

ABOLISHING Nuclear Weapons

A DEBATE

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GEORGE PERKOVICH AND JAMES M. ACTON, EDITORS

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PREFACE

In the past few years, horizontal and vertical proliferation have collided. That is, the need for significant strengthening of the nonproliferation regime in the wake of nuclear developments in North Korea, Iran, Iraq, and Pakistan is now absolutely clear. So too, however, is growing unwillingness among non-nuclear-weapon states to even consider additional measures in what they see as the absence of serious progress by the nuclear-armed states toward disarmament.

The pathbreaking paper *Abolishing Nuclear Weapons* by George Perkovich and James Acton was first published by the International Institute for Strategic Studies as an Adelphi Paper in September 2008. One of the paper's major aims was to prompt serious international analysis, discussion, and debate, recognizing divergent views within and between nuclear-armed states and those that do not possess these weapons. The absence of such engagement in official forums such as Non-Proliferation Treaty Review Conferences and the Conference on Disarmament makes it vital for nongovernmental actors to take the lead in hopes that governments will see the value of such dialogue and follow.

The present volume takes the next step. To advance the sort of analysis and dialogue we call for, Perkovich and Acton have invited a distinguished group of experts—current and former officials, respected defense analysts—from thirteen countries, nuclear and non-nuclear, to critique the Adelphi Paper. Their diverse views explore pathways around obstacles to nuclear disarmament and sharpen questions requiring further official and

nongovernmental deliberation. We are grateful to the contributors for the thoroughly constructive character of their critiques.

The volume concludes with an essay by Perkovich and Acton that works through some of the key questions or paradoxes raised by the critiques. Their focus is on major issues and crucial differences. They do not defend their original text, rebut points, or cite passages to show where they may have been misunderstood. Rather, in the spirit of the commentators, they use the points raised from diverse international viewpoints to clarify and sharpen the big picture.

Few, if any, top-tier issues attract as much simplistic analysis, as many verbal red herrings, and as little serious work by governments as does the feasibility of nuclear disarmament. As was pointed out in *Abolishing Nuclear Weapons*, none of the nuclear-weapon states “has an employee, let alone an inter-agency group, tasked full time with figuring out what would be required to verifiably decommission all its nuclear weapons.”

Our endeavor, launched with *Abolishing Nuclear Weapons*, advanced in this volume, and continuing into the future, is to jump-start a broad and deep international debate, based on serious analysis, of what it would take to achieve the immensely important and equally difficult goal of nuclear disarmament. Like this volume, that debate will have to include active participation by all states—non-nuclear as well as nuclear armed.

Jessica T. Mathews

President, Carnegie Endowment for International Peace

SECTION 1

Abolishing Nuclear Weapons

GEORGE PERKOVICH AND JAMES M. ACTON

ADELPHI PAPER 396

GLOSSARY

CTBT	Comprehensive Test Ban Treaty
CWC	Chemical Weapons Convention
FMCT	Fissile Material Cut-Off Treaty
HEU	Highly enriched uranium
IAEA	International Atomic Energy Agency
INF	Intermediate Nuclear Forces (Treaty)
LEU	Low-enriched uranium
MOX	Mixed-oxide fuel
NPT	Nuclear Non-Proliferation Treaty
P5	The five permanent members of the United Nations Security Council
START	Strategic Arms Reduction Treaty

INTRODUCTION

This paper aims to encourage a conversation about the abolition of nuclear weapons. How might the security conditions which would permit nuclear weapons to be safely prohibited be created, and how might measures to implement such a prohibition be verified and enforced?¹

