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GCSP Report

Security in a World without Nuclear Weapons: Visions and Challenges

Edited by David Atwood and Emily J. Munro

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In some respects, the goal of a world free of nuclear weapons is like the top of a very tall mountain. From the vantage point of our troubled world today, we can't even see the top of the mountain, and it is tempting and easy to say we can't get there from here. But the risks from continuing to go down the mountain or standing pat are too real to ignore. We must chart a course to higher ground where the mountaintop becomes more visible.

George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn
"Toward a Nuclear-Free World", *The Wall Street Journal*,
15 January 2008.

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Abbreviations and Acronyms

BRICS	Brazil, Russia, India, China and South Africa
CTBT	Comprehensive Nuclear-Test-Ban Treaty
EU	European Union
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice
IHL	International humanitarian law
NATO	North Atlantic Treaty Organization
NGO	Non-governmental organization
NPT	Treaty on the Non-Proliferation of Nuclear Weapons (Nuclear Non-Proliferation Treaty)
NWC	Nuclear weapons convention
NWFZ	Nuclear-weapons-free zone
OPCW	Organisation for the Prohibition of Chemical Weapons
OSCE	Organization for Security and Co-operation in Europe
P-5	The five permanent members of the United Nations Security Council
PSI	Proliferation Security Initiative
START	Strategic Arms Reduction Treaty
UN	United Nations
WMD	Weapons of mass destruction

Disclaimer

The opinions and views expressed in this report do not necessarily reflect the position of the Swiss authorities or the Geneva Centre for Security Policy. The arguments expressed by the chapter authors represent their personal views.

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Preface

Since the creation of the United Nations, its member states have been pursuing the goal of seeking a safer world for all and achieving peace and security in a world without nuclear weapons. This is also the core objective of the Nuclear Non-Proliferation Treaty.

While the use of nuclear weapons has fortunately been avoided since 1945, concerns are on the rise that existing nuclear arsenals could in the future become a major destabilizing factor and that any additional proliferation of nuclear weapons could increase the risk of a nuclear war.

Against this background, recent efforts by states and civil society have generated a groundswell in support of the so-called humanitarian approach that focuses on the devastating impact of any use of nuclear weapons. This humanitarian narrative has given a new sense of urgency to redoubling disarmament efforts and to moving more resolutely towards the vision of global zero.

Yet at the same time states possessing nuclear weapons are modernizing and in some cases expanding their arsenals. Despite the more than questionable military utility of nuclear weapons, these states clearly still see them as the ultimate "insurance policy" against possible threats to their national security.

In order to challenge the role of nuclear weapons as an insurance policy and to take the efforts to eliminate these weapons a decisive step forward, it will be necessary to find convincing answers to the question of how security and stability can be guaranteed without nuclear weapons. For, clearly, a world without nuclear weapons will not be free of all weapons and will still be characterized by conflicts and major security threats.

This will require creative, "out-of-the-box thinking", as well as a major shift in the strategic discourse. To some it may seem premature to begin this discussion now. But transforming the world in such a radical way will require long-term systematic efforts by us all. No single state or human being is currently able to anticipate or plan for such a complex transition. We therefore cannot wait to begin the debate only once we reach the final stages of the path to zero.

We are confident that once we engage in this process we will collectively be capable of developing the necessary norms, appropriate tools, suitable organizational structures, etc. that are needed to achieve our goal.

As a non-nuclear-weapons state that is keen to see accelerated efforts towards both nuclear disarmament and firm action against proliferation, Switzerland wishes to make progress in this direction.

This project with the Geneva Centre for Security Policy is a contribution that we hope will help anticipate what would be needed for security in a world without nuclear weapons. The discussions with eminent experts that were undertaken in this framework were a promising start that can, it is hoped, inspire us to more systematically reflect on what such a nuclear-weapons-free world will look like. Asking questions for which we are currently not in a position to find sufficient answers is a daunting task. But it is a crucial collective exercise and necessary preparatory process to advance the agenda of nuclear disarmament and non-proliferation. Now is the right time to ask these questions.

Benno Laggner
Head of the Division for Security Policy and
Ambassador for Nuclear Disarmament and Non-Proliferation
Federal Department of Foreign Affairs

Executive Summary

Few would disagree that a world without nuclear weapons would be desirable – sooner or later. However, there are key differences in opinion as to how long it will take to arrive at this point, what the major obstacles will be on the path to nuclear-weapons abolition and how a world without such weapons will be maintained peacefully. The objective of this volume of seven chapters, and the wider project at the Geneva Centre for Security Policy on Security in a World without Nuclear Weapons, has been to focus on a specific aspect of this process by asking what would be the basis of security, particularly the institutional arrangements necessary to prevent major-power conflict, in a post-nuclear-weapons world. The focus is on the security arrangements necessary for this stage to have been reached and the elaboration of the means by which it could be sustained. There has thus been a deliberate attempt to step back from current disarmament and non-proliferation dynamics and work on the assumption that nuclear weapons have actually been abolished – that we have accomplished this seemingly impossible task. The authors in this volume have recognized that achieving this state will by no means be easy and that the path to achieving global zero will inevitability impact the security conditions of the post-nuclear-weapons world. They have also acknowledged that although the experience from the pre-nuclear age can be instructive, tackling these issues requires new thinking about the requirements for security in a world in which nuclear weapons no longer play any role.

The examination of three conditions in a post-nuclear-weapons world are central to this volume: the mechanisms required to manage relations among major powers (including emerging powers); the establishment of new, or the renewal of existing, international institutions to prevent the outbreak of conflict in general and among the major powers in particular; and managing weapons proliferation, particularly with regard to conventional weapons and new technologies.

The first chapter, by **Ward Wilson (United States)**, presents nuclear weapons as clumsy weapons from a bygone era that in today's world of new technologies are outdated and impractical. They are not "magic". Wilson argues that as the perceived value of nuclear weapons becomes debased and the danger of their continued existence becomes increasingly understood, countries will choose not

to possess them, nor will nuclear weapons be as attractive to potential cheaters as previously thought. He further argues that the absence of nuclear weapons will not require large changes in structures and institutions, as the impact of these weapons is already greatly overstated.

Robert Green (United Kingdom/New Zealand) suggests the need for a reframing of the security paradigm surrounding nuclear weapons from a discriminatory system based on nuclear deterrence to humanitarian disarmament and principles based on good faith. He recognizes the need for confidence-building measures, especially as regards Russia and non-nuclear-weapons states. Green also warns against the replacement of nuclear deterrence with conventional deterrence based on superiority. Instead, he argues that a more cooperative approach to the governance of the security environment required to abandon nuclear deterrence will facilitate the tackling of other security threats facing humanity.

The third chapter, by **Monica Herz (Brazil)**, argues that social practices and cultural changes could help us shift current thinking towards a world without nuclear weapons. She addresses this aspect by looking at (1) the centrality of international humanitarian law and humanitarian and human rights principles; (2) the need for a new order of nuclear governance that replaces non-proliferation, is more inclusive (including emerging actors) and is based on common interests; and (3) a new vision of conventional deterrence based on trust and greater cooperation. Herz looks to various actors for leadership, not only nuclear-weapons and non-nuclear-weapons states, but also non-governmental organizations (NGOs), the academic community, the United Nations (UN) and others, and urges us to think across regions and social environments.

Harald Müller (Germany) proposes three parallel processes – changing the narrative of the utility of nuclear weapons, transforming the relationship among former nuclear rivals to one based on cooperative security and building cooperative institutions – that would help us move along the path to a nuclear-weapons-free world. He argues that a world without nuclear weapons will have to move beyond even "virtual" and conventional deterrence thinking. Instead, alternative security institutions based on cooperative/collective security and a "concert" of great-power engagement will be required. Müller also examines how the problem of cheaters could be handled and discusses ways to strengthen the capacities of UN mechanisms to react to threats to the new status quo of a world without nuclear weapons.

Chapter 5, by **Andrei Zagorski (Russia)**, recognizes that a profound change in the security environment would have to occur if we are to move towards a nuclear-weapons-free world. This change would be long term and would include a multitrack process. He treats a number of issues that could act as incentives

for the great powers to embrace this vision, including moving beyond nuclear deterrence towards a security community; working within existing institutions and frameworks to facilitate political consensus; and strengthening the nuclear non-proliferation regime. Zagorski urges a process in which not only are existing nuclear weapons *abolished*, but the *acquisition* of nuclear weapons is made impossible for any state. To arrive at this point, he argues for disarmament and non-proliferation initiatives that would proceed in parallel and mutually reinforce each other, balancing the interests of nuclear-weapons and non-nuclear-weapons states.

In her chapter, **Wu Chunsi (China)** emphasizes the need for the major powers to act responsibly as the key actors in the international system and for a move from confrontation to new forms of cooperation among themselves. She argues against the concept of alliances and for a more inclusive system of cooperation to enable the creation of a true global security community. While strategic stability among major powers will remain central, such a security community will require enhanced capacity for international and regional institutions, including enforcement mechanisms, and the active participation of other actors (e.g. NGOs).

Rajesh Rajagopalan (India) divides his chapter into two parts. Firstly, he looks at the consequences of nuclear-weapons abolition for international politics and relations. He examines the potentially uneven effects of nuclear-weapons abolition on the international system in general, on definitions of polarity in the international system and on the role of conventional deterrence. Secondly, he offers insights on the steps that could be taken to ensure a reasonably peaceful and stable international order in a nuclear-weapons-free world. Here he addresses the challenges and make-up of institutions for facilitating stability in an international system of changing power balances. Rajagopalan concludes that although bringing some benefits, peace and stability are unlikely to be enhanced by the abolition of nuclear weapons. He points particularly to the potential instability that could be brought about by the current "great equalizer" effects of nuclear-weapons possession for weaker, conventionally armed states.

It is clear that the authors in this volume do not ultimately all agree on the requirements for security and stability in a world without nuclear weapons, nor do they provide a single vision of the route from here to there. The chapters do, however, point to key issues and approaches that will have to be part of the discussion as we think even more seriously about nuclear disarmament in the years ahead.

The volume concludes with a presentation of a number of issues that could help to advance our thinking on achieving and maintaining security in a world without nuclear weapons. These include further study on cooperative security

as a concept to build consensus, addressing regional conflicts among nuclear-weapons possessor states, the role of regional organizations and institutions (including nuclear-weapons-free zones), building confidence between nuclear-weapons states and non-nuclear-weapons states and among nuclear-weapons states, developments related to conventional weapons and their management, identifying coalitions and encouraging leadership to enable this process, the risks associated with hostile non-state actors, and integrating international security-related issues such as the environment and development into the discussion.

Introduction

So let us persevere. Peace need not be impracticable, and war need not be inevitable. By defining our goal more clearly, by making it seem more manageable and less remote, we can help all peoples to see it, to draw hope from it, and to move irresistibly toward it.[1]

US President John F. Kennedy, American University, 1963

Nuclear weapons have been with us for nearly seven decades. They have been a pervasive factor in shaping the nature of international politics throughout this period, despite the fact that the world of 2013 is a very different place from 1945. Now, well into the second decade of the 21st century, with a broad range of issues competing for attention and action by the nations of the world, what can and what must be done about the continuing existence of and threats posed by nuclear weapons remains one of the core political questions of our time.

Since their invention and first use, the goal of nuclear weapons' eventual abolition and elimination has been high on the agenda of many states. Nevertheless, the utility that some states continue to find in their possession and the sheer complexity of negotiating away and destroying what exists means that many of the same questions that have plagued the engagement with this issue over the decades continue, despite the considerable progress made in reducing the numbers of nuclear weapons possessed by the two principal nuclear powers – the United States and the Russian Federation – from their Cold War levels.

The strong common rhetoric regarding the desirability of the elimination of nuclear weapons notwithstanding, a wide gap continues to exist between those – mainly nuclear possessor states – whose current priority seems to be primarily how to keep nuclear weapons out of the hands of others (non-proliferation) and those who feel that the central goal must now be nuclear-weapons abolition. Frustration with what is perceived by many non-nuclear states as the glacial pace of bilateral and multilateral processes has led over recent years to a number of

1 We are grateful to Ward Wilson for bringing this quote to our attention.

challenges to existing thinking and practice.[2] Two recent examples of these are the "humanitarian disarmament" approach, symbolized by the process begun in 2013 by the International Conference on the Humanitarian Impact of Nuclear Weapons in Oslo and the experiment of the Open-ended Working Group established by the United Nations General Assembly "to take forward multilateral disarmament negotiations for the achievement and maintenance of a world without nuclear weapons".[3] These and other initiatives are challenging conventional wisdom about nuclear weapons and providing space for new thinking. It is a moment with considerable potential for at last making serious progress towards a nuclear-weapons-free world.

However, setting out a road map to a world without nuclear weapons – one that can command the commitment of the key actors necessary to bring such a world about – requires looking with new eyes at the assumptions, perceptions and interests that have characterized the debate so far. It also requires providing clear, realistic visions of possible futures for a world without nuclear weapons, futures that will inspire such confidence that those currently possessing nuclear weapons will be willing to finally give them up and others will be disabused of any further wish to attain them. Questioning the validity of any role for nuclear weapons in guaranteeing security and demonstrating the existential dangers posed by their possible use is only part of the task. Essential also is new thinking about the requirements for security in a world in which nuclear weapons no longer play a role.

This volume seeks to make a contribution to this latter requirement. It represents the current stage of a longer-term project on Security in a World without Nuclear Weapons of the Geneva Centre for Security Policy, supported by the Federal Department of Foreign Affairs of Switzerland. The project has its origins in the observation that, in the midst of the many past and current debates about nuclear weapons, one aspect relevant to ongoing nuclear disarmament efforts – how security and stability are to be sustained in a world without nuclear weapons – has received relatively little attention.

The project, which began in 2012, set out to examine three conditions perceived as necessary in a post-nuclear-weapons world: the mechanisms required to manage relations among key (including emerging) powers so as to prevent the outbreak of war among them; the establishment of robust international institutions to prevent the outbreak of conflict in general and among the key powers in

2 See, for example, R. Rydell, "Advocacy for Nuclear Disarmament: A Global Revival?", in C.M. Kelleher and J. Reppy (eds), *Getting to Zero*: *The Path to Nuclear Disarmament*, Stanford, Stanford University Press, 2011, p. 31, Table 2.1, Getting to Zero: Some Recent Initiatives.

3 A/RES.67/56.

particular; and ensuring that weapons – conventional or others – are managed so that they do not proliferate both vertically and horizontally and create a dynamic that leads to strategic instability and great-power conflict.

In particular, the following core questions, understood as central to examining the normative and institutional prospects for meeting these conditions in a world without nuclear weapons, have been at the heart of the project so far:

- Can arrangements for security and stability with fewer nuclear weapons be relevant for security and stability without nuclear weapons?
- How might deterrence work in a world without nuclear weapons?
- Assuming that the post-nuclear-weapons world will not be entirely peaceful, what would be the basis for security in such a world?
- What role might conventional and smart weapons play in ensuring security in a world without nuclear weapons?
- Are there historical lessons from the pre-nuclear and nuclear-weapons age that could be applicable to the post-nuclear-weapons age?
- How would security be ensured in a post-nuclear-weapons world: through a balance of power between alliances and partnerships or through cooperative institutions and arrangements?
- What actors and institutions would be responsible for the enforcement of security?
- Would the existing mechanisms for arms control, non-proliferation and disarmament be adequate or would new instruments need to be negotiated?
- Would new institutions need to be established to govern international peace and security or would a reform of existing institutions suffice?

Following a June 2012 expert meeting in Geneva to begin an examination of these questions, a series of working papers were commissioned from experts from around the world able to bring different perspectives – from the North, South, East and West – to the discussion. The authors of these papers and a range of other experts gathered in Glion, Switzerland, in May 2013 for a two-day consultation. The draft papers served as background to the wide-ranging discussions that took place in Glion around the core questions of the project. The authors then revised their papers, which are now published in this volume.

The challenge for all concerned in the project has been to allow thinking to be shaped by what would be required once nuclear weapons are eliminated, rather than starting from the realities of the current political situation. Clearly, one cannot suspend these realities completely in one's thinking, and the present will, of course, shape the future. The path followed to achieve a nuclear-weapons-free world will also to a great extent influence the security arrangements of a post-nuclear-weapons world. Nevertheless, by working from the other end of the

question – not the "if", but the "when" of nuclear-weapons abolition – it should be possible to illuminate certain elements that could either indicate pitfalls or stumbling blocks that must be overcome, or reveal requirements that might have remained hidden or unexamined by an exclusive "starting from where we are" approach. Additionally, the exercise might suggest directions that could actually help to influence or shape the nature of what is required in the short term for positive steps towards nuclear disarmament to be taken.

