

# Technology and the Future of Security

## Editors' Introduction

By Hugh Gusterson and Oleg Bukharin

Security studies a decade ago was organized around an axis between political scientists and natural scientists (especially physicists), and the main debates in the field concerned the cold war and the arms race. Security studies practitioners were broadly concerned to maximize stability in the superpower relationship, and technical experts in the field debated which configurations of nuclear weapons would be most stable and how agreements to bring about these configurations might be verified by technical means.

In the last decade security studies, especially that part of the field funded by the MacArthur Foundation, has become more heterogenous both in terms of the issues addressed and the disciplinary credentials of its practitioners. Especially since the arms race ended, new issues have come to the fore: the proliferation of weapons of mass destruction and terrorism, disposition of radioactive materials left behind by the cold war, information warfare, ethnic conflict, civil reconstruction after conflict (in Central America for example), the strengthening of civil society in new democracies (Russia and South Africa, for example), global warming, conflicts over dwindling environmental resources, international drug trafficking, the corrosive effects of poverty and underdevelopment and so on. These new issues have been accompanied by a productive influx into the field of new kinds of prac-

*Hugh Gusterson is Associate Professor of Anthropology and Science Studies at MIT and a former fellow of the SSRC-MacArthur Program on International Peace and Security.*

*Oleg Bukharin is a Research Staff Member at the Center for Energy and Environmental Studies of Princeton University and a former fellow of the SSRC-MacArthur Program on International Peace and Security.*

tioners: anthropologists, economists, geographers, sociologists, and even literary theorists.

Many of these new issues have technoscientific dimensions. Thus, this special edition of the SSRC-MacArthur Newsletter on science and technology in contemporary peace and security studies features articles on global warming, the disposition of plutonium, defense against biological terrorism, futuristic conventional weapons technologies, and technical countermeasures against drug traffickers, subjects that were largely off the security studies map a decade ago. Since the old nuclear core of security studies is not yet exhausted, we also have articles on nuclear proliferation, the possibility of a virtual nuclear arms race, and the prospects for downsizing, even abolishing, the nuclear powers' arsenals.

Many of the articles in this issue were written by physicists and political scientists—traditionally the main practitioners of peace and security studies. But our contributors also include a geologist (Allison Macfarlane), an anthropologist (Hugh Gusterson), and

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Decontamination technologies currently under development include using reactive forms of oxygen to kill pathogens. And research on Amplified Fragment Length Polymorphisms (AFLP) and epidemiological monitoring technologies will improve scientists' ability to identify the origin of biological agents. These technologies potentially enable one to backtrack to the source of an outbreak by looking at mutations in the genome of the species of interest.

These technologies cannot prevent biological terrorism, but they can reduce its likelihood and make it less lethal. Given the ease of producing these agents and the apparent interest of terrorist organizations and their state-sponsors in acquiring them, the effort seems worthwhile. ■

*Based on materials in the forthcoming book, "Risk and Dread: Preempting the New Terrorists," Harvard University Press, 1998*

## Disarmament's "Auto Da Fe"

by Zia Mian

There are many signs that the ending of the Cold War may also mark the ending of any possibility for nuclear disarmament. The first major sign was the forcing through in 1995 by the nuclear weapons states, led by the US, of an indefinite extension of the Nuclear Non-Proliferation Treaty (NPT). This was despite the fact that many non-nuclear countries felt the nuclear powers were in breach of their obligation under Article VI of the 1968 treaty, which committed its signatories to "pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control." By securing an indefinite extension, the nuclear weapons states ensured that the promised pursuit of nuclear disarmament may take forever.

The second major sign was the Comprehensive Test Ban Treaty in 1996. After acrimonious debate at the Conference on Disarmament, the body that handles international arms control negotiations, a flawed Test Ban Treaty was eventually forced through by the nuclear weapons states. This was after the nuclear weapons states, following the US lead, had started to put in place programs to maintain their ability to

design, and test, new nuclear weapons. The less developed nuclear weapons states, India and Pakistan, simply refused to sign. The Treaty was won but at the cost of the negotiating forum itself. The Conference on Disarmament has subsequently been unable even to agree on an agenda for any future talks—the nuclear weapons states have refused India's demands that any talks be linked to a time-bound framework for nuclear disarmament.