Over the past couple of years, there has been a growing awareness of the need to take nuclear disarmament seriously. In January 2007, and again in January 2008, the *Wall Street Journal* published articles by US statesmen George Shultz, William Perry, Henry Kissinger and Sam Nunn calling for invigorated movement towards the goal of a world free of nuclear weapons and urging other former high-level officials around the world to endorse this goal.² In recent months, four former defence and foreign ministers of the United Kingdom representing each of the country's leading political parties have joined their call,³ which has also been echoed by governments. Most prominently, a number of senior UK cabinet ministers, including the prime minister, Gordon Brown, have proposed concrete steps that states could take jointly to help create the conditions necessary for the abolition of nuclear weapons,⁴ as has Indian Prime Minister Manmohan Singh.⁵

What appears to have motivated much of this interest is the belief that it will be impossible to curtail nuclear-weapons proliferation without serious progress towards nuclear disarmament. In the absence of sufficient action on disarmament by the nuclear-weapons states, leaders of many non-nuclear-weapons states are increasingly resistant to efforts to strengthen the International Atomic Energy Agency (IAEA) system of

nuclear safeguards that is designed to ensure that civilian nuclear facilities are not used for military purposes. They also insist that they will not accept any new discriminatory constraints on their access to nuclear technology. Resistance to stronger non-proliferation measures is especially worrying given the expectation of a significant global expansion in nuclear-energy production. Ultimately, if it is to be sustainable and acceptable to the majority of states, any new nuclear order must be equitable and not perpetuate the disparity between the states that possess nuclear weapons and those that do not.

What is needed now is for a conversation about disarmament to take place between officials and experts from non-nuclear-weapons states and those from nuclear-weapons states. There has not been such a conversation for a long time. Diplomats gather every five years at conferences to review the Nuclear Non-Proliferation Treaty (NPT), but they do not seriously discuss the substantive conditions necessary to achieve the verifiable and enforceable elimination of all nuclear arsenals. These conferences, operating by consensus rules, have often been unproductive. The sixty-five-member Conference on Disarmament, established in 1979 as a result of a UN General Assembly special session on disarmament to serve a multilateral negotiating forum, is currently moribund. Representatives of nuclear-weapons states pay lip service to the principle of nuclear disarmament, but none of these states has an employee, let alone an inter-agency group, tasked full time with figuring out what would be required to verifiably decommission all its nuclear weapons. Non-nuclear-weapons states have not really engaged with the challenge either, in spite of their disarmament rhetoric. They have tended to view disarmament as something that the nuclear-weapons states should undertake and report back on when it is accomplished.

The need for non-nuclear-weapons states to join a debate over the details of nuclear disarmament is great. The global diffusion of the technology and know-how to produce fissile materials threatens to overwhelm the existing regime to prevent the 'diversion of nuclear energy from peaceful uses to nuclear weapons'.⁶ Fear of nuclear proliferation is motivating some nuclear-weapons states to take nuclear disarmament more seriously;⁷ but neither non-proliferation nor the abolition of nuclear weapons can be achieved without the active cooperation of non-nuclear-weapons states. Nuclear abolition would require much more than the dismantling of all nuclear weapons in the nine states that now possess them. To make abolition feasible and to enable the detection of rearmament, all states

that possess nuclear reactors, uranium-enrichment plants, plutonium-reprocessing facilities, uranium reserves or even transshipment ports would have to accept more intrusive control measures and inspection procedures than they do today. To build confidence that an agreement to prohibit nuclear weapons would be enforced, all states would need to demonstrate a willingness to enforce international rules with greater alacrity and robustness than has been historically normal.

Discussions of this paper's early drafts suggested that experts in non-nuclear-weapons states felt at times insufficiently informed on technical details and/or that these issues were too low among their national priorities for them to be able to fruitfully debate them with their counterparts in nuclear-weapons states. Some nuclear-weapons-state officials appear happy to reinforce such feelings. What ensues, then, is (often heated) debate between factions within states that possess nuclear weapons over what types of inspection protocol would be necessary to verify nuclear disarmament, or whether the permanent members of the UN Security Council would retain veto rights in a world without nuclear weapons. Frequently these debates are limited to the US, the UK and, to a lesser extent, India, as nuclear policy is not a major subject for discussion in France (where there is not much public interest in the subject), and information is tightly controlled in Russia, China, Israel, Pakistan and North Korea. There is little substantive give-and-take on disarmament issues between informed citizens and officials from nuclear-weapons states and many non-nuclear-weapons states, whether the topic is, for instance, how to guarantee the supply of nuclear fuel to actors that forgo indigenous uranium enrichment, or how to deter cheating in a nuclear-weapons-free world.