With this broad agenda in mind, the authors of the deliberately brief chapters in this volume provide much food for thought. While all generally accept the view that the elimination of nuclear weapons is a desirable goal, they differ on the contribution they feel this would make to security and stability, with some feeling that the sheer fact of eliminating nuclear weapons would change for the better the very nature of how we look at power and competition among states, while others are less sanguine about this. Some are more worried than others about the very nature of a nuclear-weapons-free world in terms of the requirements seen as necessary to prevent "breakout" from a global nuclear-weapons-abolition regime. What sorts of moral and cultural transformations will be needed to establish the confidence required for states to finally give up nuclear weapons and agree the necessary institutional mechanisms to manage relations between states without such weapons are speculated on. The chapters reveal differing views on the nature of deterrence and what this concept might mean, if anything, in a post-nuclear-weapons world. The new roles that conventional weapons and their technological development might assume in a post-nuclear-weapons world are speculated on, with differing views about the nature of their contribution to security and stability. While a number of authors see some form of "great-power consortium" as being necessary, a number of views are presented on how different the make-up of "great powers" would look in the future and how this will affect the very nature of international politics. The authors, from their various vantage points, largely share the view that a world without nuclear weapons will require strengthened global institutions for managing conflict; they differ on the degrees to which the future will require a revision or a reinvention of global instruments.

These chapters are speculative – even deliberately provocative – in places. They take their place alongside other current work that is seeking to lay out the agenda for what must be done if we are to move in creative ways beyond the mindsets that have for too long framed how we have looked at nuclear disarmament. A world without nuclear weapons is possible. This volume, it is hoped, will contribute to thinking on what it will take to get there and how such a world will be sustained.

David Atwood and Emily J. Munro

Chapter 1
Stable at Zero

Ward Wilson

Henry Stimson, secretary of war and the man who oversaw the development of nuclear weapons in the United States (US), said that nuclear weapons are "psychological weapons".[1] He was profoundly right, but not in the way he imagined. He imagined that nuclear weapons – because of their enormous power – conferred a unique ability to coerce and deter. But their effect on our minds turns out to have been more general, and less limited to war and threatening.

Nuclear weapons have gotten into our heads. They are like some scary dream that is so real that it slowly begins to affect our perception of the everyday world. We feel nuclear weapons looming over everything. We know we cannot escape them no matter how hard we run. The future seems dark because they distort our view and twist our ideas into odd and confusing shapes. They are indeed psychological weapons and their effect on our minds has been profound.

Most people cannot imagine a future without nuclear weapons or they cannot imagine a safe and stable future without them. A world without nuclear weapons would be dangerous, they imagine, because everyone would naturally be tempted to build such weapons. A world without nuclear weapons would be dangerous because a madman with a nuclear arsenal would be impossible to oppose. A world without nuclear weapons could not restrain warfare and would eventually end with a global conflict like the Second World War.

People say that nuclear weapons cannot be disinvented, that you "can't put the genie back in the bottle". This is a misleading argument because, in fact, no technology is ever disinvented. Technologies do fall out of use, however. But what is fascinating about this analogy is what it reveals about how some people see nuclear weapons, i.e. it is a window onto their psychological state of mind, because in this analogy, nuclear weapons are the genie. Nuclear weapons, in

1 A longer version of this paper was published as a chapter in B.M. Blechman and A.K. Bollfrass (eds), *Elements of a Nuclear Disarmament Treaty*, Washington, DC, Stimson Center, 2010.

other words, are magic. Rub the lamp, wave your nuclear weapons around, and you can get whatever you want.

And it is certainly true that if nuclear weapons are magic, then disarmament is impossible and proliferation is inevitable. Who would be foolish enough not to want magic? And once he/she got magic, who would be foolish enough to give it up? But, of course, nuclear weapons are not magic: they are technology of a certain type with certain characteristics and important limitations that we do not always notice.

... nuclear weapons are not magic: they are technology of a certain type with certain characteristics and important limitations that we do not always notice

Human beings tend to overestimate both the value and danger of new technology. We often have trouble understanding the real usefulness of technology until we have used it in the field for a considerable amount of time. And with each new technological advance we tend to imagine that now everything will be different.

But extravagant predictions about the impact of technology – and particularly its ability to change human behaviour – almost never turn out to be true. Technology rarely transforms human nature, and when it does, it only does so over thousands of years. Even in the most advanced 21st-century cities with the latest technologies and lifestyles, young men still form themselves into ad hoc tribes and indulge in dominance displays, competition for young women and fighting. Street gangs are as old as streets. The fact that today's young men carry iPhones in their back pockets while they fight does not seem to have changed the outlines of the behaviour much. There is no doubt that fire and the wheel changed human behaviour over the long run, but it took thousands of years.

Initial claims for the transformative power of nuclear weapons ("they've changed everything") now seem exaggerated. If it turns out that they are not magical weapons, if it turns out that the reason they have not been used for 70 years is not because their magic is so powerful that none dare take it out of the bottle, but because they are weapons with real and quite severe limitations, then perhaps imagining a future without them is not so difficult.

Practical limitations

And nuclear weapons do have important limitations. Stop and think about it, and it is not so hard to imagine reasons for giving up such weapons. They are extraordinarily clumsy, to begin with. If you want to destroy a target in a city, you have to destroy three-quarters of the city to do it. There are no surgical strikes with nuclear weapons.

Nuclear weapons are also irretrievably messy. They always – no matter how small you build them – leave a trail of poison downwind from the spot where they explode. Drop a nuclear weapon on your enemy's front-line troops and the wind can blow the radiation back on your own troops. Their messiness is underlined by a famous 1976 study done by physicists Frank von Hippel and Sidney Drell in which they tried to envisage a Soviet nuclear attack that was carefully limited to US nuclear forces: missile silos, air bases and submarine bases.[2] The result? An estimated 20 million people would die. Radiation means that no matter how carefully you try to use nuclear weapons, civilians will probably die in large numbers.

The whole trend in warfare seems to reflect these practical considerations. This trend is distinctly away from big weapons and toward smaller, more precise, more intelligent ones. Precision-guided munitions have been used again and again over the last 40 years, while nuclear weapons have remained silent in their silos. The future appears to belong to miniaturized drones that can kill with precision, not weapons that blunderingly kill millions whether they are intended to or not.

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It is worth pointing out that we have only one real data point on which to base our judgements about the political and military impact of nuclear weapons, i.e. there has only been one occasion when these weapons were field tested. Proponents see the bombing of Hiroshima and Nagasaki and the immediate surrender of Japan thereafter as one of the most important reasons to keep nuclear policies undisturbed. Over the last ten years, however, historians have now shown that the bombing had very little to do with Japan's decision to surrender (perhaps nothing).[3] It is sobering to realize that the one data point that we have for judging the impact of nuclear weapons on world events now seems to have been evaluated completely wrongly. We thought nuclear weapons mattered a great deal in the surrender of Japan, but it turns out they had hardly any effect at all.

If nuclear weapons are much less useful militarily than we once thought (because they are so clumsy) and if threats to kill civilians turn out to be less coercive than we once thought (because we were wrong about Hiroshima), then the practical usefulness of nuclear weapons is considerably diminished. If nuclear weapons are less useful than we once thought, if they are clumsy rather than

2 S.D. Drell and F. von Hippel, "Limited Nuclear War", *Scientific American*, Vol. 235(5), November 1976, pp. 27-37.

3 See T. Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, Cambridge, Massachusetts, Belknap Press, 2005; and W. Wilson, *Five Myths about Nuclear Weapons*, New York, Houghton Mifflin Harcourt, 2013.

powerful, what impact does this have on prospects for a world free of nuclear weapons?

A madman with the bomb

The first impact that diminished desirability would have on a nuclear-weapons-free world is that it would make it much less likely that anyone, including a madman, would strive to build nuclear weapons. Rather than being the most powerful, most desirable weapons ever made, nuclear weapons would be regarded as dinosaurs – an evolutionary dead end. Why would you want to put your efforts into extinct technology? But even if a madman decided for some reason to cheat and build a nuclear arsenal, the challenges of getting any workable advantage from such an arsenal are surprisingly many and daunting.

Imagine a world in which a treaty has been signed banning nuclear weapons. Once a madman builds a nuclear arsenal, what happens next? The day after any declaration that a state possesses nuclear weapons or intends to build such an arsenal, every former nuclear power (and possibly some states that were not nuclear powers, but have the capacity to build such weapons) would likely begin all-out efforts to rebuild their nuclear arsenals. And once that process begins, the time before working arsenals are ready for use might be as little as three to six months. How would it be possible to gain any workable advantage during that short time?

Many people assume that a nation with nuclear weapons could make any demand on an unarmed world and be obeyed. But history is littered with examples of states faced with having to choose between possible annihilation and surrendering their way of life that chose to risk annihilation.[4] Hope is a powerful human emotion and threats with nuclear weapons could well be met with defiance and war rather than capitulation.

And opposition might be spurred by a number of practical considerations. Firstly, several states possess intercontinental missiles with the capability to reliably destroy targets on the far side of the world. If the cheater's arsenal were discovered, a disarming first strike by the US, Russia or China with conventionally tipped intercontinental missiles would be a real possibility.

Secondly, a cheater would likely face not one adversary, but several large world powers. In the event of war, how would a cheater handle this situation?

4 The most striking example, of course, is Carthage, but there are any number of ancient examples, as well as the cities in Central Asia (Samarkand, Urganch, Merv, Bokhara, Herat and others) that were given a similar choice by Genghis Khan.

This is a particularly important because it is generally accepted that the chances of building an arsenal of more than 100 nuclear weapons without being caught are very small. But 100 nuclear weapons would hardly be sufficient in a war waged against one world power, much less three or four.[5]

So while the image in our minds of a madman with the bomb may be frightening, the practical reality is considerably less problematic.

Alliances

If a world without nuclear weapons could be achieved, what would it look like? How would it be different? Would new international structures be required? The answer to these questions depends on the nature of nuclear weapons. If they are remarkable and powerful weapons that play a vital role in maintaining international treaties and structures, then of course extensive revisions to current international treaties and institutions will be necessary. But if nuclear weapons are a currency of power that has been inflated by misperception, too clumsy and large to serve any real purpose, then international changes in the wake of a treaty banning them will be less far-reaching.

If nuclear weapons are the reason that Israel has survived for the last 40 years, for example, then a treaty banning them would have a huge impact on that country's safety and security. But if Israel has survived for this period because of its technological prowess, its emphasis on military preparedness and service, and most of all its alliance with the US, then banning nuclear weapons would have relatively little impact.

The structure of alliances and world institutions would not be radically affected by banning nuclear weapons because the influence of such weapons in the world is more apparent than real

In a world free of nuclear weapons small countries would survive in the way that small countries have always survived: by making alliances with more powerful countries and not antagonizing their neighbours. The structure of alliances and world institutions would not be radically affected by banning nuclear weapons because the influence of such weapons in the world is more apparent than real. In a world without nuclear weapons people would not struggle to piece the world

5 In a recent analysis it was calculated that even an arsenal of 75 Hiroshima-sized nuclear weapons would barely be sufficient to handle India's armoured forces alone (not counting regular infantry or other types of units). In a war against a larger adversary or even several, many hundreds of nuclear weapons would likely be needed; see A.H. Nayyar and Z. Mian, "The Limited Military Utility of Pakistan's Battlefield Use of Nuclear Weapons in Response to Large Scale Indian Conventional Attack", Brief No. 61, Pakistan Security Research Unit, Bradford University, November 2010.

together again in the absence of such important military and political assets. More likely they would hardly notice that the weapons were gone.

Inspectors

One substantial change would be to the regime of inspections that monitor nuclear power industries for signs of materials being diverted to build nuclear weapons. Any treaty banning nuclear weapons would require intrusive and stringent nuclear inspections to ensure the early detection of cheating. Setting up such a regime of inspections would not, however, be as Herculean a task as some have argued.[6] Past and present inspection regimes have been difficult to negotiate because nuclear power is so intimately tied to national security. Once this connection is broken, however, there would be little incentive to object to rigorous inspections. Nuclear power plants would cease to be prized assets that are actually or potentially linked to national security and would be more like any other public utility: coal power plants, water filtration plants and the like. What national security implications would arise if United Nations inspectors strictly monitored sewage treatment plants?

Treaties

Advocates of nuclear weapons persistently fear that others lack the courage to choose war when necessary. They often argue that any treaty to eliminate nuclear weapons would have to have ironclad provisions that would force states to go to war in the event of a violation, but that a treaty requiring so much compulsion would prevent states from signing. Without these sorts of provisions, some commentators assert, nations faced with a nuclear-armed adversary would quail and submit. There is little likelihood, however, that this would happen.

There is a human tendency – repeated again and again in history – for coalitions to form to oppose a nation that tries to expand aggressively. There was no formal coalition opposing France at the outset of the Napoleonic Wars, yet when Napoleon's actions made his intentions clear, a coalition that involved almost every nation in Europe eventually came into being. No formal worldwide coalition opposed Hitler's Germany in 1936, yet a coalition including nations in Europe, Latin America, Africa and Asia eventually united against him once they realized the sort of danger he posed. The ancient Greek city-states were notoriously

6 See, for example, G. Perkovich and J.M. Acton, *Abolishing Nuclear Weapons: A Debate*, Washington, DC, Carnegie Endowment for International Peace, 2009.

prone to internecine conflict, but they banded together when threatened with invasion and domination by Persia.

The strongest mechanism opposing a nuclear cheater would not be treaty provisions, but the immediate and inescapable conclusion that the cheater is a threat, an aggressor, "another Hitler". It is not necessary to create an ironclad treaty in order to force nations to oppose a nation that builds nuclear weapons. Any nation that has violated a formal treaty and covertly built weapons of mass destruction would immediately be regarded as an extraordinary threat. The obvious danger would do the work of creating a coalition far more powerfully than any formal document.

It makes sense for a world without nuclear weapons to have treaties that lay out who will do what – that specify and organize behaviour ahead of time. Having a plan in a crisis is sensible preparation. But it is a mistake to imagine that the motivational power behind opposition to a cheater would be a piece of paper. Treaties codify and formalize; they do not motivate. It would not be a sense of obligation to a treaty that would create compliance in the event of nuclear-weapons breakout. A nuclear cheater would naturally face a highly motivated coalition of nations willing to risk much and suffer more to prevent it from achieving its ends.

Conclusion

The value of nuclear weapons was consistently exaggerated in the earliest discussions about them and some of that exaggerated sense of their power still lingers. In a world free of nuclear weapons, potential cheaters would not be as drawn to nuclear weapons as many people fear. The inability of a cheater to control all the former nuclear states during the three to six months it would take to rearm makes the prospect of cheating uninviting. And the substantial arsenal necessary to face a group of adversaries, combined with the fact that such an arsenal would be almost impossible to build without detection, makes the prospect even less appealing.

There is a tendency to find a false sense of stability in the longevity of the current system

Those who warn of the dangers of a world without nuclear weapons sometimes gloss over the dangers of a world stocked with them. There is a tendency to find a false sense of stability in the longevity of the current system. But a long-running balance of terror is still a balance of terror. As various elderly tightrope walkers who have fallen to the deaths have proved, the fact that you have

successfully walked a tightrope every day of your life for the last 40 years does not make walking tightropes inherently safe.

Some institutional changes and revisions to current practices would be necessary in a world free of nuclear weapons. But such a world would not be radically different from the one we live in today – except that we would be living in a world free of misconceptions about nuclear weapons.

Chapter 2
Shifting the Nuclear-weapons Security Paradigm

Robert Green

Introduction

Before agreement is reached on implementing the changes required to achieve a nuclear-weapons-free world, a fundamental shift will have to occur in the status of nuclear weapons.

Currently, the political leadership of the five recognized nuclear-weapons states and permanent members of the United Nations (UN) Security Council (known as the P-5) requires nuclear weapons to be perceived as the pre-eminent currency of power.[1] Underpinning this is a largely unquestioned consensus that nuclear deterrence has prevented major war among members of the P-5 and their allies and provides an indispensable "insurance policy" as the ultimate guarantor of national security in an unpredictable world. This dogma, with its contradictions and fallacies, is now under serious challenge. Also, for the first time, a determined initiative has been recently launched to apply a humanitarian approach to nuclear disarmament.

This chapter briefly critiques the doctrine of nuclear deterrence, then offers some governing principles that the international community will need to uphold in order to achieve a paradigm shift away from reliance on nuclear weapons in security doctrines. Some ideas are also proposed on how to achieve security, prevent cheating and resolve conflict in a nuclear-weapons-free world.

Confronting nuclear deterrence

Acceptance of the "insurance policy" claim is based on the presumption that nuclear deterrence works. However, the historical record shows that nuclear deterrence undermines security, provokes proliferation, creates instability, fosters hostility and mistrust, and flouts the system of international law on which relations

1 A. Harrington de Santana, "Nuclear Weapons as the Currency of Power: Deconstructing the Fetishism of Force", *Nonproliferation Review*, Vol. 16(3), November 2009, <http://cns.miis.edu/npr/pdfs/npr_16-3_harrington_de_santana.pdf>.

among states depend.[2] Even "small", so-called "tactical" nuclear weapons are far too indiscriminately destructive to be militarily usable. Furthermore, operating them exposes military professionals to potential accusations of committing war crimes under the Nürnberg principles.

