pursue an expedited approach to winning approval for new arms control and nonproliferation accords from the legislature. Taking a "fast-track" approach with the Senate could avoid many of the negative outcomes of the past decade, from partisan political opposition to the CTBT to loopholes created in gaining ratification of the CWC. In the United States as elsewhere, a broad, nonpartisan, executive-legislative consensus would provide the firmest basis for advancing nonproliferation and counterterrorism measures that involve formal international accords.

Finally, an innovative process worth consideration is George Perkovich's proposal for the creation of a nuclear "contact group." Such a group could resemble in shared purpose that formed by Britain, France, Germany, Russia, and the United States to address the Bosnia conflict. But this nuclear contact group would include the dozen-odd states whose nuclear armaments and fissile material stocks inherently pose potential threats to international security. At least indirectly, the nuclear weapons, atomic energy, and national security policies of these states are interconnected, but at present this otherwise heterogeneous group has no dedicated venue in which to examine and address their policy interdependence. There are risks that such a process could legitimate nuclear weapons proliferation by India, Israel, and Pakistan, but there are also considerable benefits that might be gained. Not least of these would be to create a forum for promoting greater recognition of what Perkovich underscores are the "solemn burdens and onerous responsibilities attendant to possessing nuclear weapons."

Specific Measures

As the papers in this collection outline, policymakers can help curb terrorism and proliferation threats to some degree by updating and strengthening existing policy measures, but they should also consider designing new measures. In preventing states or non-state actors from acquiring nuclear weapons, fissile materials, or radioactive sources, further efforts are necessary to enhance and gain the full security benefits of existing procedures. Former Soviet stockpiles continue to represent the greatest risks, and increased budgetary commitments indicate that the Bush administration has come to recognize the vital contributions that CTR programs make to reducing potential terrorist threats to U.S. national security. Even if major new U.S.-Russian efforts on nonproliferation cooperation are not in the offing, low-key but still significant cooperative activities can and should continue to advance at the bureaucratic level and in the efforts of nongovernmental actors. European states could make important contributions by establishing and funding comparable CTR efforts, although given current CTR emphasis on nuclear warheads and fissile

materials, a complementary European campaign might be most helpful if it were focused on safely disposing of CW munitions and reorienting former CBW facilities toward civilian enterprises.

To date, few IAEA members have brought into legal force the 1997 Additional Protocol on expanded IAEA safeguards. This is unfortunate, because widespread implementation of expanded safeguards would help prevent unauthorized access and illicit trafficking, and thus contribute to denying terrorists and proliferant states access to materials necessary to fabricate nuclear weapons. IAEA members should also build on the 1987 Convention on the Physical Protection of Nuclear Materials, to update the accord, expand its scope, and fully implement the convention in domestic law and institutions. At present, the IAEA is seriously under-resourced to effectively ameliorate radiological attacks and sabotage of nuclear power plants and fuel-cycle facilities. IAEA supporters—and indeed, every state with an interest in avoiding radioactive contamination of the environment and consequent international threats to public health—should dramatically increase their financial, political, and human-resource support for the agency's efforts to ensure that nuclear energy is employed only for peaceful purposes.

Much new work needs to be done to minimize the bioweapon threats inherently involved in human and veterinary medicine, bioscience, and biotechnology development. As suggested above, the international scientific community should work to develop a regulation system and new norms for practitioners in the biological sciences. This could be usefully augmented by governmental measures, including criminalization of illicit BW-related activity. The United States government should undertake an exhaustive national inventory of the most dangerous pathogens held by U.S. laboratories, and review its national legislation with an eye to developing effective accounting and control over disease cultures and dual-use processing and dissemination technologies. These U.S. measures could serve as the basis for expanding protections overseas, by opening negotiations on a multilateral Biosecurity Convention that would employ a safety-and-security approach to preventing bioterrorism.

Some biological weapon scenarios may have widespread and destabilizing consequences for international affairs. Unless clearly punished, any BW use by a state in war could encourage further BW proliferation and use in other conflicts. Leading members of the international community should commence informal discussions—perhaps in the G-8 but certainly in the U.N. Security Council—to outline in advance a range of appropriate responses in the event of a breach in the international norm against the use of bioweapons. Preparing a coordinated response may be invaluable if the international community is forced to confront such an event, but publicizing such advance preparations could also serve as a useful deterrent that might avert BW attacks from ever being inflicted.