This impasse has generated the third sign of the waning of the age of disarmament: the slow death of prospects for a Fissile Material Production Cut-off Treaty. This treaty, closing the door on producing new material for making nuclear weapons, and perhaps reducing existing stockpiles of nuclear weapons material, was meant to be the third pillar on which disarmament was supposed to be built. In the recent (late 1997) meeting of the First Committee of the United Nations General Assembly (dealing with Disarmament and International Security), for the third year running, there was not enough support for sponsors of a fissile materials ban to even discuss a resolution calling for the start of negotiations.

Facing up to this prospect, the peace movement and an increasingly large number of states have expressed their desire to see immediate negotiations for a convention on the elimination of nuclear weapons, following the examples of the Biological and Chemical Weapons Conventions. A new international campaign for the abolition of nuclear weapons, Abolition 2000, has been launched, and now has over 900 affiliated peace groups and movements from around the world. At the state level, there have been a number of General Assembly Resolutions drawing support from well over 100 states, calling for multilateral negotiations leading to an early conclusion of a nuclear-weapons convention prohibiting the development, production, testing, deployment, stockpiling, transfer, threat or use of nuclear weapons. There have also been appeals by the Non-Aligned Movement, the G-21 group of countries and the European parliament, for such an initiative.

Despite an advisory opinion in 1996 from the World Court that Article VI of the NPT, requiring negotiations on nuclear disarmament and general and complete disarmament, also required that such talks be brought to a successful conclusion, these international resolutions and appeals have remained nothing more than resolutions and appeals. Like all the earlier resolutions in the General Assembly, dating back

*A physicist and founding member of Abolition 2000, Zia Mian is a Visiting Fellow at CEES, Princeton University.*

to the very first resolution—which called for "the elimination from national armaments of atomic weapons"—they have become well meaning statements, expressions of hope rather than a way of initiating a process for the kind of negotiations that would be required to abolish nuclear weapons. Lacking any power, they have been treated by the nuclear weapons states as an irritant. Neither the General Assembly nor the Conference on Disarmament have set up the structure that can begin the negotiating process for a Nuclear Weapons Convention.

There is, however, a way of breaking the negotiating deadlock that has been put in place by the nuclear weapons states. It is Article VIII of the NPT. This article concerns the process for amending the treaty. It stipulates that any party to the Treaty can submit an amendment to the Treaty. Then, if one third of the Parties to the Treaty (about 60 states) indicate their support, the Depositary Governments for the treaty must convene a conference to consider the amendment. If this amendment is written expressly as a fulfillment of the commitment to disarm (Article VI) and to transform the NPT itself into a Nuclear Weapons Convention, then the Conference called to discuss the amendment would become, in fact, a negotiating forum with a mandate to abolish nuclear weapons.

Every signatory to the NPT would have to attend the conference or be exposed as violating its Article VI obligation to negotiate the elimination of nuclear weapons. To put it simply, the nuclear weapons states would have to negotiate nuclear disarmament or admit that they have no intention of standing by their Article VI commitment. Adopting the latter position would be a violation of the NPT.

A similar logic applies to states that are not party to the NPT. They could either sign the NPT and participate in the Amendment Conference, or declare that they will sign the Amended Treaty whatever its provisions for the actual process of elimination of nuclear weapons. Otherwise they would stand exposed as having tried to hide their nuclear weapons behind the call for talks, just like the nuclear weapons states.

The NPT Amendment conference would in effect be disarmament's "auto da fe"—a "test of faith" like that practised by the Spanish Inquisition, at which sentence was passed on those whose commitment to the true faith was less than whole-hearted. This "auto da fe" would be the last encounter of the nuclear age, an encounter between the nuclear weapons states and the rest, and between states and people world-wide. If it did not result in disarmament, at least it would lead to honesty. ■

## Research Workshops

The following workshops were granted for Round 15 of the SSRC-MacArthur Research Workshop Competition:

*Regionalization and Globalization: The Impact of External Actors on Vietnam's Development*  
Organizer: Dan Wessner, SSRC-MacArthur Dissertation Fellow, Hanoi, Vietnam

*Civil Society, Democratization, and the Remaking of War-Torn Societies*  
Organizer: Julie Mertus, Emory University School of Law

*Ideas, Culture, and Political Analysis*  
Organizers: Sheri Berman, Department of Politics, Princeton University  
Michael Doyle, Department of Politics, Princeton University  
Kathleen MacNamara, Center of International Studies, Princeton University