If deterrence with conventional weapons fails and war breaks out, the damage is confined to the belligerents. This would not be the case with a failure of nuclear deterrence, as was reiterated conclusively at the Oslo conference on the humanitarian impact of nuclear weapons. To illustrate by examining just one aspect: drawing on the latest climate change computer models, analysis of a regional war between India and Pakistan in which 100 Hiroshima-size nuclear weapons were detonated over cities in these two countries shows that the temperature drop from smoke from the resultant firestorms alone would cause global famine.[3]

For these and other reasons, nuclear deterrence amounts to an irresponsible doctrine devised by the nuclear-weapons states to sustain the vested interests of their politico-military-industrial establishments.

Reframing the discourse

Overarching the paradigm shift needed to do away with nuclear weapons will be a reframing of the discourse from an arms control and non-proliferation mindset to a "humanitarian disarmament" standpoint. This process was given impetus in Oslo. The P-5 plus Israel and the Democratic People's Republic of Korea (DPRK) did not send delegations, and the P-5 issued a joint statement explaining that they had boycotted the conference because it "will divert discussion away from practical steps to create conditions for further nuclear weapons reductions" under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) review process. Paradoxically, however, such acting in concert is in effect laying the groundwork for further cooperation and building confidence among the nuclear-weapons states as the shift to the "humanitarian disarmament" standpoint gains traction.

Overarching the paradigm shift needed to do away with nuclear weapons will be a reframing of the discourse from an arms control and non-proliferation mindset to a "humanitarian disarmament" standpoint

2 For example, see G.F. Kennan, "American Policy toward Russia on the Eve of the 1984 Presidential Election", in *At a Century's Ending: Reflections 1982-1995*, New York, Norton, 1996, p. 223; and M. MccGwire, *Nuclear Deterrence*, Canberra Commission Background Papers, 1996, pp. 223 and 236, cited in R. Green, *Security without Nuclear Deterrence,* Christchurch, Astron Media and Disarmament & Security Centre, 2010, pp. 115-118; see <http://www.disarmsecure.org/publications/books.php>.

3 See <http://www.nucleardarkness.org/warconsequences/deadlyclimatechangefromnuclearwar/>.

The Norwegian government's courageous initiative was presented as complementary to the NPT agenda. The conference enabled 127 government delegations – including all 25 non-nuclear North Atlantic Treaty Organization (NATO) member states plus close allies of the United States (US), Australia, Japan and the Republic of Korea (ROK) – to forge a fresh consensus around the unacceptable consequences of nuclear deterrence failure in terms of its economic, health and climatic effects. This attendance by two-thirds of the UN membership reflects these countries' frustration over the dysfunctional Conference on Disarmament and increasingly sterile NPT processes, where the P-5 and others can block any substantive progress by using the need for consensus.

With strongly supportive contributions from the International Committee of the Red Cross, UN agencies and other leading humanitarian institutions, plus a re-energized campaign by civil society, enough political will has been generated by the Oslo conference for the Mexican government to offer to host a follow-up conference in early 2014 to consolidate the humanitarian arguments and continue "dialogue to outlaw and eliminate nuclear weapons".[4] By this is meant the growing interest in a drive among non-nuclear-weapons states for a treaty – similar to existing nuclear-weapons-free zone (NWFZ) treaties – that would outlaw most aspects of nuclear weapons, as a way of persuading the nuclear-weapons states to take seriously their obligation to get rid of their nuclear arsenals and engage in negotiations on a nuclear weapons convention (NWC). The last time the nuclear-weapons states were challenged as strongly was in July 1996, when the International Court of Justice (ICJ) issued its advisory opinion that the threat or use of nuclear weapons would generally be unlawful; but because the advisory opinion was not binding, the nuclear-weapons states tried to evade its implications.[5]

The need to revive good faith

Securing a nuclear-weapons-free world requires a fundamental change in attitude by nuclear-weapons states towards their sovereignty, the rule of international law and the system of governance of the international system, particularly regarding enforcement. Judge Christopher Weeramantry, a former ICJ vice-president and one of the judges when the court gave its 1996 advisory opinion, recently spelt out what is at stake here.[6] Describing the 21st century as the last opportunity

4 See <http://www.converge.org.nz/pma/iCAN-Oslo,5March2013.pdf>.

5 ICJ, *Legality of the Threat or Use of Nuclear Weapons*, advisory opinion of 8 July, UN doc. A/51/218, 1996, <http://www.lcnp.org/wcourt/opinion.htm>.

6 C.G. Weeramantry, *Good Faith: Essential to Nuclear Disarmament and Human Survival,* Nuclear Age Peace Foundation, April 2013, <http://www.wagingpeace.org/articles/pdfs/2013_weeramantry_good_faith.pdf>.

to enforce the obligations of good faith and justice in international affairs, Weeramantry notes that nuclear weapons are so powerful that they "cannot be controlled by physical force but only by the legal requirement of good faith". He concluded that it is "often the sole protection we have against the rule of might". He pointed out that, although the ICJ has no enforcement capability, over 90 per cent of its rulings are obeyed simply because states understand the importance of good faith.

Replacing nuclear deterrence

The overwhelming US conventional military machine, combined with NATO expansion and interventions in Afghanistan and Libya, has revived Russia's deep historical anxieties. Current US deployments of armed drones and ballistic missile defence systems inhibit nuclear disarmament, and have provoked another conventional arms race, initially with Russia, and now with China. Replacing nuclear deterrence by deterrence with conventional military force is no solution. What is needed is reassurance through confidence-building measures. Because of Russia's huge nuclear arsenal, there is a particular priority to provide Moscow with incentives to discard its perceived dependence on its nuclear arsenal for security. Options include immediately standing down US strategic nuclear forces from high alert, repatriating US tactical nuclear weapons from Europe and dismantling them, and encouraging Russia to reciprocate.

Until nuclear arsenals are verifiably eliminated, it will also be important to provide confidence-building measures for non-nuclear-weapons states. Examples include strengthening existing NWFZ treaties, establishing single-state and new NWFZs (initiatives exist for the Arctic, the Middle East, and Central and North-East Asia), and the nuclear-weapons states providing legally binding negative security assurances and agreeing on an interim treaty on the non-use of nuclear weapons.[7]

The role of conventional deterrence

Conventional deterrence begins with diplomatic, economic and legal pressure, backed up if necessary by the graduated deployment of conventional military force. World outrage at any attempt to acquire nuclear weapons in a nuclear-weapons-free world would be so massive – including possible conventional military intervention under UN authorization – that there would be no political, let

7 For a recent resumé, see the working paper submitted by members of the Group of Non-Aligned States Parties to the April 2013 NPT Preparatory Committee meeting, <http://papersmart.unmeetings.org/media/1146961/NPTCONF.2015PC.IIWP.20.pdf>.

alone military, incentive to do so. The need for conventional deterrence should recede as verification arrangements are put in place, entailing widespread confidence-building measures among former nuclear-weapons states, their allies and other non-nuclear-weapons states. For these to succeed, however, the US must be encouraged to reconsider its technology-driven pursuit of military superiority, which is increasingly unaffordable, is irrelevant to the world's security problems and brings only further insecurity.[8]

The need for conventional deterrence should recede as verification arrangements are put in place

Institutional changes

The most important immediate change will be to move beyond the current discriminatory NPT regime. It is hoped that as the nuclear-weapons states negotiate in good faith in compliance with NPT Article VI to get rid of their nuclear arsenals, the NPT's disarmament obligation will be subsumed within those of an NWC, a model text of which has been drafted.[9]

Many of the practical problems identified in achieving verification under the NPT regime, and the associated challenge of irreversibility, will be eased once nuclear-weapons states and their allies accept that ascribing high security value to their nuclear weapons cannot be justified, and that instead such weapons constitute a huge security risk. Indeed, nuclear-weapons states will in effect be cooperating to enhance their own security by rejecting nuclear deterrence. Moreover, it is hoped that the universal stigmatization of nuclear weapons – like chemical and biological weapons, but far worse – will influence military professionals to accept that operating them risks being perceived as state-sponsored nuclear terrorists.

Furthermore, the radically improved security environment in a nuclear-weapons-free world and a more cooperative approach to its governance will expose military alliances as counterproductive to mutual global security. In an increasingly interdependent environment where security problems transcend national borders, national security policies need to change. True security is about meeting human needs and tackling the root causes of conflicts and citizens' insecurity. It is about seeing security as a safety net for all, not a "win/lose" military game.

8 P. Rogers, "An Arms Craze: Drones to Lasers", 2 May 2013, <http://www.opendemocracy.net/paul-rogers/arms-craze-drones-to-lasers>.

9 Disarmament & Security Centre, *Securing Our Survival: The Case for a Nuclear Weapons Convention*, 2007, <http://www.disarmsecure.org/pdfs/securingoursurvival2007.pdf>.

Any call for enforcement of compliance will need to be approved by the UN Security Council. In a nuclear-weapons-free world, the link between permanent Security Council membership and nuclear-weapons possession will have been broken. In the event of a Security Council veto, an option exists for the UN General Assembly to unite for peace.[10] However, the experience of the former nuclear-weapons states having worked together to build enough confidence and trust to dismantle their nuclear arsenals will create a much less hostile security environment, and in so doing encourage urgent Security Council reform.

To escape the current security dilemma created by military alliances, alternative non-provocative, more inclusive regional institutions are available, such as the Organization for Security and Co-operation in Europe (OSCE). One option would be to consider merging NATO into an enlarged and strengthened OSCE, in careful consultation with other regional security initiatives like the European Union (EU) and Shanghai Cooperation Organisation. Such institutions could be used initially to try to resolve disputes within their region; for example, the EU recently mediated the normalization of relations between Serbia and Kosovo. If this failed or was inappropriate, referral to the ICJ could be explored. Again, the less hostile relationships between the former nuclear-weapons states, at least one of which is an interested party in most current territorial disputes, and the demonstration of good faith in the negotiations to eliminate their nuclear arsenals will encourage wider use of such under-utilized arbitration options.

To escape the current security dilemma created by military alliances, alternative non-provocative, more inclusive regional institutions are available

The crisis over DPRK's nuclear programme reveals how the existing North-East Asian–US military alliance and associated extended nuclear deterrence relationship are undermining efforts to defuse serious tensions in the region. An alternative option would be for the current Six-Party Talks framework to be used to start negotiating a North-East Asia cooperative security organization on the lines of the OSCE, and simultaneously trying to establish an associated NWFZ covering the Korean Peninsula and Japan. Central to this should be incentives to conclude a peace treaty, followed by the peaceful reunification of the DPRK and ROK.

In this regard, it should be noted that joint action has clearly worked in the past. For example, members of the South Pacific NWFZ presented joint approaches to challenging French nuclear testing and the legal status of nuclear-weapons threat or use in the ICJ. Also, the Pacific Islands Forum has helped its 16 member states to resolve conflict peacefully in Bougainville and the Solomon Islands.

10 See UN, *UN General Assembly Emergency Sessions*, <http://www.un.org/en/ga/sessions/emergency.shtml>.

Compliance and verification

To achieve compliance, the Model NWC proposes an international agency similar to the Organisation for the Prohibition of Chemical Weapons (OPCW).[11] It would also encompass and expand some of the tasks currently within the mandate of the International Atomic Energy Agency (IAEA). In summary, the agency would function as follows:

- Its principal organ would be a conference of all states parties.
- An executive council would be a standing body elected by the conference that would oversee implementation and operation of the convention and be responsible for decision making on the operation of the treaty. It would also have the power to demand clarification from any state party and recommend action in the case of non-compliance.
- A technical secretariat would carry out the tasks of implementation and verification through various mechanisms, including a registry and an international monitoring system. Sources for such information would include declarations and reports by states; systematic and challenge inspections; information from other agencies, including non-governmental organizations (NGOs); publicly available sources; national technical means; and the international monitoring system.
- Another option would be to establish a standing UN verification body for all weapons of mass destruction a UN agency for monitoring, inspection and verification, that would supplement the existing multilateral verification institutions.[12] It would build on the cooperative model established by the UN Monitoring, Verification and Inspection Commission (UNMOVIC) in Iraq with both the IAEA and OPCW.
- Societal verification has a role in informal treaty-monitoring activities, often detecting elements of non-compliance. However, to avoid what happened to Mordechai Vanunu when he exposed the fact that Israel possessed nuclear weapons in 1986, effective rights for whistleblowers, including protection, are central to any effective monitoring system. NGOs play an increasingly important role, collating information using the Internet, social media networking and commercial sources such as satellite imagery.

11 Disarmament & Security Centre, 2007, pp. 158-177.

12 T. Findlay, *A Standing United Nations WMD Verification Body: Necessary and Feasible*, May 2005, <http://www.vertic.org/media/assets/Interim%20report%20UN%20WMD%20verification%20mechanism%20FINAL%20May%202005.pdf>.

The British nuclear debate: a lesson and opportunity

In 1952 the United Kingdom (UK) became the world's third nuclear-weapons state, driven by the need to preserve its waning great-power status.

Currently a debate is under way about replacing the four Trident-equipped submarines with whatever system the US is prepared to provide to the UK. Amid severe defence budget cuts, the British Army and Royal Air Force see Trident replacement as a financially vulnerable irrelevance at a time when the security focus is on the so-called "war on terror".

US officials have suggested that the UK government consider abandoning replacement, because "either they can be a nuclear power and nothing else, or a real military partner".[13] Trident replacement is an important issue in the referendum on Scottish independence in September 2014, because UK Trident submarines can only be based in Scotland. With public opinion evenly divided and a significant anti-nuclear citizen movement, the final decision on a Trident replacement has been delayed until 2016.

The first anti-nuclear "breakout" by one of the P-5 would be sensational, and would be a powerful catalyst for shifting the paradigm. The UK is the best P-5 candidate to seize this unexpected new world role. In NATO it would wield unprecedented influence – with wide support from non-nuclear-armed members – in leading the drive for a non-nuclear strategy, which must happen if NATO is to maintain its cohesion. It would encourage the French to rethink their more hard-line stance and trigger a serious debate in the US. It would cause heart searching in the former British colonies of India and Pakistan, and would open the way for a major reassessment by Russia and China.

The first anti-nuclear "breakout" by one of the P-5 would be sensational, and would be a powerful catalyst for shifting the paradigm

Among analogous precedents for such a process, the campaign to abolish slavery is illuminating. When this campaign began in Britain in 1785, three of the leading slaving nations were the US, UK and France, whose governments today are the leading guardians of nuclear deterrence. They were outmanoeuvred by a network of committed campaigners who for the first time brought together humanitarian outrage and the law. They mobilized public and political support for their campaign to replace slavery with more humane, lawful and effective

13 R. Oswald, "UK Must Balance Trident Renewal with Ability to Conduct Traditional Military Campaigns", *Global Security Newswire*, 1 May 2013, <http://www.nti.org/gsn/article/uk-renewal-trident-will-impact-ability-conduct-traditional-military-campaigns-us/>.

ways to create wealth. The analogy and its associated paradigm shift are instructive for any attempt to replace nuclear deterrence with more humane, lawful and safer security strategies.

Conclusion

To conclude, nuclear weapons are militarily counterproductive, and nuclear deterrence is an irresponsible, disingenuous doctrine that is implicitly unlawful and not credible. However, whether the "humanitarian disarmament" approach launched in Oslo gains enough traction remains to be seen. Nonetheless, the P-5 should not underestimate this evidence of the depth of frustration with the dysfunctional non-proliferation regime of a large majority of non-nuclear-weapons states, and their consequent determination to seize the initiative by forging ahead with a treaty banning nuclear weapons as a stepping stone towards obliging the nuclear-weapons states to negotiate an NWC. This, together with stigmatizing nuclear weapons and deterrence as a dangerous and divisive obstacle to tackling humanity's current security problems, offers the most promising strategy to accelerate the paradigm shift needed to rid the world of nuclear weapons, while the current British nuclear debate presents an intriguing opportunity for the UK to take a leading role in this process.

Nuclear deterrence needs to be replaced with reassurance, especially of Russia. The US should start by de-alerting its strategic nuclear forces, repatriating its unusable tactical nuclear weapons from Europe and dismantling them, and inviting Russia to respond with similar reciprocal confidence-building measures.

The enormity of the changes that will be required cannot be exaggerated. However, the rewards for success extend far beyond achieving a nuclear-weapons-free world. The hugely challenging process of removing the threat of nuclear catastrophe through security-building incentives for all states will create the levels of trust and cooperative, good-faith global governance needed to tackle the other security threats facing humanity.