THE U.S. “WAR ON TERRORISM”

As noted above, perhaps the important process set in motion by 9/11 is that of the ongoing U.S. campaign to identify, locate, and kill or capture al-Qa’ida leaders, members, and supporters in Afghanistan and elsewhere. Although military combat in Central Asia has drawn the greatest attention, the ultimate success of this effort will depend on a range of diplomatic, intelligence, and law enforcement activities around the world and in the United States. Beyond its direct contributions to preventing al-Qa’ida from acquiring NBC weapons and conducting mass-destruction attacks, this “war on terrorism” also aims to deter states from aiding transnational actors that engage in terrorism against the United States, its civilian population at home, and its military forces, allies, and friends abroad. The most important consequences of this campaign, however, may be its indirect benefits in terms of reshaping the global security agenda, forging new alliances and ameliorating old enmities, and generating new political, institutional, and technical options for addressing terrorism and proliferation threats. At present, this globe-spanning process is still in motion, and its ultimate trajectory and cumulative accomplishments remain uncertain.

One point, however, has never been in doubt. If grounded in an accurate assessment of both proliferation threats and nonproliferation opportunities, and focused through effective

policy instruments that can avert terrorism and stem proliferation, U.S. leadership can make unparalleled contributions to international as well as U.S. national security. Toward these ends, this essay concludes by analyzing contradictory impacts of the U.S. campaign, questioning the dominant U.S. overall threat assessment, and stressing the importance of winning not just the current war but the ensuing peace.

Problematic Contradictions

Addressing security threats typically involves making compromises between pursuing the ideal and achieving the feasible; coping with near-term crises and reducing longer-term risks; and resolving distinct types of security threats. In this regard, despite its extraordinary urgency the U.S. response to 9/11 has been quite typical. Many aspects of the U.S. response show great promise for ameliorating mass-destruction terrorism and proliferation threats. The United States has forcefully unseated the Taleban and denied al-Qa’ida the use of training camps in Afghanistan; effectively pressed Pakistan’s leaders to end the “jihadization” of the Pakistani state and society; and won concessions from Saudi Arabia to curb terrorist financing and recruitment activities in that country. Moreover, the United States has never been more seriously engaged in promoting constructive security arrangements in South Asia than it has become in the wake of 9/11. The U.S. presence and commitments in this theater may entail a sustained combination of pressure and assistance for India and Pakistan to address their bilateral conflicts, and eventually yield arrangements to build confidence and reduce misinformation during crises, or result in other improvements to regional security.

Furthermore, President Bush has bluntly threatened that if necessary the United States may preempt Iranian, Iraqi, and North Korean programs that could pose NBC and missile threats to the United States or its interests. Detering or preventing nuclear proliferation by Iraq and North Korea in particular—both of which have unequivocally violated their non-proliferation commitments under the NPT—would be a major contribution to regional and international security. Detering and/or punishing such “rogue” behavior as sponsoring terror-

ism or acquiring NBC weapons by these or other states would certainly help to make this a safer world.

But the military campaign against terrorism and Bush's warnings to states comprising what he terms an "axis of evil" are not the only policy innovations that the United States has undertaken since 9/11. Lamentably, even if the aforementioned contributions are achieved, they may prove in time to be overshadowed by the tacit, simultaneous U.S. accommodation of nuclear proliferants in South Asia. Most importantly, the U.S. posture toward Pakistan has undergone a radical transformation. Before September 11, U.S. officials denounced what they viewed as the country's illegitimate military leadership; condemned Pakistan's open and extensive support for the Taliban; threatened to classify Pakistan as a state sponsor of terrorism; and imposed sanctions to punish its violation of nonproliferation norms in developing nuclear weapons and testing them in May 1998. Since 9/11, however, Pakistan has become a close U.S. ally, one openly rewarded for its assistance in the war in Afghanistan. What enabled an erstwhile "rogue" state to befriend the world's sole superpower? Geographic contiguity to Afghanistan was obviously important, as was Pakistan's willingness to turn against the Taliban, but international observers can hardly fail to infer that Pakistan's arsenal of nuclear weapons played a decisive role in U.S. calculations. To judge from this Pakistani experience, nuclear proliferation can pay big dividends in terms of gaining international influence.