Theoretically, the eight states that have acquired nuclear weapons without violating international treaties (henceforth referred to as the 'nuclear-armed states' to distinguish them from the five states among them that are recognised by the NPT) could create a forum for negotiating an agreement to prohibit nuclear weapons. In today's world, however, states are more likely to proceed in an ad hoc, incremental manner. Aside from the Conference on Disarmament, there is currently no diplomatic structure pertaining to nuclear affairs that includes the five NPT-recognised nuclear-weapons states plus India, Pakistan and Israel. The latter three states are not party to the NPT, nor are they permanent members of the UN Security Council. While there is no legal reason why the nuclear-armed states could not create an informal process to pursue nuclear disarmament, they are too ambivalent about the objective to muster the collective energy and

resources to do so. Even if motivations were stronger, states would still be deterred by the expectation that some non-nuclear-weapons states would object to such a process on the grounds that it would grant unacceptable status to the three non-parties to the NPT.

We will suggest at the conclusion of this paper that internationally respected think tanks—including some affiliated with governments—could initiate a high-level unofficial panel in which experts and officials from non-nuclear-weapons states could join with those from nuclear-armed states to explore how the myriad challenges of verifiably and securely eliminating nuclear arsenals might be addressed. Such unofficial explorations could prepare the ground for official engagement with these issues when political conditions allow. Ideally, governments would augment these explorations by encouraging additional relevant nuclear-weapons experts, laboratory officials and military strategists to participate.

The debate that this paper seeks to facilitate is about how complete nuclear disarmament could be achieved safely and securely, not whether it should be tried. Some commentators on earlier drafts charged us with minimising the difficulties of nuclear abolition. They suggested that our belief in the desirability of abolition blinded us to its infeasibility. Others have said that we have identified too many obstacles, and that the paper should not be published in case it disappoints those who desire total nuclear disarmament, turning them further against initiatives to prevent proliferation, which they may see as merely advantaging the nuclear-armed states. To be clear, we believe that nuclear-weapons states have political and moral obligations to seek to eliminate all nuclear arsenals. These obligations stem from Article VI of the NPT, which specifies that parties should pursue negotiations leading to complete nuclear disarmament,⁸ the 1995 negotiations over indefinite extension of the treaty, and the basic principle that a nuclear order cannot be maintained and strengthened over time on the basis of inequity. Double standards on matters as materially and psychologically important as nuclear weapons will produce instability and non-compliance, creating enforcement crises that increase the risk of conflict and nuclear anarchy.⁹ Lawyers, diplomats and military commanders may debate the relevance and precise meaning of Article VI of the NPT. But it is clear that states would not have agreed to extend the treaty indefinitely, as they did in 1995, if the nuclear-weapons states had tried to claim that they were not obliged to pursue nuclear disarmament. In any case, the problem of states resisting strengthened non-proliferation rules because they say they are frustrated by the nuclear-weapons states' refusal to uphold their side of the NPT bargain must be addressed. More

generally, so long as large ready-to-launch nuclear arsenals exist (and especially if more states acquire nuclear weapons), the risk that these weapons will one day be detonated is not negligible. For these reasons, we do not argue why disarmament is desirable, except briefly in the conclusions.