Chapter 3
The Cultural Changes Needed for the Abolition of Nuclear Weapons

Monica Herz

Introduction

This chapter is written from the perspective of countries that do not possess nuclear weapons. Therefore, the focus is on international security and mechanisms generated in the context of international society that may move us in the direction of a world without nuclear weapons. It is argued that three different social practices may represent a shift in this direction: the increased relevance of the international humanitarian law (IHL) agenda, the focus on a nuclear governance instead of a non-proliferation regime, and the enhancement of mechanisms that allow for conventional deterrence through the generation of knowledge and trust.

IHL, nuclear governance and conventional deterrence are already vital to an understanding of the world of international politics by actors relevant to this debate such as governments, the staff of international organizations and social movements. These factors constitute trends that may become more or less important and move in different directions. It is argued here that if these social practices move in the direction outlined in this chapter, the conditions for a move towards the abolition of nuclear weapons will be generated.

The chapter is based on the perspective that concepts are part of a cultural reality that is constantly in flux. We are often reminded that several practices and social institutions have been marginalized, relocated, abandoned or prohibited, the most frequently cited example being that of slavery. The cultural trends discussed here can develop as a result of leadership from nuclear or non-nuclear state governments, civil society movements and non-governmental organizations (NGOs), or United Nations (UN) actors, and can occur in various regions, social environments and countries, or in different forms and at different levels of intensity. But whatever their nature, they will influence the prospects for a world without nuclear weapons.

International humanitarian law

The taboo on the use of nuclear weapons[1] has been put forward as an explanation for the absence of nuclear exchanges after the Second World War even when fear of retaliation was not the motive. Nuclear weapons clearly raise difficult moral questions. IHL, on the other hand, allows us to tackle the issue of nuclear weapons from a wider perspective in terms of a set of rules that are increasingly part of our conversation on international relations. IHL is based on principles and rules that are in clear tension with the use of nuclear weapons and its consequences, because they involve concern for military necessity, humanity, distinction and proportionality.

IHL ... allows us to tackle the issue of nuclear weapons from a wider perspective

The International Court of Justice (ICJ) handed down an advisory opinion on 8 July 1996 in the *Legality of the Threat or Use of Nuclear Weapons* case. Although nuclear weapons were not ruled to be illegal, the opinion considered that their use should be governed by IHL, and although it is difficult to imagine the use of nuclear weapons being a proportionate measure of self-defence, the opinion envisioned this possibility.[2] The advisory opinion established that humanitarian principles should apply to the analysis of the legality of the use of nuclear weapons and that the ideas that civilians should be protected in situations of armed conflict, that proportionality should be considered and that discrimination should be possible form part of any debate on nuclear weapons.

IHL is firmly anchored in humanitarianism, which stems from an ethical principle regarding care for strangers[3] and has become part of the current debate on the changing concept of sovereignty, the obligations of states to protect humans and humanitarian interventions. The relevance that IHL, human rights rules and humanitarianism have acquired in the current international scene can be clearly observed in the resolutions of the UN Security Council on disrespect for these rules and on the association between this disrespect and threats to international peace and security. This relevance allows us to propose that a review of the spirit of the 1996 ICJ advisory opinion could move us towards the cultural changes

1 R. Price and N. Tannenwald, "Norms and Deterrence: The Nuclear and Chemical Weapons Taboos", in P.J. Katzenstein (ed.), *The Culture of National Security: Norms and Identity in World Politics*, New York, Columbia University Press, 1996, pp. 114-152.

2 C. Greenwood, "The Advisory Opinion on Nuclear Weapons and the Contribution of the International Court to International Humanitarian Law", *International Review of the Red Cross*, No. 316, 28 February 1997; ICJ, *Legality of the Threat or Use of Nuclear Weapons*, advisory opinion of 8 July, UN doc. A/51/218, 1996, <http://www.lcnp.org/wcourt/opinion.htm>.

3 D. Garcia, *Disarmament Diplomacy and Human Security: Regimes, Norms, and Moral Progress in International Relations*, Abingdon, Routledge, 2011, pp. 77, 31-32.

needed for the abolition of nuclear weapons. IHL, human rights and humanitarianism have become intertwined and have become core concepts of the post-Cold War liberal order and other aspects of international culture. Thus, just as several themes such as international security or development have been dealt with in terms of these concepts, the debate on nuclear weapons should follow the same path.

The UN has a long history of establishing the contradiction between the use of nuclear weapons and IHL, starting most explicitly with the adoption of Resolution 1653 of 1961.[4] In 2010 alone 12 UN General Assembly resolutions dealing mostly with nuclear weapons were adopted that identified humanitarian aims as their goals.[5] There is a rich historical experience on which the current debate on the morality of the use of nuclear weapons can feed and IHL, and its current connection to human rights rules allows us to bring this issue to the international public sphere.

Nuclear governance instead of non-proliferation

Non-proliferation has become a key concept in the post-Cold War period for the most powerful countries in the world. The dismantling of the Soviet Union, the nuclear renaissance, concern regarding the safety of nuclear installations in Third World countries and the threat of terrorism pushed nuclear non-proliferation into the spotlight. The availability of the non-proliferation regime put in place since the 1960s led to a concentration of efforts to boost it. Nevertheless, the legitimacy of this regime is seriously undermined by the lack of movement towards nuclear disarmament, the application of different criteria to states and the fear that non-proliferation might threaten access to technology.

By the end of the 1990s the initial optimism of the first post-Cold War years, when the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was indefinitely extended, had gone and the crisis of the non-proliferation regime became a common theme. In 1998 the nuclear tests of both India and Pakistan took place, challenging the logic of the regime at the same time that the debate on the shift in power relations in the international system was beginning its move towards centre stage. In the same year the United States (US) Senate rejected the Comprehensive Nuclear-Test-Ban Treaty (CTBT), in 1999 the National Missile Defense Act was passed in the US and the Bush administration moved away from investment in multilateral diplomatic efforts. Nuclear states were reconsidering

4 R. Rydell, "The United Nations and a Humanitarian Approach to Nuclear Disarmament", *Nuclear Abolition Forum*, No. 1, 2011, p. 29.

5 Ibid.

the relevance of their nuclear deterrent and expectations that nuclear weapons would become less important were shrinking. Revelations of clandestine procurement networks spreading nuclear technology and the expectation that exports of such technology and equipment would surge worldwide led the nuclear states and their allies to move towards restrictions on exports of nuclear technology and the development of uranium enrichment capacity and facilities (and plutonium reprocessing technologies). Most importantly, the NPT established a clear distinction between two categories of states: nuclear and non-nuclear states – i.e. states that would be negotiating nuclear issues in terms of deterrence and those that would be negotiating such issues in terms of non-proliferation – and this logic forms the basis of the current legitimacy crisis.

After years of profound crisis, the arrival of Barack Obama on the scene brought renewed optimism to the debate on nuclear weapons. His administration was able to redesign its posture by stressing multilateral engagement and denuclearization. This was a significant attempt to confront the lack of legitimacy of the non-proliferation regime, but it has yet to come to fruition. Following his groundbreaking speech in Prague in April 2009, where the US president pledged "America's commitment to seek the peace and security of a world without nuclear weapons", the Obama administration undertook several other initiatives, including signing the new START[6] agreement with Russia, reducing the role of nuclear weapons in the US Nuclear Posture Review, and bringing 47 key governments together for the Nuclear Security Summit held in Washington, DC in April of 2010. But the special US relationship with India in this field, the continuous stress on non-proliferation rather than denuclearization and the wait for a decision on the CTBT did not allow the political environment to change significantly in this area. Basically, we did not move towards a comprehensive nuclear weapons convention and the 2010 NPT Review Conference did not move us towards nuclear disarmament.

The recent debates on emerging powers and global order demand a focus on the disparities between interpretations of the NPT in Washington or London, on the one hand, and capitals in the Global South, on the other

The recent debates on emerging powers and global order demand a focus on the disparities between interpretations of the NPT in Washington or London, on the one hand, and capitals in the Global South, on the other. Growing participation in multilateral debates, more influence in regional organizations, and increased interaction among these countries can be detected when one analyses China, India, Turkey, Indonesia, South Africa, Brazil and others. Despite the stability in

6 Strategic Arms Reduction Treaty.

governance mechanisms that can be observed up to this point in the political rise of new actors – or, to put it another way, in the multipolarization of the international system – tensions are clearly present. These are countries that have not had the same kind of insider role in global institutions as do other middle powers such as Canada and Japan. Moreover, the rising influence these new actors on the world stage exert in the economic sphere does not match their influence in other spheres, particularly regarding security governance. Hard-power asymmetries, the stability of international institutions and the attempts by the current great powers to halt significant changes in global power relations explain the current tensions present in international governance mechanisms. The first obvious victim of the process is the legitimacy of international regimes such as the NPT.

Thus, there is a crucial need to move towards a more comprehensive nuclear order that incorporates the mechanisms developed during the last half century, but has more universal legitimacy. The compromise between non-proliferation and disarmament only adds to the current legitimacy gap. The cultural change that will allow for reasonable governance in this area is a question of institutional design and needs to be dealt with in terms of nuclear governance for the development of peaceful nuclear technology and the avoidance of weaponization. The reference to nuclear governance, in contrast to nuclear non-proliferation, is fundamental. The specificity of the way in which we govern this sphere of international relations needs to be reviewed and the governance of nuclear activities needs be seen in the same way that we see the governance of oceans, space or the Internet. Nuclear governance is here understood as a set of rules, structures and institutions at the global level that guide, regulate, and control activities and interaction in the nuclear field. These rules and institutions should allow for cooperation, conflict resolution and management, and the advance of common interests and values in this sphere. Fissile material production, nuclear testing, the firewall between nuclear technology and weapons, denuclearization processes, environmental issues, transparency building, monitoring activities, and technical assistance must be part of an integrated system of governance in the nuclear field where the UN and the International Atomic Energy Agency play a central role.

... there is a crucial need to move towards a more comprehensive nuclear order that incorporates the mechanisms developed during the last half century, but has more universal legitimacy

... the governance of nuclear activities needs be seen in the same way that we see the governance of oceans, space or the Internet

A new institutional design with a new legitimacy based on the broader concept of nuclear governance will allow for the cultural changes needed to move us

towards the abolition of nuclear weapons. The NPT and bilateral agreements between the Soviet Union and the US maintained a level of stability during the Cold War, and the revival of the non-proliferation mechanisms seemed to be the best option in the post-Cold War period in view of the elements mentioned earlier. However, this option does not answer the questions posed by the changing distribution of power in the international system and the understanding of their new status that emerging powers have and will have in the future.

Knowledge for conventional deterrence

It is a well-established fact that the belief in the security that nuclear deterrence provides has been at the core of the argument against abolishing nuclear weapons and in favour of proliferation. The aim here is not to engage in a debate on the relevance or legitimacy of nuclear deterrence in terms of security or stability. This debate has been ongoing for some time and the most important specialists in the field have been addressing the issue from this perspective.[7] This chapter will instead look at the role of a broader concept of deterrence in a changing cultural environment that may lead us away from a world armed with nuclear weapons. The strategic thinking of governing elites and their faith in the value of nuclear weapons are the central focus. James Doyle[8] makes a strong argument against this faith, and this chapter suggests that we concentrate on the alternatives.

In spite of our conversation on interdependence, globalization and the crisis of the modern territorial state, for the foreseeable future national governing elites will be seeking to control and influence other states through compulsion or deterrence. Thus, in terms of the propositions of this chapter, the intention to deter behaviour that a government finds menacing and dissuade other actors from making choices that seem to pose a security threat has to be considered. Deterrence in terms of Lawrence Freedman's wider definition of the term will continue to be relevant for states: "deterrence is concerned with deliberate attempts to manipulate the behavior of others through conditional threats".[9]

If the logic of deterrence is part of the culture of governing elites on a global scale, we need to tackle this logic in the process of changing the cultural

7 For example, K. Berry et al., *Delegitimizing Nuclear Weapons: Examining the Validity of Nuclear Deterrence,* Monterey, Monterey Institute of International Studies, May 2010; G. Perkovich and J.M. Acton, *Abolishing Nuclear Weapons,* Adelphi Papers, No. 396, London, International Institute for Strategic Studies, 2008.

8 J.E. Doyle, "Why Eliminate Nuclear Weapons?", *Survival*, Vol. 55(1), February-March 2013, pp. 7-34.

9 L. Freedman, *Deterrence*, Cambridge, Polity Press, 2004, p. 7.

environment that is at least permissive of the arguments of nuclear deterrence.[10] The contention of this chapter, therefore, is that conventional deterrence must be at the centre of any debate on eliminating nuclear weapons. This is particularly true as states seek to anticipate aggression, do not seek to be reckless and perceive interference by other governments in their internal affairs as a threat.

Conventional deterrence has, of course, been used more frequently than nuclear deterrence, but received less attention during the Cold War, when nuclear deterrence seemed crucial to American scholars in particular.[11] Moreover, one should remember that this concept is relevant to other fields too, such as criminology.

The debate on deterrence is focused on mechanisms for stability, and efforts have been concentrated on predicting the success or failure of deterrence. Failure leads to war, whereas a peaceful solution to a dispute can be regarded as a deterrence success. It has been well established in the literature on deterrence that a deterrer must have the capability to retaliate if deterrence fails and that the threat of the use of force must be perceived as credible. We are interested here in focusing on this relationship between two actors that consider themselves to be rational.[12] We assume that the cost-benefit calculation is only part of the cognitive process taking place in a relationship between two states, but that it must be considered in this discussion because the prevailing culture on proper state behaviour is based on the assumption of rationality.

Nuclear deterrence theory developed during the Cold War by Western nuclear strategists was geared towards the main goal of preventing war, not winning it. The focus was on the generation of a system of calculations that led to stability. In this case the knowledge requirements are limited and a few survivable weapons can deter the other. The focus was on a retaliatory nuclear capability that could hit significant parts of the population or productive system of the opponent. Elli Lieberman calls our attention to the need to look further into the problem of credibility, pointing out that in the nuclear world, "the credibility problem is less about capability and more about the will of the defender to use his weapons. In

10 It should be clear that this is not a debate on deterrence as a theory. For the treatment of deterrence as a theory, see T.C. Schelling, *Arms and Influence*, New Haven, Yale University Press, 1966; J.J. Mearsheimer, *Conventional Deterrence*, Ithaca, Cornell University Press, 1983; T.V. Paul et al. (eds), *Complex Deterrence: Strategy in the Global World,* Chicago, University of Chicago Press, 2009; P.K. Huth, "Reputations and Deterrence: A Theoretical and Empirical Assessment", *Security Studies*, Vol. 7(1), Autumn 1997, pp. 72-99; R. Jervis et al. (eds), *Psychology and Deterrence*, Baltimore, Johns Hopkins University Press, 1985.

11 On conventional deterrence, see J.J. Mearsheimer, *Conventional Deterrence*, Ithaca, Cornell University Press, 1983; S.P. Huntington, "Conventional Deterrence and Conventional Retaliation in Europe", *International Security,* Vol. 8(3), Winter 1983/84, pp. 32-56; J. Shimshoni, *Israel and Conventional Deterrence: Border Warfare from 1953 to 1970,* Ithaca, Cornell University Press, 1988.

12 The assumption of rationality has, of course, been widely criticized by the literature on deterrence. See, for example, R.N. Lebow and J.G. Stein, "Beyond Deterrence", in R.N. Lebow (ed.), *Coercion, Cooperation, and Ethics in International Relations*, New York, Routledge, 2007, pp. 121-185.

the conventional world, the credibility problem is more about capability and less about the will to use it".[13]

If knowledge of the balance of military forces becomes crucial, the international social space and international institutions in particular may play a role. At this point in history governing elites must have a relatively reliable option of conventional deterrence. The calculus of the balance of capabilities, while extremely difficult, must be tackled by confidence-building measures, the standardization of knowledge and its availability. Furthermore research on this subject must be produced and shared. While Lieberman points out the knowledge requirements for conventional deterrence to be successful, it is proposed that this theme is relevant in order to generate a new cultural environment in which governing elites seeking to deter other actors understand that they can rely on conventional deterrence and thus do not consider nuclear deterrence as an option.

A cooperative approach does not deny that governing elites think in terms of national security and strategies for enhancing their influence. Lieberman refers to a framework of common knowledge, and I would like to propose that this framework is not a national or scientific problem, but an issue for international global governance. A framework of common knowledge can have an effect on risk calculations and thus produce a form of general deterrence, in Patrick Morgan's terms,[14] when an institutionalized perception leads towards a peaceful resolution of conflict. In order to generate this situation, vital interests need to be understood and the balance of capabilities must be established. Thus we are talking here about the role international institutions can play in producing new forms of communication, in line with the relevant role they already perform. The existing experiences in cooperative security in terms of confidence-building measures should be expanded so as to generate a governance mechanism that manages changes in the balance of power. Knowledge on the deployment, development and procurement of weapons; hardware capability strategy; command and control capabilities; and the training and skills levels of military personnel may be considered. The elaboration by governments of reports that are made public, contact between military establishments, and a constant flow of knowledge between national elites is a real experience in several parts of the world such as Europe and Latin America. These

The existing experiences in cooperative security in terms of confidence-building measures should be expanded so as to generate a governance mechanism that manages changes in the balance of power

13 E. Lieberman, *Reconceptualizing Deterrence: Nudging toward Rationality in Middle Eastern Rivalries*, Abingdon, Routledge, 2013, p. 9.