This example may provide an additional rationale for nuclear weapons beyond the view previously expressed by Indian officials that the United States only respects countries that possess nuclear weapons, and that acquiring the bomb effectively forestalls the possibility of U.S. military intervention. As Amin Tarzi observes, U.S. acquiescence to Pakistani proliferation is undoubtedly a matter of close attention in Tehran, and may lead the current Iranian regime—and governments or political cliques in other countries—to conclude that possession of nuclear weapons can serve as an insurance policy to secure a given regime, however undemocratic or otherwise illegitimate.

This "lesson" is surely not one that the Bush administration sought to convey, and given the immediate exigencies after 9/11 of assembling and deploying military forces against al-Qa'ida in Afghanistan, it is not clear whether the United States could have avoided conveying this regrettable impression. There are certainly valid strategic and economic reasons for U.S. decisions to waive or eliminate sanctions against India and Pakistan, but over the long term, these considerations may pale in contrast to the importance of stemming the pace and extent of nuclear proliferation.

The medium- to long-term risk is that such countries as Egypt, Japan, South Africa, Ukraine, and the many other countries that have abjured nuclear weapon ambitions could eventually conclude that if current nuclear proliferation is acceptable and future proliferation inevitable, then their national security interests may require that they too acquire strategic deterrents offering regional and international influence. It would be unfortunate to allow the demands of a few proliferant states to overshadow the legitimate security needs of the many nonproliferants—the majority of states that are, after all, the "good citizens" of the international community.

Narrow Threat Assessment

Senior officials in the Bush administration are rightly preoccupied with mass-destruction and terrorism threats posed by al-Qa'ida and by Iran, Iraq, and North Korea. These risks cannot be trivialized or ignored, but there are grounds for concern that if U.S. officials lose sight of the broader potential and actual threat environment, myopic focus on these risks could drive policy responses that may inadvertently undercut U.S. national security, unsettle international stability, and undermine U.S. influence in shaping world affairs. Considering its statements, decisions, and actions, on balance it appears that in assessing threats this administration distinguishes reflexively between types of actors rather than between categories of weapons. From this vantage, "rogue" state acquisition of mass-destruction weapons is the core security problem before the United States, not the spread of NBC weapons per se. While in the

short term this view is understandable, over the longer term it is apt to prove misguided.

Consider that in just the few decades since the beginning of the nuclear era, at different points in time the United States has had both cooperative and adversarial relationships with such important countries as China, Iran, Iraq, Japan, Germany, and Russia. In the absence of radical transformations in international affairs, the nuclear weapons and fissile material stocks produced to date will continue to pose latent threats to U.S. national security for the foreseeable future (while some radioactive wastes may remain potential instruments of terrorism for a time span on the order of human civilization). Given historical reversals in inter-state relations, it is not prudent for the United States to presume that its allies today will always be its friends tomorrow. Likewise, even longstanding and bitter enmities may give way to improved relations, and so old foes may one day be new partners. For this reason, the fundamental principle of nonproliferation—regardless of whether it is friends or foes that seek or acquire NBC weapons—provides the most reliable basis for preserving U.S. (and international) security over time.

In advocating development of U.S. defenses against the possibility of a surprise ballistic missile attack, U.S. Secretary of Defense Donald Rumsfeld has recounted the many strategic surprises that have confronted the United States during his lifetime.³ Incongruously, however, his “worst case” threat assessment does not appear to anticipate the possibility that the nuclear and missile capabilities of current U.S. allies might one day be turned against the United States or its interests. Moreover, his analysis fails to consider the importance of exploiting unexpected but positive developments, a number of which have also occurred during the same time period. Most notably, the Cold War ended swiftly not in hot war but through the disintegration of what had appeared for decades to be a political system with invincible totalitarian control over an expansive empire. Just as unexpectedly and positively, though less

world-altering, the apartheid regime in South Africa came to an end not through violent revolution but by political reform. In crafting policies to address mass-destruction terrorism and proliferation threats, the United States should prepare for the worst, but it should also position itself to take advantage of “pleasant surprises” that provide opportunities for securing progress, which history also shows that we can expect to encounter.

Nevertheless, September 11 certainly made plain the devastating potential of some strategic surprises. While Rumsfeld and others had stressed for years that NBC-armed ballistic missile proliferation posed the most immediate and serious threat to the U.S. homeland, the September 11 and anthrax attacks did not employ ballistic missiles or any other type of military delivery vehicle, but instead exploited the existing civilian infrastructure to deadly effect. Contrary to the initial expectation of many analysts, Rumsfeld and his colleagues appear not to have reconsidered their determination to field anti-missile interceptors. In this regard, the administration appears to have concluded that it cannot win China and Russia’s support on nonproliferation export controls and that “rogue” proliferation programs will continue unchecked, so the only remedy is to try to defeat missile threats by mounting an anti-missile system as soon as possible.