None of this, of course, makes nuclear-weapons abolition feasible. Indeed, it is easy to say why it is not. Conversely, it is difficult to show how conditions could be created that would encourage states to make a nuclear-weapons prohibition verifiable and enforceable. This is the challenge that motivates us here. Our specific aims are twofold: first, to identify and explore the challenges to the complete abolition of nuclear weapons, and second, to discuss what states can start doing today to circumvent them. We do not claim to exhaust the range of issues that must be resolved, or to have optimally framed the subjects we do address. If there are places where we appear defeated by obstacles that could be dismissed or better navigated, we welcome other people's responses.

We do want to dispatch one objection at the outset. It is sometimes said that nuclear weapons 'cannot be disinvented'. We recognise this, but believe that the point is made to deflect careful thinking rather than encourage it. No human creation can be disinvented. Civilization has nevertheless prohibited and dismantled artefacts deemed too dangerous, damaging or morally objectionable to continue living with. Mass-scale gas chambers such as those used by Nazi Germany have not been disinvented, but they are not tolerated. The CFCs (chlorofluorocarbons) that created a hole in the ozone layer cannot be disinvented, but they have been prohibited with great benefit and other means have been found to perform their functions. The issue is rather whether means could exist to verify that a rejected technology—nuclear weapons in this theoretical case—had been dismantled everywhere, and to minimise the risk of cheating. Ultimately, the challenges of verification and enforcement could be so daunting that states would choose not to prohibit and dismantle all nuclear weapons, but the question of 'disinvention' should not deter us from this exploration.

Some readers may conclude that the difficulties and costs we identify of moving from the last few weapons to zero are so great that we should have focused more on the benefits and relative ease of earlier steps. One commentator on an early draft spoke for several when he said, 'Why don't you highlight the value of reducing nuclear arsenals to a few tens of nuclear weapons, and posturing them for no-first-use, and treating them as anathema, hidden-in-the-basement weapons of last resort? That world would be much less threatening than today's, and we shouldn't let the difficulties of getting to perfect zero keep us from it.'

We agree absolutely that the challenges of getting to zero do not and should not preclude many steps being taken in that direction. Mindful of this admonition, therefore, we address in the first chapter steps that nuclear-armed states could take in cooperation with others towards a world in which tackling the more difficult task of prohibiting nuclear weapons could be envisaged.

The remainder of the paper focuses on the more distant prospect of actually prohibiting nuclear weapons. It is tempting to avoid exploring some of the crucial difficulties involved in going to zero by saying, 'problems of enforcement and international politics would naturally be worked out on the way towards zero, or else states would not agree ultimately to create a nuclear-weapon-free world'. We believe this is inadequate. States will not begin to make the changes necessary for abolishing nuclear weapons if there is not a shared sense that the goal is realistic. And states cannot demonstrate their real commitment to this goal if they do not understand and accept the challenge of trying to implement the changes that must be made along the way.

Chapter 2 examines some of the greatest verification challenges of going from low numbers of nuclear weapons to zero. Although this chapter does discuss some essentially political questions, such as how good verification would need to be for states to feel enough confidence to eliminate their arsenals, it is largely technical. This cannot be avoided; nuclear abolition is an interdisciplinary problem that requires politicians, diplomats and non-governmental experts to engage with technical issues.

The third chapter explores the implications of nuclear-weapons abolition for the management of the forecast spread of nuclear energy to new markets. The risk of civilian-use fissile materials or expertise being diverted to make nuclear weapons is tolerated today in large part because major powers (and others) retain nuclear weapons that are felt to deter both proliferation and nuclear aggression from states cheating on their non-proliferation obligations. But tolerance of the risks associated with nuclear power would be much lower if all nuclear arsenals were eliminated. On the other hand, the equity of a world in which all states forswore nuclear weapons, and worked actively towards their elimination, could facilitate the establishment and enforcement of more robust rules to ensure that the growing number of states seeking nuclear-energy capabilities used them exclusively for peaceful purposes.

Chapter 4 imagines that the political and security conditions had been created to motivate negotiations on prohibiting nuclear weapons worldwide, and explores key practical questions that would need to be