14 P.M. Morgan, *Deterrence*: *A Conceptual Analysis,* Beverly Hills, Sage, 1977.

experiences allow for deterrence to be part of international relations without an incentive for national elites to choose the nuclear option.

Conclusion

The abolition of nuclear weapons is a goal that can be justified on so many different levels, ranging from the danger of their use due to poor decisions, escalation to the use of nuclear weapons during a crisis, mechanical and human error, or malicious acts, to the costs of maintaining the current stock of weapons and prospects for wider proliferation. In particular, weaker states must be convinced that nuclear weapons are not an option to balance against states with superior levels of conventional weapons. At present there is more investment in the debate on abolition than in previous periods and the present contribution seeks to focus on the subjective changes that are necessary if governing elites are to move away from the choice of maintaining or acquiring nuclear weapons. Thus the suggestion put forward here involves cultural changes, but is dependent on political choices and the construction of relevant institutions. The link between humanitarian arguments and the possibility of using nuclear weapons should be addressed. One can highlight the role of the International Committee of the Red Cross, the academic community, NGOs and the UN in creating a vibrant debate on the subject or in producing new juridical decisions. The production of a more universal nuclear governance mechanism better adapted to changing power relations in the international system is crucial and should treat nuclear safety and security in a comprehensive manner by tackling the current legitimacy crisis. Institutions that produce knowledge and debate on conventional weapons deployment, development, and procurement should continue to be created and enhanced, and the connection between the debate on nuclear-weapons abolition and national security policies should be at the centre of the cultural changes discussed in such institutions. Thus, this chapter has presented an eclectic approach for consideration involving morality, governance and rational choices. If the cultural changes discussed here take place simultaneously in close connection with one another, they may reinforce one another as national elites perceive the contradictions between the prevailing international culture and nuclear weapons, understand that the governance mechanisms that organize social life in the nuclear sphere are available and can be trusted, and foresee options that do not include nuclear weapons for administering power relations among states.

Chapter 4

Security in a Nuclear-weapons-free World: Thinking out of the Box

Harald Müller

Introduction: liberation from the deterrence straitjacket

This chapter attempts to break with conventional thinking about a nuclear-weapons-free world. Conventional thinking is still infested with the features of nuclearized strategic orientations. In order to overcome this formidable barrier and think about a non-nuclear world in its own terms rather than in those of the past, the second section maintains that thinking in terms of the deterrence paradigm even in the elegant form of "virtual deterrence" is incompatible with the preconditions of getting to zero. The third section explores the proposition that security in a nuclear-weapons-free world has as a prerequisite a great-power concert as the basis of international order, modelled after the classical 19th-century Concert of Europe and adapted to 21st-century circumstances. The fourth section briefly sketches an enforcement system that has been elaborated at length elsewhere.[1] The fifth section discusses why and how *collective* deterrence against rule breaking must be built using conventional military means only.

A national deterrence strategy: a non-starter for a nuclear-weapons-free world

While disarmament progresses slowly, nuclear deterrence (understood as the central tool of national security policies) remains the default option if security cooperation among the major powers comes to a halt. At the same time the disarmament process is designed to push this fallback position ever more into the background and incrementally eliminate the reasons that keep nuclear deterrence on the agenda, thus making it redundant in the long term. This process is meant to replace nuclear deterrence by cooperative/collective security as the governing security paradigm. Currently, deterrence dominates cooperative secu-

1 H. Müller, "Enforcement of the Rules in a Nuclear Weapon-free World", in C. Hinderstein (ed.), *Cultivating Confidence: Verification, Monitoring, and Enforcement for a World Free of Nuclear Weapons*, Washington, DC, Nuclear Threat Initiative, 2010, pp. 33-66.

rity, but nuclear disarmament as a confidence-building process transforms this relationship. Only in this way can the security mindset prepare for taking the daring step of complete nuclear disarmament.

Even when a reversal of the domination of deterrence has been achieved, it continues to remain a hindrance to disarmament, both mentally and politically. Mentally, the nuclear-security dilemma continues, although at a weaker level: deterrence always means that nuclear war might be unlikely, but a residual probability remains. This implies a residual readiness to ascribe to the (potential) adversary the willingness to provoke or start a nuclear war. Images of the enemy might pale, but this residue sticks.

Politically, the continued existence of nuclear-weapons complexes is highly problematic. Here the vested interest in one's own institutional immortality lives on, and thus the core business of making and maintaining nuclear arms, disguised as patriotic service, continues; i.e. the fertile ground for a nuclear-arms lobby is still there. This influence might weaken, but presents a formidable barrier in the final phase of nuclear disarmament.

What will happen to deterrence in a nuclear-weapons-free world? The mainstream prescription is to maintain it in a virtual mode: in place of physical nuclear arsenals, virtual arsenals – a combination of residual technical-material assets and an organized reconstitution capability – will provide "virtual deterrence". Transitory virtuality is inevitable in the end phase of disarmament when the last weapons and the remaining facilities are being dismantled and the fissile material is transmutated or inserted into the civilian fuel cycle. Yet to see virtual deterrence as the end state of nuclear disarmament and as forming the security structure of the non-nuclear world is incoherent and untenable.

Reconstitution capability is partially technical-physical and partially an issue of blood and flesh, i.e. experts who would re-turn assets into bombs on request. There would be a suborganization in the bureaucracy with the sole mission of preparing for breaching the basic norm of the non-nuclear world. Denouncing nuclear weapons as immoral and inhuman – the normative underpinning of non-nuclearism – would be undercut by the legal and legitimate existence of such bodies. Simultaneously, the nuclear-security dilemma would be perpetuated. Each great power would know that its peers maintain exactly the same apparatus poised for rapid reconstitution. To believe that a world could be stable in which a number of states – not only present nuclear-weapons states, but also others who would try to get on equal footing – are just a few turns of the screw away from having a nuclear arsenal overtaxes the imagination.[2] The final nail in the coffin of

2 T.C. Schelling, "A World without Nuclear Weapons?", *Daedalus*, Vol. 138(4), Fall 2009, pp. 124-129.

virtual deterrence, however, is a simple logical consideration: powers that believe that they need virtual arsenals for their national security would not go to nuclear zero in the first place, because small arsenals that grant second-strike capability would be more reliable and, thus, more stable. The idea of virtual arsenals and the concept of a nuclear-weapons-free world are logically incompatible.

Less obviously, a similar formula might apply to the efforts to replace nuclear deterrence by conventional deterrence among the same actors. Because even small conventional imbalances would weigh much heavier in a nuclear-weapons-free world and because the effects of the bluff of conventional deterrence being called are less predictable than the destruction that would result from a nuclear war, deterrence-minded decision makers would probably stick to small arsenals rather than accept conventional deterrence as a substitute.

Virtual *and* conventional deterrence both miss the basic point about the prerequisites of a nuclear-weapons-free world: the disarmament process would induce a profound change in security structures and thinking about security. All successful arms control and disarmament measures have a confidence-building effect. They would accumulate and turn into an increasing social capital on which the participating actors can draw during temporary setbacks. This is essential for fulfilling a pivotal condition: a nuclear-weapons-free world requires changed mindsets that are liberated from the dominance of deterrence as a security paradigm. "Nuclear-weapons free" does not simply designate a physical fact, but includes cultural and psychological components as well. The best comparison is the disappearance of war expectations among the states of the European Union (EU).

... a nuclear-weapons-free world requires changed mindsets that are liberated from the dominance of deterrence as a security paradigm

Alternative security institutions: cooperative/collective security and a concert of powers

If not deterrence, what? The disarmament process can be understood as a process of turning potential enemies into collaborators. The degree of conflict between the major powers is not zero, but nothing appears to be unmanageable. In thinking through the institutional need to preserve security in a nuclear-weapons-free world, it is useful to pay attention to the process by which de-nuclearization may be brought about. This permits one to assess better opportunities for and possibilities of structural and institutional change than a cerebral experiment that jumps suddenly from today's world to the denuclearized Elysium.

Disarmament progress depends on two prerequisites: firstly, there would be an increasing trust among the nuclear-weapons possessors that none within their group holds malevolent intentions. Secondly, efforts would be made to enhance the capability of the international community to deal with spoilers – either a single case of a nuclear-arms possessor who does not play according to the rules; or a would-be nuclear-weapons state embarking on a nuclear-weapons programme. In either case the process towards abolition can only be continued if the nuclear-weapons state (and non-nuclear-weapons states with, or close to, great-power status) – or all minus one – maintain political unity in effectively confronting the rule breaker and taking determined steps to prevent the disarmament process from being derailed. *In extremis* this might include joint military action.

Such unity will not happen if there is deep conflict among the great powers and/or if they have reason to distrust the good intentions of their peers, i.e. if the great powers are engaged in a competition for power based on the fear that their rivals accept neither their equal status nor their vital security interests. Given that we are probably in the course of a power transition from the transatlantic area to Asia, this risk is particularly high.[3] In such an environment nuclear weapons would probably be seen as vital for protecting national security against bad surprises and probably also as an instrument to bolster strategic positions around the world. It is also obvious that the unity of purpose in dealing with rule breakers could not prevail: the great powers would eagerly search for allies and would-be proliferators might be ideal bridgeheads to use against the geopolitical positions of great-power competitors. By the same token, an attempt by one of them to bring the rule breaker to heel by using force would be counted as a geopolitical gain and would provoke attempts to prevent such action and preserve the integrity of the spoiler.

A great-power concert modelled on the Concert of Europe ... would provide the institutional environment for enabling joint action

A great-power concert modelled on the Concert of Europe, which kept peace among the great powers in Europe for more than a generation after the Napoleonic wars, would provide the institutional environment for enabling joint action.[4] Such a concert relies on relatively simple principles:

- All participating powers recognize each other as equal.
- All renounce military strategies resting on superiority and overwhelming offensive power.

3 R.L. Tammen et al., *Power Transitions: Strategies for the 21st Century*, New York, Chatham House, 2000.

4 C. Holbrad, *The Concert of Europe*, London, Longman, 1970.

- All respect one another's vital interests, including in a secure neighbourhood, and avoid intruding on them.
- All are ready for permanent consultations on issues of common and global concern.
- All agree that the network of consultation is immediately intensified when a crisis looms.
- All reject using force unilaterally.
- None seeks unilateral advantages in crises.
- In contrast to the classical Concert of Europe, all members would have to commit to respecting the integrity of smaller powers that abide by international law. This is essential for dissuading smaller powers from acquiring nuclear weapons.

Concerts of great powers reflect the distribution of power at a given time. Compared to 1944 – the year the United Nations (UN) Charter was negotiated – in the modern world the distribution of power already reflects the population size of states much more closely. The reason for this increasing correlation is the much faster dissemination, and thereby convergence, of productivity gains through technological and organizational change. A concert of, say, ten nations based on the current distribution of power would thus probably reflect that power distribution for a longer time than the UN Security Council did after 1944.[5] Nevertheless, accession rules should allow for a limited number of new members in the future if additional changes in the balance of power and specific political circumstances make such enlargement advisable.

It is essential that the first steps in the narrower field of nuclear disarmament are synchronized with great powers' moving towards political *concertation*

It is essential that the first steps in the narrower field of nuclear disarmament are synchronized with great powers' moving towards *political* concertation. Since it is unlikely that this could be done through the UN Security Council alone – because of the intrinsic difficulties inherent in bringing its membership up to date – increasing the membership of the G-8, at least by China and India, and maybe later by others (Brazil, Indonesia); making its consultation process more permanent; and enlarging the agenda could be a way to proceed. The concert would thus be an informal body meant to provide the framework within which the great powers could smooth out their major differences, work towards common strategic perspectives and quietly

5 If we go for the ten states with the largest gross national product and take the EU as a whole rather than in terms of its parts, there would be remarkably few deviations from the "population hierarchy" (Nigeria, Pakistan, Bangladesh and Ethiopia would probably be cut out by countries with smaller populations, but not significantly so).

discuss specific security problems before they move into the more formal – and thus more constrained – decision-making forum of the UN Security Council.

Concerted enforcement: a layered approach

Dealing with cases of non-compliance in a world free of nuclear weapons requires, in the first place, reliable forensics based on a comprehensive and tight verification system. The current International Atomic Energy Agency (IAEA) methods to verify the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) must be tightened considerably for this purpose. Notably, states that had possessed nuclear weapons would have to submit to particularly intrusive procedures as their know-how would – for one or two generations – considerably shorten the way back to nuclear weapons compared to states lacking this expertise. It can be expected that a strengthened system, plus national efforts to gain relevant information, would make it unlikely that preparation of a breakout would go undetected, and cheating would thus be a risky proposition.

It can be expected that a strengthened system ... would make it unlikely that preparation of a breakout would go undetected

The IAEA or a new verification organisation – with enhanced authority and additional (nuclear-weapons-related) expertise – would have to be established as the *single authority* to determine non-compliance and its gravity. In the process of disarmament, multilateral verification would have to be phased in to supervise the process of reducing arsenals, dismantling nuclear weapons and their sites of production and maintenance, and disposing of the conventional and nuclear parts of the warheads. The related capabilities might be originally provided by the nuclear-weapons states themselves in a system of mutual verification, but might be transferred later to a multilateral agency, most aptly transformed into a new department of the verification agency. National intelligence agencies might supply useful information, but their competence to assess non-compliance reliably and trustworthy has been destroyed forever by the lead-up to the 2003 Iraq war.

Past experience demands that one ask how we can devise a procedure that would contain a reasonable expectation that breaching the rules would trigger counteraction

Past experience demands that one ask how we can devise a procedure that would contain a reasonable expectation that breaching the rules would trigger counteraction. This chapter proposes a combination of existing UN mechanisms – UN Security Council resolutions under Chapter VII and the UN General Assembly's procedure "Uniting for Peace" in case the perpetrator is one of the five permanent

members of the Security Council (P-5), plus an enabling mechanism that would authorize national action as long as the Security Council has not acted decisively.

The Security Council would be blocked if a P-5 state were to cast its veto either because it was the rule breaker itself or because it wanted to protect a client. Either scenario looks rather unlikely. Such a state would either have gone through the trouble of cheating on dismantlement with the high risk of being caught in action or started a new nuclear-weapons programme on the ruins of the old one – but why would it have gone to nuclear zero in the first place? It would have to face the wrath of its peers and the better part of the whole world for the uncertain objective of achieving a small arsenal before pre-emptive action occurs – an enormous gamble with a high likelihood of ending in political and military disaster. As for protecting a client (a common feature today), it should be noted that a smaller state going nuclear would damage not only the security and status interests of other powers, but those of its protector as well. In addition, the latter would feel considerable anger for being exposed as a sucker by the duplicity of the client and for having lost face across the globe. These bad feelings might be strong enough to destroy the special relationship between client and protector, and to drive the latter towards siding reliably with its peers' concerted policy against the rule breaker.

This consideration is very important and adds to the arguments against virtual deterrence: eliminating the option to fall back on nuclear deterrence in response to cheating by maximizing the length of the fuse between the decision to re-go nuclear and the achievement of an actual capability changes the constellation of national security interests for the great powers. The fallback option made possible gains over a rival through a nuclearized client a strategic consideration. Facing an (ex-)client with a nuclear monopoly – however transient – is a completely different matter. This prospect, it would appear, would pull great-power interests together rather than driving them apart and make a joint response more likely than in today's world. The great powers should issue a joint declaration before they take the last step to nuclear zero: they should declare that the UN Security Council would act promptly under Chapter VII and that each one of them would regard nuclear cheating as a threat to its national security under Article 51 of the UN Charter. This would establish credibility and provide a powerful deterrent.

Finally, it might make sense to insert in the nuclear weapons convention a clause authorizing states to act preventatively under Article 51 once the verification agency determines that a rule breaker is, say, no more than 100 days away from a operational nuclear weapon, unless the UN Security Council takes action. This enhances the risks for rule breaking and puts pressure on the Security Council to reach agreement lest it be devalued by this licence for self-defence.

Collective security by conventional deterrence

It has been argued above that deterrence based on permanent virtual capabilities would be incompatible with the mindset needed to sustain a nuclear-weapons-free world. This proposition implies that deterrence has to be based on conventional means. Moreover, the objective of deterrence would have to change. Rather than the basic means to provide *national* security, it would be *collective* deterrence against upsetting the nuclear-weapons-free world: deterrence would thus change from an instrument of *national* security into a tool of *collective* security.