But 9/11 also catalyzed positive international responses, notably the surprising convergence of great-power interests that undercut an emerging Chinese-Russian strategic alliance, dampened U.S. conflicts with China, and led to Putin’s historic decision to unequivocally ally Russia with the West. In the U.N. Security Council, China and Russia joined in a unanimous declaration of support for the United States that contrasted vividly with recent disputes over Kosovo, Iraq, and other issues. Both countries joined, moreover, in the unanimous vote for UNSC 1373, which provides a new institutional framework for criminalizing and combating international terrorism. In open support of U.S. military strikes into neighboring Afghanistan, Moscow authorized the use of former Soviet airbases by U.S. bombers likewise

³ Donald H. Rumsfeld, “Toward 21st-Century Deterrence,” *Wall Street Journal*, June 27, 2001, p. A16.

built during the superpowers' Cold War. These historic shifts constituted a unique and unexpected opportunity for major-power collaboration.

The Bush administration did make tactical use of this opportunity, notably by gaining Russian support for military action in Central Asia. But the Bush-Putin summit at Crawford, Texas, resulted in no concrete or constructive advances toward reducing the proliferation and terrorism threats posed by Cold War stockpiles in Russia. And the Bush administration decided to withdraw the United States from the ABM Treaty, despite serious Chinese and Russian objections that doing so would prejudice their security, and in the face of strong reservations expressed by NATO allies.

Thus, the "rogue state" missile threat assessment appears to be a driving force in U.S. policy responses that relinquished leverage over China and Russia, which could otherwise be exploited to press both states to halt missile technology transfers that enable Iran, Pakistan, and North Korea to pose increasingly sophisticated missile threats. Moreover, the decision to abrogate the ABM Treaty, like recent U.S. decisions on the CTBT, BWC, and other cooperative international endeavors, has unsettled many U.S. allies in ways that may lead some to consider developing independent strategic capabilities. We may never know whether the United States could have taken advantage of allied, Chinese, and Russian concerns regarding the ABM Treaty to win support for measures to effectively stem the proliferation of NBC technologies, because thus far the Bush administration has never even considered—let alone seriously tested—this policy alternative.

Oriented by fatalism regarding the prospects for stemming nuclear and ballistic missile proliferation, the administration's foremost defense priority is to develop and deploy an anti-missile system. Even if it proves possible to overcome sensor, integration, protection, and other challenges to develop a functioning anti-missile defense system, such a measure can at best address only one means of delivering NBC weapons against the United States. Moreover, although missile proliferation does pose a threat to U.S. national security, the U.S. intelligence community estimates that the U.S. homeland is

more likely to be attacked with NBC weapons by enemies "using nonmissile means."⁴ These factors alone are insufficient to preclude consideration of missile defenses. The critical point, however, is that the dominant U.S. threat assessment does not appear to be grounded in a comprehensive and systematic evaluation of mass-destruction threats to the United States; instead, a narrow assessment is driving emphasis on a limited set of policy responses without careful evaluation of potential unintended consequences, or exploration of alternative options that might avoid negative repercussions.

Winning the Peace

Since 1940, military force has been critical to stopping dangerous nuclear weapon threats posed by Nazi Germany, Imperial Japan, and Ba'athist Iraq. In past months, military measures were decisive in unseating the Taliban and physically dismantling al-Qa'ida facilities and operations in Afghanistan. The demonstrated readiness of the United States and its allies to use force in the past—and credible threats to do so in the future—can aid in preventing terrorism and deterring the use of NBC weapons, and in some cases may dissuade states or non-state actors from pursuing acquisition of NBC weapons. If other countries are unwilling to bear the financial, political, and military burdens of enforcing Iraq's compliance with U.N. Security Council-mandated elimination of mass-destruction weapons, then at some point it may fall to the United States to do so on its own.

But these specific contributions to reducing mass-destruction terrorism and proliferation risks should not be confused with the entire campaign against such threats to international peace and security. Military force alone cannot prevent al-Qa'ida operatives outside Afghanistan from conducting terror attacks, or obviate threats posed by most other non-state actors.

⁴ Director of Central Intelligence, "Foreign Missile Developments and the Ballistic Missile Threat through 2015," (Washington, DC: National Intelligence Council, December 2001), pp. 7, 15, <http://www.cia.gov/nic/pubs/other_products/Unclassifiedballisticmissilefinal.pdf>.

Indeed, the utility of force and modalities of power are uncertain in this new era; e.g., megatons of nuclear destructive capability offer no means to leverage information about terrorist intentions and capabilities, yet acquiring such information will be imperative to averting future attacks. And U.S. preemptive warnings are at best credible against only the very narrow set of militarily weak countries that are also current U.S. adversaries. Military force, whether wielded unilaterally or in allied coalitions, likewise offers leverage that is in most cases inadequate and more often negligible for remedying bioweapon hazards. To employ Brad Robert's suggestive phrase, the task before the United States and other members of the international community is to focus the determination and concern aroused by the 9/11 and anthrax attacks on developing an integrated program of action that can aid in "winning the peace" that will follow the present conflict.

Since 1945, U.S. leaders have sought to prevent the spread of dangerous military capabilities, especially to U.S. foes but also to U.S. friends. Toward this end, they developed an interlocking set of U.S. and international institutions that have had greater success in averting nuclear proliferation than anyone imagined possible in the early years of the nuclear age. These institutions differ in type and specific application, ranging from the safeguards agreements required for export of research reactors to mandatory sanctions against countries testing nuclear weapons; from security assurances for NATO members to NSG controls on sensitive nuclear and dual-use exports; from the NPT norm against nuclear weapons proliferation to counterproliferation preparedness to fight and prevail in the event of CBW attack against U.S. armed forces. But over time, facing new and more diverse proliferation threats and also unexpected nonproliferation opportunities, U.S. leaders have helped to create more and more U.S. and international institutions employing progressively more sophisticated tools for addressing mass-destruction threats.

Increasingly, however, there are grounds for concern that in dealing with security challenges the current U.S. administration may be

unnecessarily and imprudently relying on a narrow set of policy measures—primarily the unilateral exercise of military force and deployment of national missile defense—while foregoing available institutions and policy alternatives that can more effectively address threats to the United States and international community. In particular, a number of recent decisions have undermined the effectiveness of existing non-proliferation tools. Regrettably, though a unilateral pattern of decision making and selective backing for international law, and in particular through negative actions regarding the CTBT, CWC, BWC draft protocol and Review Conference, and ABM Treaty, the United States risks losing credibility as a good-faith, constructive participant in international efforts to address NBC weapons threats.

Worse, by disparaging international institutions in general, some Bush administration officials may be undermining strategic stability and predictability, as well as reducing the perceived reliability of the United States as a security guarantor. NATO, after all, is a treaty-based organization. Coupled with repeated demonstrations that the United States can exert overwhelming force at a global scope unparalleled in history, and given alleged U.S. intentions to militarize space and otherwise increase its military preeminence even further, such steps risk creating the perception that the United States is bent on global military domination. Over the long term, such a perception could itself create considerable dangers for international stability as it might prompt countering responses from allies as well as adversaries. But in the short term, it could have the adverse effect of distracting attention from the very real threats posed by mass-destruction weapons proliferation and terrorism.

That would be tragic. For although the United States is a military hegemon possessing unrivaled destructive capability, it is also a state with basic national interests in preserving international peace and security, and a country dedicated to promoting such values as democratic governance and religious freedom. To a degree perhaps also unrivalled in history, the core interests and values of the dominant power of

this era coincide with those of the majority of countries and peoples around the world. As in creating the international order following World War II, the United States would do best for itself and others by creating and sustaining international institutions like NATO and the Bretton Woods system that joined military, political, and economic power with shared, legitimate purposes.

In at least one momentous sense, the anthrax and 9/11 attacks of 2001 did constitute a watershed, by triggering newfound recognition worldwide that all civilized peoples have a shared stake in averting mass-destruction terrorism and weapons proliferation. This offers an historic opportunity to meld U.S. power with common international purpose to craft durable nonproliferation institutions.

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- No. 6 *WMD Threats 2001: Critical Choices for the Bush Administration*, Michael Barletta, ed., May 2001.
- No. 7 *Missile Proliferation and Defences: Problems and Prospects*, (Special Joint Series on Missile Issues with the Mountbatten Centre for International Studies, University of Southampton, U.K.), May 2001.
- No. 8 *After 9/11: Preventing Mass-Destruction Terrorism and Weapons Proliferation*, Michael Barletta, ed., May 2002.

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