... deterrence would thus change from an instrument of national *security into a tool of* collective *security*

As elaborated, for the abolition project to succeed the relationship among the great powers must change toward a form of cooperative security. This change into a concert-like setting is at the same time an enabling condition for a collective security arrangement that would have a good chance of containing the consequences of – or even terminating – local wars while guarding the basic rule of the nuclear-weapons-free world far more efficiently than is presently the case for the rules of the NPT. The concert norms require that great powers respect one another's vital interest. It is unlikely that minor powers would dare to trespass on the borders of what is tolerable for the great powers when the hope of playing them off against one another are dim. If the great powers, in turn, observe a good neighbourhood policy towards smaller states in their regions (which has not always been the case), drop territorial demands or submit them to arbitration or adjudication, and abstain from unilateral interventions far from their own shores, relying instead on UN Security Council-mandated operations (without attempts to change arbitrarily the mandate during operations), prospects for great-power–minor-power confrontations are reduced, and hence also the motivation of minor powers to strive for nuclear weapons.

In this situation, focusing international action on preventing emerging nuclear-weapons programmes can be handled by conventional means. Even hardened targets are no insuperable problem. The combination of heavy conventional munitions, high precision, and the extreme sensitivity of precision industrial processes in the production of weapons-grade fissile material might suffice to do lasting damage to an ongoing nuclear programme (e.g. centrifuges must run in a clean environment. If a blast were to shatter a hardened structure enough to create dust in the centrifuge factory, running centrifuges might break down and the environment might not be redeemable for its erstwhile mission).

As a utopian afterthought, it might even be considered whether the international community could agree on an arms control arrangement that would provide groups of states, but no single state, with the necessary capability to conduct this

sort of attack. Enforcement could be effective only in a division-of-labour-shaped operation. In this context, a coordinated or collective missile-defence system might add to common security, while opting for a national missile-defence system would destroy it. Whether the mutual confidence built up in the process that leads to nuclear zero will grow strong enough to support such an arrangement is a matter for speculation and is impossible to assess today.

Conclusion

Much of what is discussed today about the prospects of nuclear disarmament, notably the daring attempts to imagine the constellations of a nuclear-weapons-free world, still occurs beneath the mental overlay of nuclearized thinking. A nuclear-weapons-free world, however, requires thinking "out of the box" formed by this overlay. This logical contradiction cannot lead to sensible results. This chapter has tried to think out of the box. It envisages three parallel processes that move us in the direction of a nuclear-weapons-free world: firstly, changing the narrative about the utility of nuclear weapons; secondly, changing the security paradigm in a way that transforms the present nuclear rival and potential enemy into a cooperative security partner; and, thirdly, building cooperative institutions. At which point of these three-pronged processes actors have matured to move towards nuclear zero cannot be determined precisely today (although this does not prevent us from setting a target date if we deem it useful).

Much of what is discussed today about the prospects of nuclear disarmament ... still occurs beneath the mental overlay of nuclearized thinking

Some of the reasoning of this chapter might strike the reader as alien. But seen from the vantage point of the second decade of the 21st century, the (highly desirable) revolution in international affairs that must precede the establishment of a nuclear-weapons-free world *is* pretty alien. If this chapter helps readers to become alienated from present nuclear thinking, it will have been worth the effort.

Chapter 5
A Nuclear-weapons-free World: Beyond Deterrence

Andrei Zagorski

Introduction

Should the vision of a nuclear-weapons-free world materialize, it will take a considerable time to do so. The road map towards this goal would include a series of interim steps that need to be taken before the conditions for the abolition of nuclear weapons are in place. These would include further steps towards reducing existing stockpiles of nuclear weapons by the United States (US) and Russia, which still possess more than 90 per cent of these weapons. At some point, other nuclear weapons would have to become part of this process in order to demonstrate nuclear-weapons states' commitment to Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Continuous nuclear disarmament remains essential for convincing non-nuclear-weapons states to agree to the strengthening of existing non-proliferation regimes. At the same time, effective non-proliferation measures will become essential in order to encourage the further reduction of the arsenals of nuclear-weapons states.

Abandoning nuclear weapons may require that the great powers transcend the need for mutual deterrence rather than seeking to replace it by a different deterrent capability

In the longer term, any move towards a nuclear-weapons-free world would require a profound transformation of political relations among those great powers that continue to see a value in maintaining mutual nuclear deterrence. Abandoning nuclear weapons may require that the great powers transcend the need for mutual deterrence rather than seeking to replace it by a different deterrent capability. They would also have to see no reason to justify the maintenance of even a reduced nuclear capability in order to deter other threats emanating from their neighbourhood, including those related to the proliferation of weapons of mass destruction and the means of their delivery.

The move towards a world free of nuclear weapons would require the development of a security environment in various parts of the world that would generate no strong incentives for potential proliferators to seek to acquire nuclear weapons.

In other words, the world would have to change profoundly in order to make progress towards a nuclear-weapons-free world possible. As Alexey Arbatov has observed, at some point a nuclear-weapons-free world will not become possible through simply removing these weapons. The world itself would have to change fundamentally to become "a community of states organized on distinct principles, in which the security of all nations is ensured, regardless of how big or economically or militarily strong they are".[1]

This chapter does not address all the issues involved in the discussion of the conditions needed to totally abandon nuclear weapons, but concentrates on the incentives that might encourage the great powers that possess nuclear weapons to embrace the vision of a nuclear-weapons-free world.

Moving beyond nuclear deterrence

It seems to be a plausible proposition that nuclear weapons may become unnecessary for deterrence purposes if they are replaced by other, non-nuclear means that are considered by the great powers to be sufficient to deter any attack on them. However, this proposition is misleading for several reasons.

Firstly, despite the recent and anticipated progress in developing advanced weapons technologies, the deterrent effect of nuclear weapons is considered by many to remain unique[2] and is not expected to be matched by advanced non-nuclear weapons systems. Although the latter are considered to potentially have the capability to perform military missions close to those that used to be assigned to nuclear weapons, this argument relates to various war-fighting missions, but not to the deterrence provided by the threat of the use, even if in a limited way, of nuclear weapons.

This is not to say that nuclear deterrence was or is a perfect instrument that has prevented the great powers from going to war with each other over the past decades. The argument that nuclear deterrence has saved the world from a Third World War is rightly confronted with the counterargument that numerous nuclear crises and incidents have revealed how dangerous nuclear deterrence is because it entails the possibility of an actual use of nuclear weapons. However, as long as

1 A. Arbatov, *Uravnenie bezopasnosti (The Security Equation)*, Moscow, Jabloko, 2010, p. 236 (present author's translation).

2 See, for example, B. Tertrais, "Going to Zero: A Sceptical French Position", in R. van Riet (ed.), *Nuclear Abolition Forum: Moving beyond Nuclear Deterrence to a Nuclear Weapons Free World*, No. 2, 2013, pp. 13-15.

at least some great powers find themselves – or believe that they find themselves – in a security dilemma in terms of their mutual relations, they are most likely to rely on nuclear weapons for the purposes of mutual deterrence.

At the same time, it is important to note that not all the great powers see the need to deter each other. Deterrence (nuclear or otherwise) is not an issue in relations among the US, the United Kingdom and France. This observation allows one to conclude that the development of a genuine security community (see below) that would resolve the security dilemma inherent in relations among the great powers could be an effective means of removing the need to maintain a mutual nuclear deterrence capability.

If this conclusion is correct, it would imply that for the great powers to abandon mutual nuclear deterrence, it would require progress towards developing a security community rather than identifying non-nuclear means that would adequately replace their nuclear capabilities. Otherwise, in a world in which the US retains and is even increasing its overwhelming superiority in advanced non-nuclear-weapons technologies, at least some great powers may see no alternative to nuclear deterrence unless the US decides to abandon this technological superiority. A catalogue of measures perceived as necessary to create the prerequisites for more radical reductions of nuclear arms formulated, for instance, by the Russian Federation[3] clearly indicate that meeting these criteria could easily become a mission impossible.

Secondly, the defence doctrines of at least some great powers give nuclear weapons a role in deterring not simply a nuclear attack or nuclear escalation of a conventional conflict, but also in dealing with other threats,[4] such as deterring or terminating a conventional attack that exceeds these countries' conventional defence capabilities.[5] Not by coincidence, it is exactly those countries that maintain such doctrines – with France and Russia being good examples – that remain most sceptical regarding deeper cuts in their nuclear arsenals, not to speak of embracing the concept of a nuclear-weapons-free world.

The issue of alleviating existing and potential non-nuclear security threats that continue to justify the maintenance of nuclear deterrence as a defence strategy will also need to be appropriately addressed in order to meet the concerns of the relevant great powers. But it remains beyond the scope of this chapter.

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3 See the backgrounder by the Russian Ministry of Foreign Affairs of 20 October 2010, <http://www.mid.ru/ns-dvbr.nsf/8329e2a2d0f85bdd43256a1700419682/77e35c66f48bc072c32577c200342596?OpenDocument>.

4 Tertrais, 2013, pp. 14-15.

5 A. Zagorski, *Russia's Tactical Nuclear Weapons: Posture, Politics and Arms Control*, Hamburg, Institut für Friedensforschung und Sicherheitspolitik, February 2011, pp. 23-25.

Alternative ways of dealing with the security dilemma

Past experiences in seeking to deal with the security dilemma have been mostly disappointing. The politics of the balance of power as practised since the 18th century, establishing concerts of great powers and relying on their concerted action to maintain security as practised after the Napoleonic wars, or institutionalizing collective security in the League of Nations after the First World War or the United Nations (UN) after the Second World War have fallen short of effectively preserving international peace and security and enforcing the norms on which they were based. This conclusion appears true despite the fact there have been periods in history when the functioning of a particular governance institution was believed to justify the enthusiasm with which it was viewed.

Collective security institutions have never fully lived up to their core promise: that of enforcing peace by collective action. This is true of both the League of Nations and the UN. The cases when peace enforcement measures were promptly and effectively taken are extremely rare and are much less numerous than those when no bold action was taken. With the exception of a very few cases, the effective enforcement of the rules that had been established remained the weakest point of most security arrangements in history, including collective security arrangements.

It would probably be fair to state that it would be extremely difficult to move beyond nuclear deterrence unless the prevailing reliance of states, and particularly of the great powers, on individual and collective defence is transcended

This largely made nations predominantly rely on their right to individual or collective self-defence as enshrined in Article 51 of the UN Charter, which gave them even greater freedom of action than the relevant provisions of the Statute of the League of Nations. The politics of nuclear deterrence are rooted precisely in Article 51. It would probably be fair to state that it would be extremely difficult to move beyond nuclear deterrence unless the prevailing reliance of states, and particularly of the great powers, on individual and collective defence is transcended.

Against the background of scepticism regarding collective security arrangements, it is important to note that the concept of collective security is not necessarily wrong per se. It is worthwhile exploring what particular deficiencies made it impossible for this concept to function appropriately or reduced its efficiency. All collective security organizations have largely incorporated the notion of a concert of major powers that was inherited from the 19th century. This manifested itself primarily in endowing the great powers – i.e. the permanent members of the UN Security Council (or of the Council of the League of Nations) – with

special rights while simultaneously exempting them from the collective peace enforcement mechanism requiring their consent. As a result, collective security did not work appropriately whenever it was hostage to great-power consensus and whenever the great powers were exempted from the pressures such a system was supposed to generate.

The end of the Cold War gave rise to a different concept – that of cooperative security.[6] This suggested a shift in defence and security policy towards greater emphasis on multilateralism in order to transcend unilateral or alliance-based action that would not exclude coercion or the enforcement of specific policy goals. The system of cooperative security does not stop at encouraging confidence building and arms control, but seeks to expand cooperation to other relevant areas.

The concept of a security community[7] represents an exception among generally disappointing attempts to find other ways of reducing the security dilemma present in relations among nations. However, it remains an open question as to what extent this concept can be extended to include all the great powers, since it presumes the existence of a community of (democratic) values. Nevertheless, it is worth exploring whether the increasing political convergence and mutual socialization of the great powers can produce affects similar to those of a security community.

... it is worth exploring whether the increasing political convergence and mutual socialization of the great powers can produce affects similar to those of a security community

Managing nuclear proliferation

There is a complex and very close reciprocal link between substantial progress in nuclear disarmament and substantial progress in strengthening nuclear non-proliferation regimes. The reluctance of non-nuclear-weapons states to accept wide-ranging measures strengthening non-proliferation regimes unless nuclear weapons states substantiate their commitment to Article VI of the NPT by bold steps towards nuclear disarmament is apparently an important inspiration for the debate over the rationale for the abolition of nuclear weapons.[8]

6 A.B. Carter et al., *A New Concept of Cooperative Security*, Washington, DC, Brookings Institution, 1992.

7 K.W. Deutsch et al., *Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience*, Princeton, Princeton University Press, 1957; E. Adler and M. Barnett, *Security Communities*, Cambridge, Cambridge University Press, 1998.

8 G.P. Shultz et al., "A World Free of Nuclear Weapons", *The Wall Street Journal*, 4 January 2007; G.P. Shultz et al., "Toward a Nuclear-free World", *The Wall Street Journa*l, 15 January 2008.

At the same time, it is highly improbable that nuclear-weapons states would be prepared to go to zero unless effective measures are taken to make the acquisition of nuclear weapons by other nations impossible. Therefore, the pace of further reductions of existing nuclear weapons must be such that it encourages substantial progress in strengthening non-proliferation policies.

Over the past decade and a half the ongoing discussions have helped to consolidate the catalogue of measures that would significantly tighten the existing non-proliferation regimes, although some proposed measures still remain controversial. Apart from addressing two outstanding proliferation cases (the Democratic People's Republic of Korea and Iran), the main building blocks of such steps include the following.

... nuclear proliferation should be made illegal. Since the NPT is almost a universal treaty ... the most effective way of achieving this goal would be to abolish the option for parties to the NPT to withdraw from the treaty

Firstly, nuclear proliferation should be made illegal. Since the NPT is almost a universal treaty – only four countries are currently not parties to it – the most effective way of achieving this goal would be to abolish the option for parties to the NPT to withdraw from the treaty. This could eventually be achieved by a legally binding resolution of the UN Security Council. However, in order to ensure the widest possible support for this measure, the most appropriate way of addressing the issue would be to develop a consensus of the parties to the NPT in order to take such a decision at an NPT review conference, which is held every five years.

Secondly, only three countries have never joined the NPT and thus never promised not to acquire nuclear weapons (Israel, India and Pakistan). The Democratic People's Republic of Korea represents a special case since it was party to the NPT, but withdrew from it as soon as it was ready to test a nuclear device. This case should therefore be treated separately. Otherwise, the few countries that have never committed themselves not to acquire nuclear weapons and thus have largely remained outside the relevant non-proliferation regime should be integrated into the relevant arrangements, even if their accession to the NPT as nuclear states is considered legally problematic due to the treaty's definition of what constitutes a nuclear-weapons state.

Thirdly, the International Atomic Energy Agency (IAEA) has a unique mission to provide the international community with guarantees that any nuclear programmes of non-nuclear-weapons states are not being and cannot be abused for military purposes. This would require further expanding the IAEA's mandate and powers.

In particular, this would require that not only all declared nuclear facilities are included into the IAEA safeguards agreements, but also that the thus-far optional Additional protocol on IAEA safeguards, which empowers the agency to inspect all facilities, including those not declared, is made mandatory. In order to keep the balance, IAEA safeguards should be extended to all the non-military nuclear facilities of the nuclear-weapons states.

Fourthly, in order to live up to the NPT's promise that non-proliferation should not provide an obstacle to the peaceful use of atomic energy, the IAEA would play an important role in providing for a multilateral nuclear fuel cycle, thus denationalizing its most sensitive elements, such as uranium enrichment or spent-fuel reprocessing, while simultaneously keeping the benefits of the peaceful use of atomic energy accessible to interested states.

... there is no need yet to establish new institutions to deal with the relevant issues of international peace and security, and specifically those of nuclear non-proliferation

Fifthly, the production of weapons-grade fissile material should be made illegal by concluding the Fissile Material Cut-off Treaty currently under consideration by the Conference on Disarmament in Geneva.

Sixthly, improving nuclear safety standards, monitoring adherence to these standards and providing international assistance to individual states in order to help them to comply with the relevant standards would also be an important part of the IAEA mandate.

Seventhly, the role of the Nuclear Suppliers Group in preventing the military use of dual-use items and technologies by third countries needs to be revitalized in order to increase its efficiency and the level of cooperation among its member states.

Institutions and frameworks

While for some time to come the reduction of existing arsenals of nuclear weapons will remain at the discretion of the nuclear-weapons states, there is no need yet to establish new institutions to deal with the relevant issues of international peace and security, and specifically those of nuclear non-proliferation.

The UN Security Council will remain the key institution with the exclusive prerogative to maintain international peace and security under Chapter VI and particularly Chapter VII of the UN Charter. At the same time, regional security organizations and arrangements are most likely to play an increasing role in providing security services and particularly in building security communities

wherever appropriate. There might be a need to revisit the relatively vague provisions of Chapter VIII of the UN Charter delineating the competencies of and division of labour between the Security Council and regional security institutions.

... the main emphasis would need to be put on facilitating political consensus within the relevant specialized institutions and frameworks

Otherwise, the main emphasis would need to be put on facilitating political consensus within the relevant specialized institutions and frameworks, such as the NPT review conferences and related non-proliferation regimes, as well as on empowering international organizations, such as in particular the IAEA, to set and improve the relevant international standards, monitor the compliance of individual states, and assist these states to implement the relevant provisions of existing international regimes.

Special emphasis could be put on exploring the merits of the cooperative security concept in raising awareness and promoting particularly nuclear safety standards in the wider international community.

Conclusion

The gradual move towards a nuclear-weapons-free world will require the identification of a proper balance of interest between nuclear-weapons and non-nuclear-weapons states in order to allow nuclear disarmament and the strengthening of non-proliferation regimes to proceed hand in hand and mutually reinforce each other. A nuclear-weapons-free world would not only be a world in which the existing nuclear-weapons states have abolished such weapons, but also one in which the acquisition of nuclear weapons by any state is made impossible. How such a balance can be achieved is not currently self-evident. It will take another convincing nuclear disarmament effort by the US and Russia and a demonstration of a clear commitment by other nuclear-weapons states in order to break the deep mistrust with which some non-nuclear parties to the NPT view the major nuclear-weapons states.

The great powers have yet to overcome their conservatism regarding the maintenance of nuclear deterrence doctrines and find a comprehensive balance that assures them that nuclear disarmament would benefit their interest more than the continued modernization of nuclear arms. This is simply not going to happen through the elaboration of an optimal sequence of steps towards nuclear disarmament, but will require a multitrack process, which includes a profound transformation primarily of political relations among the great powers.

(1) The issue at stake is not that of replacing nuclear deterrence by other, less dangerous means of deterrence but, rather, that of transcending deterrence

and making it unnecessary by promoting political convergence among the great powers.

(2) This would require the significant strengthening of multilateralism in different forms, in order to improve communication, political convergence, mutual socialization and cooperation among the great powers.

(3) Whenever the concept of a concert of great powers is considered, a situation should be avoided whereby the great powers maintain the same exceptional standing in the new world order that they have had in previous ones. It is particularly their exemption from otherwise-universal procedures – as manifested in their veto power in the UN Security Council – that should gradually be weakened and abandoned.

(4) The gradual strengthening of multilateralism when addressing security issues is an important avenue for the purpose of both subjecting the great powers to common rules and of increasingly reducing their reliance on the right to individual and collective self-defence.

(5) The first important step in this direction could be that of enhancing the role and expanding the powers of the relevant existing multilateral institutions, such as the IAEA, in terms of setting mandatory standards and monitoring and providing assistance to the implementation of these standards by individual states.

The most probable way of addressing these issues would be that of moving ahead on a step-by-step basis and identifying at each stage the steps that would be both politically feasible and sufficiently bold to generate a momentum for further and more radical steps to subsequently be taken.

Chapter 6

Major-power Cooperation: A Prerequisite for Security in a World without Nuclear Weapons

Wu Chunsi

Introduction

Since nuclear weapons were born and showed their huge capacity for large-scale destruction, people have gradually accepted the reality of living with such weapons and have even created theories proving that they help to maintain peace, stability and security. This kind of mindset blocks the capacity to imagine a world without nuclear weapons and to some degree is the reason that the process of nuclear disarmament moves so slowly.

After the end of the Cold War, however, the necessity of containing nuclear-weapons proliferation became even more urgent, because with the loosening of bipolar control, military nuclear programmes proliferated at a speed that disturbed many realists who advocated nuclear deterrence during the Cold War[1] and there is currently an increasing risk that terrorists will gain access to nuclear weapons. This new reality has made some realists change their mind on the issue of nuclear deterrence.[2] The need to think about security issues in a world without nuclear weapons has become a necessity for national security and is no longer an issue involving merely empty talk from idealists. It is from this point that people are beginning to think about the elements needed to ensure security in a world without nuclear weapons.

Using insights from history, this chapter argues that cooperation among the major powers would be a key element in realizing and maintaining post-nuclear-weapons security. The major powers would have to recognize their responsibilities and readjust their relations to the requirements of the new age

1 Kenneth Waltz's famous argument stating "the more nuclear weapons the better" actually has some preconditions, for example, a bipolar international structure, the gradual spread of nuclear weapons, the acceptance of a "nuclear culture", etc. See K.N. Waltz, *The Spread of Nuclear Weapons: More May Be Better,* Adelphi Papers, No. 171, London, International Institute for Strategic Studies, 1981.

2 G.P. Shultz et al., "Deterrence in the Age of Nuclear Proliferation", *The Wall Street Journal*, 7 March 2011.

so that more effective mechanisms to maintain global peace and stability could become a reality.

Relevant pre-nuclear-weapons history

When thinking about security in a world without nuclear weapons, it is natural to attempt to learn from the period in history when no such weapons existed, i.e. the pre-nuclear age. An immediate question becomes: Can the experiences of the pre-nuclear age be applied to the post-nuclear-weapons age? The answer is that the basic features of the world system do not change. These features include the following: firstly, the world is still anarchic[3] and would remain so. A world without nuclear weapons would not necessarily mean that a world government would be in charge of world affairs. Various entities, including countries, would still have to struggle for peace and stability, although the paths they followed and methods they employed might not be same. Secondly, states would remain the major actors in world affairs, although currently non-state elements play larger roles and their influence on world affairs will further increase in the future, with the power to do so provided by science and technology in the Information Age. Thirdly, countries would continue to compete for security, greater influence and primacy, although the development of globalization is currently making them more dependent on one another.

Therefore, the abolition of nuclear weapons would not automatically move the world into a post-Westphalian system. The major powers would stay at the centre of world affairs. Interdependence among them is currently increasing, but whether this will prevent them from becoming involved in armed conflicts or wars is another matter. Obviously, uncertainties would continue to exist, and how to manage relations among the major powers is a question that would have to be revisited in a world without nuclear weapons.

Moving beyond the balance of power

While the nature of the international system would not totally change, a world free from nuclear weapons would of necessity have some new and more advantageous features; otherwise countries would not agree to give up these weapons. Therefore, the discussion of major-power relations in the post-nuclear age should

3 Anarchy is a basic assumption of contemporary international relations theory. This refers to the world system existing without a world government. States are the major players of the system, although non-state actors are becoming more active. The actors influence each other and compose the world system, but they are not supervised by a higher level of government. Therefore, looking from the system level of the world, it is anarchic or without a world government, but it does not mean the world is chaotic or in disorder.

be put into a new context involving, for example, the influence of non-state players, the development of globalization, the spread of new technologies, etc. In other words, the lessons and experiences of previous ages are useful, but they should be applied with a new perspective and in a new environment.

When looking back in history, one notes that it has been a consistent human pursuit to find better mechanisms to maintain peace and stability. The balance of power seems to be an enduring concept in international relations, but its negative influence is also obvious. Time and again the international community has tried to go beyond the framework of the balance of power to achieve security through a process of collective security and community building.

Alliances are a typical arrangement based on the concept of the balance of power. Many scholars, especially Western ones, believe that alliances play a positive role in maintaining security. However, the core feature of an alliance is not some issue or feature that binds internal or external actors together, as some scholars have emphasized.[4] Rather, the essential feature is the alliance's opposition to something.[5] If the "something" is a specific country, the creation of an alliance can only divide the world into two or more groups and will prevent countries from uniting to tackle so-called global problems. Therefore, as long as their exclusivity remains, alliances are not an acceptable guiding concept for future security arrangements. But if alliances were to reject such exclusivity, e.g. by announcing that they would not threaten a third party, they would not be alliances in the traditional sense, but would start to transit to some kind of system of collective security or even to a form of security community.

... the world needs an arrangement that encourages cooperation, promotes consensus and manifests inclusiveness, which are all the opposite of the exclusivity of alliances

To be more precise, the world needs an arrangement that encourages cooperation, promotes consensus and manifests inclusiveness, which are all the opposite of the exclusivity of alliances. The question is how to mobilize the world's nation states to work together in this direction. What makes things even worse in this regard is that mutual trust between some of the major powers is currently declining. For example, the United States (US) suspects emerging powers like China of challenging its world leadership and wanting to change the existing international system, which supports the maintenance of US leadership. On the other hand, China doubts that the US will tolerate its development and believes

4 R. Su and S. Tang, "Mutual Binding: Central Mechanism of Alliance Management", *Journal of Contemporary Asia-Pacific Studies*, Vol. 3, 2012, pp. 6-38.

5 H. Kissinger, *Does America Need a Foreign Policy?: Toward a Diplomacy for the 21st Century*, New York, Simon & Schuster, 2002, pp. 45-46.

that the US is mobilizing its allies and followers to encircle China. With this increasing competition between major powers, people have reason to doubt that cooperation will be a key feature of future security.

Of course, to change such scepticism, the major powers themselves should take the initiative to change the nature of their relationship from being adversarial to one of partnership or even friendship. This is not an easy process, but it is definitely necessary, as China and the US have recognized. Mutually undermining each other can only bring mutual loss for such major powers. Therefore, China and the US are trying to build a new model of major-power relationships[6] so that they can escape the so-called "Thucydides trap" or tragedy of great-power politics.

In addition to the efforts of the major powers themselves, a positive environment is also critical if they are to readjust their relationship. A negative example is the deterioration of Sino–US relations in the past four years because of the negative roles played by third parties.[7] Thus, other countries share the responsibility to change the paradigm in international relations from rivalry to cooperation. Furthermore, the world as a community should be more active in terms of agenda setting regarding global issues. It is quite natural for countries to consider their own interests or security first, but this undermines their aspirations to deal with global issues such as getting rid of nuclear weapons.

Since the George W. Bush administration in the US, international cooperation on non-proliferation and disarmament has lost momentum. President Obama's proposal to promote nuclear security is a good one, but is developing slowly. The evidence indicates that there is not sufficient motivation for major powers to push for denuclearization. This would require them to care more about global or human interests if they are to become more active in terms of reducing the importance of nuclear weapons in national security strategies, limiting the use of nuclear weapons, restraining military development, and more effectively managing nuclear materials and technology. The major powers are important, but their behaviour is restrained by their relatively narrow definition of what they see as their interests. Other countries could do more to shape major-power cooperation so that it serves the interests of all nations.

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6 On the new model of major power relationship, see Yang Jiechi's remarks on the outcome of the June 2013 meeting between Xi Jinping and Barack Obama at the Annenberg Estate, <http://www.fmprc.gov.cn/eng/topics/xjpttcrmux/t1049263.shtml>.

7 Sino–US relations were in a good shape in the first year of President Obama's first term. However, beginning in early 2010, the conflicts in the Korean Peninsula and disputes between China and other countries in South-East and East Asia caused these relations to deteriorate. These experiences alerted China and the US to third parties' role in their relations.

Two dimensions of major-power cooperation

To secure peace and stability in a world without nuclear weapons, the major powers would have to consider two dimensions.

The first dimension is their own relationship with one another: they would have to ensure that they do not fight wars with one another. This would require them to handle their relations very carefully. Firstly, they would have to firmly control their relationship by preventing third parties from deliberately involving them in conflicts with one another. Secondly, they would have to maintain the balance of power among themselves so as to maintain strategic stability. Thirdly, they would have to keep the lines of communication open among themselves and coordinate their actions and policies. Misunderstandings, misperceptions and suspicions would have to be addressed in a timely manner to prevent them from damaging their relationship. Finally, the major powers would have to put in place arrangements for crisis management so that crises would not escalate to conflicts and the potential damage could be controlled to some degree.

On the whole, maintaining strategic stability is the basic dimension of major-power cooperation. With a more stable and solid foundation to their relationship, the major powers could further extend their cooperation to areas beyond the bilateral, e.g. by contributing more to regional and world peace and stability. This is the second dimension of major-power cooperation in a world free of nuclear weapons.

In an age of economic globalization in which information technologies are becoming increasingly integrated with people's social lives, more and more issues are crossing national borders, and thus require global and regional solutions. To deal with these issues the world should embrace the concept of global governance, in which non-state actors, such as civil society and non-governmental organizations, are given greater roles, but this does not mean that state actors would no longer be important. On the contrary, state actors have their advantages in dealing with non-traditional challenges. For example, they have resources, governing institutions and operative capability, and can mobilize various forces to tackle problems. Issues like anti-terrorism or slowing down global warming all need the participation of state actors.

... the world should embrace the concept of global governance, in which non-state actors, such as civil society and non-governmental organizations, are given greater roles

Thus, even when considering non-traditional security issues, there are important roles for the major powers to play. Their cooperation and collaboration

would create favourable conditions for the world to achieve peace, security, development and prosperity. The question then becomes one of which instruments and mechanisms the major powers and the world should use to achieve peace and security in a world without nuclear weapons.

Existing security enforcement mechanisms

In the modern world, there are three types of institutions with the capability to enforce security. The first is constituted by the arrangements under the framework of the United Nations (UN), e.g. peacekeeping operations. It is true that there are many criticisms of the efficiency and effectiveness of the UN, but it is still the most authoritative multilateral institution in protecting world peace and security. Enforcement actions under the UN flag are highly respected and win moral and political support relatively easily. The weaknesses of UN peacekeeping-type operations in ensuring future security include the following:

(1) The ability to intervene is weak and it is difficult for UN peacekeeping operations to decisively eliminate conflicts. Generally, such operations merely separate the opposing sides.

(2) The UN Security Council takes the decision to authorize peace enforcement operations, but the issue of how to ensure that this decision-making system works in an effective way remains a problematic one.

(3) The shortage of resources and forces is also a problem for peacekeeping operations. Overall, UN peacekeeping operations currently embody more political willingness than military strength. The UN as an institution has not had reliable capabilities to enforce security.

The second category of current security enforcement mechanisms is the North Atlantic Treaty Organization (NATO). Different from UN peacekeeping operations, NATO is primarily a military alliance and therefore has regular access to military forces and is better prepared for military actions. In addition, NATO is extending its involvement in security actions outside Europe. Some people argue that NATO has the potential to replace the UN in global security operations. However, the organization has its weaknesses too. Compared to the UN, NATO is built on the strategic culture of the West, and the limited representativeness of the institution lays its actions open to question. It is also unclear whether European countries really want NATO to use more of its resources outside Europe.

In addition to UN institutions and NATO, the Proliferation Security Initiative (PSI) can be regarded as another type of global security enforcement in system. It was launched by then-US president George W. Bush in 2003 with the specific

mission of countering the proliferation of weapons of mass destruction (WMD). Although its legitimacy has been questioned, the PSI has received endorsement from over 100 entities and conducted many exercises.[8] Its progress may indicate that the world needs some kind of enforcement mechanism for preventing WMD proliferation. However, the PSI's effectiveness is not clear. No evidence unequivocally proves that the proliferation of WMD has been substantially checked worldwide or in the specific cases of the Democratic People's Republic of Korea and Iran. Moreover, in a world without nuclear weapons, the enforcement institutions that the world would need would have to ensure security in other fields, not just in the area of WMD proliferation.

Therefore, it seems that all of the above enforcement institutions have some sort of weakness. A more pragmatic approach to thinking about future arrangements in a nuclear-weapons-free world might be to combine the merits of the above arrangements. Thus, wide participation, effective decision making, regular military preparation and clearly defining any mission might be the major features that future enforcement institutions should have. Major-power cooperation is especially important to attain these elements.

... wide participation, effective decision making, regular military preparation and clearly defining any mission might be the major features that future enforcement institutions should have

Major-power cooperation on multilateral mechanisms

If we examine some cases where multilateral mechanisms are losing their momentum, it becomes apparent that the major powers have a great deal to learn if they want to meet the needs of global society in a nuclear-weapons-free world. For example, in the area of nuclear-arms control and non-proliferation, it is fair to say that mechanisms such as the Treaty on the Non-Proliferation of Nuclear Weapons, International Atomic Energy Agency (IAEA) inspections, export controls, and the sanctions imposed by the UN and other institutions have managed to contain the rapid proliferation of nuclear weapons in the past 40 years. However, at the same time the dissatisfaction of non-nuclear-weapons states is increasing because, firstly, in the eyes of these states, nuclear-weapons states do not seriously fulfil their commitments on nuclear disarmament. Nuclear deterrence still occupies a central role in major powers' security strategies and some are developing new generations of more advanced nuclear weapons. Thus the major powers do not exhibit leadership in their relations with non-nuclear-weapons states.

8 For information on the PSI, see <http://www.state.gov/t/isn/c10390.htm>.

Secondly, and even worse, the major powers time and again show inconsistency on critical issues. For example, in the field of non-proliferation the US strongly opposes some countries acquiring nuclear weapons, but at the same time it keeps silent when its friends and/or countries with the same or similar political system do so, or even assists these countries' nuclear programmes. The obvious bias of the world's leading nuclear power makes the anti-proliferation system less convincing. Some countries use this bias to justify their proliferation activities. In addition, nuclear proliferators have had the value of their attempts to acquire nuclear weapons confirmed in recent years, together with the fact that the acquisition of such weapons is the best guarantee for their security, because the leading nuclear power (the US) is much more reluctant to take action against countries that have crossed the nuclear threshold. Thus, the record of major powers' defence of global norms is not that good. These powers would have to change this image in any future system of security cooperation.

Thirdly, the major powers' coordination on global issues can also be questioned, which directly reflects on the ability of the mechanisms discussed above to take effective action. At the level of decision making, it is no secret that the UN Security Council cannot reach a consensus and fails to take action in many cases. At the operational level, the IAEA has played a major role in identifying violations and verifying compliance, but often it has been forced to stop its operations and leave countries of suspected illicit activities. How to ensure that peace and security mechanisms fulfil their responsibilities is a major topic that the major powers would have to consider.

Finally, yet importantly, there are concerns that the major powers may have become less interested in global issues. In the aftermath of the 2008 financial crisis most countries focused on economic recovery and their own domestic restructuring. Global issues such as nuclear non-proliferation, disarmament and anti-terrorism are still discussed in the media, but it has become unclear whether such issues are still at the top of the agenda of the major powers. Thus, how to keep major powers invested in global affairs is another area that needs considerable work.

On the whole, the major powers play important roles in the development and maintenance of the mechanisms referred to above. They should seriously recognize their further responsibilities in this area and make more effort to further world peace and security.

Conclusion

After an overview of the history and reality of security management, it is clear that major powers are critical actors in any attempt to achieve world peace and stability. Moving towards a world without nuclear weapons will require the major powers to not only change the paradigm of their relationship from confrontation to cooperation, but also develop and support proper mechanisms and institutions. The current mechanisms for security management have many weaknesses; they need to be updated and strengthened.

In terms of reform, a basic idea here is that the world needs to go beyond the mindset of the balance of power, especially that of military alliances, and deeply root the norm of cooperation into mechanisms and international actions so that someday the world can really become a security community. In addition, ensuring cooperative and collective security will require that the capacity of the relevant institutions, such as those within the framework of the UN, are enhanced. There is much discussion on how to reform the UN, including at the decision-making and operational levels. The international community, especially non-governmental organizations, think-tanks and middle powers, should more actively participate in this discussion.

Moving towards a world without nuclear weapons will require the major powers to not only change the paradigm of their relationship from confrontation to cooperation, but also develop and support proper mechanisms and institutions

In terms of establishing new institutions, two possible directions should be considered. One is the issue of functionality. In the decades after the end of the Cold War the security concerns of the international community have expanded to include more non-traditional areas, but discussions in this regard are still at the policy-making level. There is a shortage of institutions to implement the commitments of leaders and to help people and countries when they are facing transnational security threats. The international community should promote the establishment of more functional institutions that to some degree could make up for the inactiveness of the UN in these fields. The other direction for consideration in terms of new institutions is at the regional level. Compared to global arrangements, regional organizations might be more sensitive to what is happening in their regions. However, in some regions such as East Asia, regional cooperation institutions are still quite limited and there is considerable room for them to be further developed.

All in all, in a world without nuclear weapons, global security would take on new features. We will have to update our understanding of human progress and use new paradigms and mechanisms to usher in and defend a better world.

Chapter 7

Power Balances and the Prospects for a Stable Post-nuclear-weapons World

Rajesh Rajagopalan

Imagining how deterrence might operate in a post-nuclear-weapons world is obviously a difficult task. The evolution of international society over the last seven decades cannot be separated from the nuclear age, which makes it difficult to picture how that society might have evolved in the absence of nuclearization. Would it have been more peaceful in the absence of nuclear threats or did nuclear weapons maintain the peace? Would there have been a great-power war if nuclear weapons had been absent? Would international institutions and norms have become weaker or stronger in the absence of nuclear weapons? Or were nuclear weapons "essentially irrelevant", as John Mueller has provocatively argued?[1] It is even more daunting to imagine how global society and interstate relations might evolve if nuclear weapons were to be banished in the future. As important as this exercise is, we need to be cautious in drawing conclusions about the consequences of a future nuclear-weapons-free world because of one significant difference with the pre-nuclear world: the knowledge and capacity to build nuclear weapons probably cannot be unmade.

With this caveat in mind, this chapter is divided into two main sections. The first considers the possible consequences of abolishing nuclear weapons for international politics and relations. The second outlines what could be done to ensure a reasonably peaceful and stable international order in the absence of nuclear weapons.

The consequences of nuclear-weapons abolition

This section first argues that the effects of nuclear weapons have not been evenly spread and hence the effects of nuclear abolition will also be uneven, with the effects being different for great powers and other powers with strong conventional military forces as compared to weaker powers. The section then examines

1 J. Mueller, "The Essential Irrelevance of Nuclear Weapons: Stability in the Postwar World", *International Security*, Vol. 13(2), Fall 1988, pp. 55-79.

the effects of polarity on international politics and stability after nuclear disarmament, the effects of international commerce, and finally, the prospects for stable conventional deterrence.

The effects of nuclear weapons on international politics

The effects of nuclear weapons and their abolition may be different depending on which types of states we are considering – whether they are great powers and their allies or weaker members of the international community. Firstly, it is possible that whatever benefits nuclear weapons provided were largely (although not entirely) limited to nuclear-armed states, and in particular the great powers and their extended alliance partners. The main argument is that nuclear weapons prevented a third world war between the Soviet Union and the Western powers. An extension of this argument is that nuclear weapons have also prevented war between regional adversaries armed with nuclear weapons.[2] Since the only region that has developed nuclear dyadic relationships is South Asia (India–Pakistan and India–China), there has been an extensive but inconclusive debate about the consequences of nuclear proliferation for the region.[3]

Outside of this region, the focus has remained on the great powers. While a central nuclear war would definitely have directly and indirectly impacted other states (as would have a world war in the absence of nuclear weapons), these states did not directly benefit from nuclear deterrence itself. Their strategic circumstances remained largely non-nuclear, even if they were in confrontation with great powers armed with nuclear weapons. For North Vietnam, Afghanistan, Iraq and even some Middle East states such as Egypt, Syria and Jordan, what mattered more was the conventional disparity in power with their adversaries rather than the nuclear one. At its core, nuclear deterrence had direct consequence for only a handful of states, albeit relatively more central and powerful states. What this means is that nuclear abolition might not make much difference to significant areas of interstate relations, i.e. those that were not directly impacted by nuclear weapons.

... nuclear abolition might not make much difference to significant areas of interstate relations

Secondly, there is a considerable amount of literature and debate about the consequences for stability of different types of international systems, and some of the arguments might be useful in considering the issue of stability in a post-

2 K.N. Waltz, *The Spread of Nuclear Weapons: More May Be Better*, Adelphi Papers, No. 171, London, International Institute for Strategic Studies, 1981.

3 For the opposing points of view, see D. Mistry, "Tempering Optimism about Nuclear Deterrence in South Asia", *Security Studies*, Vol. 18(1), 2009, pp. 148-182 and E. Sridharan (ed.), *The India-Pakistan Nuclear Relationship: Theories of Deterrence and International Relations*, Abingdon, Routledge, 2007.

nuclear-weapons abolition phase (more on this below). But what "stability" means for great powers is different from what it means for states other than the great powers, especially smaller and weaker states. The period of the Cold War is generally characterized as a stable period primarily because of the absence of a war between the great powers, but it was hardly peaceful or stable from the perspective of a large number of other states. War, insecurity and instability were the norm for most regions outside of Europe for a good part of this period. Therefore, the standards of peace and stability that we aim for need to be considered in the context of the conditions that already exist. Essentially, this should make for a lower standard to aim for.

The reason for this distinction between the great-power experience and that of smaller and weaker states is not hard to find. As Barry Buzan and Ole Waever correctly point out, threats and security concerns travel over short distances. For most states, especially weaker ones, their security concerns are confined to their "regional security complex".[4] The global (nuclear) great-power structure does provide an essential backdrop to regional security and influences some of the options and constraints faced by weaker members of the international system, but regional security structures tend to loom larger. In addition, in most cases these structures are not impacted by concerns over nuclear weapons. What this means is that in considering the stability of a post-abolition period, we need to keep in mind that these effects might not be evenly spread across the international system.

Structural effects of a post-nuclear-weapons world

Beyond this distinction, what might be the consequences of the abolition of nuclear weapons? Several debates among students of international politics might potentially offer some clues. A key debate is about the consequences of polarity for international stability. Kenneth Waltz argued some time back that bipolarity was actually more stable than multipolarity.[5] Others have disagreed, suggesting that a multipolar system[6] or some alternate world order that combines the best elements of both may be more stable.[7] It is difficult to be conclusive about these debates because bipolarity is a relatively unusual type of international system in history, which appears to alternate between hegemonic and multipolar orders. In addition, the Cold War bipolar order coincided with the nuclear age, making

4 B. Buzan and O. Waever, *Regions and Powers*: *The Structure of International Security*, New York, Cambridge University Press, 2003.

5 K.N. Waltz, "The Stability of a Bipolar World", *Daedalus*, Vol. 93(3), Summer 1964, pp. 881-909.

6 K.W. Deutsch and J.D. Singer, "Multipolar Power Systems and International Stability", *World Politics*, Vol. 16(3), April 1964, pp. 390-406.

7 R.N. Rosecrance, "Bipolarity, Multipolarity and the Future", *Journal of Conflict Resolution*, Vol. 10(3), 1966, pp. 314-327.

it difficult to distinguish between these two possible effects: was it bipolarity that prevented war between the polar powers or was it nuclear deterrence? The only well-known other case of bipolarity in history was in ancient Greece, which resulted in the Peloponnesian War.

How likely is it that multipolar orders will be peaceful and stable? The early 19th-century Concert of Europe provides an often-mentioned example of how a multipolar system could provide long-lasting peace and stability. Is it possible for a new concert among great powers to emerge? If so, it is possible that such a concert could resort to conventional deterrence to maintain peace and stability. But the formation of a concert itself faces difficulties, especially with regard to membership. Could an expanded United Nations (UN) Security Council, or a modified institution such as the BRICS[8] group provide the basis for a G-5 or G-6 instead of a G-2? While it is possible that such an international system might emerge, it is unclear whether the tensions within the group could be overcome. China has significant disputes with many of its neighbours, including India, which are unlikely to be resolved simply because a new concert is formed. In addition, the critical question that has bedevilled the UN Security Council expansion process cannot be overlooked: who will be considered for the high table? The Concert of Europe was essentially made up of great powers that were victims of Napoleonic France (although post-Napoleon France was also invited to join). No such ready-made group exists today, with aspirants for great-power status contesting one another's claims. A concert made up of such unhappy states with differences among them is unlikely to be particularly stable.

... who will be considered for the high table?

Beyond bipolarity and multipolarity, other types of international orders are also possible. One is a hegemonic unipolar order, of the kind that we have seen after the Cold War. Although the United States (US) is thought to be a declining power, it remains by far the world's most powerful state, with the capacity to act in all corners of the world in defence of its interests. Despite incessant predictions that this unipolar order will become something else,[9] it is equally possible that US hegemony will continue for a considerable period. The effects of unipolarity have not been well understood, but some scholars argue that a unipolar order will be more stable, peaceful and durable.[10] It does appear that hegemonic orders might be somewhat more stable, if rather unpalatable. On the other hand, it should

8 Brazil, Russia, India, China and South Africa.

9 C. Layne, "This Time It's Real: The End of Unipolarity and the *Pax Americana", International Studies Quarterly*, Vol. 56(1), March 2012, pp. 203-213.

10 W.C. Wohlforth, "The Stability of a Unipolar World", *International Security,* Vol. 24(1), Summer 1999, pp. 5-41.

also be remembered that previous hegemonic orders were empires rather than systems with independent states. A hegemonic system, such as one dominated by India in South Asia or China in East Asia, might be more stable for the region in that there might not be interstate conflict, but it might not be an order that other smaller neighbours would necessarily welcome.

Another possibility that has not received as much attention as it should is that the international order might shift from one dominated by global powers to one dominated by regional powers. It is easier to think of the probability that the US might decline over the next several decades, but more difficult to imagine another power – China, India or anyone else – matching the US in terms of its global reach. If this is a valid proposition, then there is a greater probability that the US would become just another regional power rather than another power rising to join the US as a global power. The consequences for stability of a regional-power-dominated international order are unclear, but we can hypothesize several possibilities for security and stability. Such an international order might not be very conducive to the development of international norms, because such norms require great powers with the capacity and willingness to support them. Although some scholars have argued that an Asian order dominated by China might be acceptable to other Asian powers, others have disagreed.[11] Another consequence might be that international interaction – through trade, for example – might decline as a general consequence of the decline of a norms-based international order.

Trade and stability after abolition

Trade and international commerce are usually considered as having pacifying effects on international conflicts, at least by liberal scholars. But this proposition rests on logical rather than empirical support. Strong trade relations did not prevent the First World War in the last century. In the contemporary world, territorial disputes between China and its neighbours have intensified over the last few years despite deep trade relations between these countries. Although no war has resulted from these disputes, they should be a matter of concern because one of the stated objectives of trade is to ensure that the region remains at peace as several powers rapidly grew. More importantly, this again calls into question the supposed pacifying effects of international trade. In terms of a post-nuclear-weapons world, this also suggests that depending on international trade to maintain peace might not be very useful.

11 D.C. Kang, "Getting Asia Wrong: The Need for New Analytical Frameworks", *International Security,* Vol. 27(4), Spring 2003, pp. 57-85. For an alternate view, see A. Acharya, "Will Asia's Past Be Its Future?", *International Security*, Vol. 28(3), Winter 2003/04, pp. 149-164.

Conventional deterrence after abolition

The primary basis of security in a post-nuclear-weapons world might devolve to conventional military power and deterrence. This would be unfortunate for several reasons. Firstly, a conventional military-power-based world would see much greater imbalance between states. One of the properties of nuclear weapons is that they tend to equalize military power: quantitative and qualitative differences between nuclear arsenals matter little, even if states sometimes act as if they do. Thus, a Democratic People's Republic of Korea (DPRK) with just a handful of nuclear weapons induces caution in even US behaviour, despite the vast difference between their nuclear arsenals. General Sundarji, a former chief of the Indian army staff, is often quoted as saying after the 1991 Gulf War that the lesson of the war was that if you wanted to take on the US, you should first build your own nuclear weapons. Implicit in this argument is the assumption that once armed forces are nuclearized, conventional military disparities are not important.

... a conventional military-power-based world would see much greater imbalance between states

Secondly, and following on from the above, conventional disparities among states could make for much greater insecurities and possibly greater conflict between states in a post-nuclear-weapons world. Many states – including Israel, Pakistan, DPRK and Iran – sought or seek nuclear weapons because they perceive significant conventional and existential threats. For these states, a non-nuclear world would be one in which their existential threats become more acute. While only a few states have pursued nuclear weapons to compensate for their insecurity, it is possible that other states share such insecurities, but are not capable of pursuing a nuclear-weapons programme. In brief, a post-nuclear-weapons world is likely to be a highly insecure one, especially for states that face much stronger conventional military adversaries.

Thirdly, conventional deterrence has broken down quite frequently for a number of reasons. It is often difficult to convince even weaker adversaries that they should not fight against stronger ones, because weaker states question both the capability and willingness of stronger states to keep their deterrence commitments. Political psychologists have suggested psychological biases in decision making that lead to such risky behaviour.[12] Whatever the reasons why leaders take the decision to test others' deterrence commitments, empirically it is reasonably clear that conventional deterrence often breaks down, making this an unreliable basis for security in a post-nuclear-weapons world.

12 R. Jervis et al., *Psychology and Deterrence*, Baltimore, Johns Hopkins University Press, 1989.

Finally, conventional deterrence generally requires superior conventional power and is most useful for strong states against weaker adversaries. But the main problem for many states is that they are insecure because they face much stronger regional or extra-regional adversaries. While a nuclear-weapons-free world would not increase their insecurity (since they are already insecure), it would not necessarily make for a particularly safe or stable world either. The insecurity of a significant number of states would mean that such an order might not represent much of an improvement over the current international order.

While a nuclear-weapons-free world would not increase their insecurity ... it would not necessarily make for a particularly safe or stable world either

Institutional requirements and possibilities in a post-nuclear-weapons world

Challenges of institutional design for a post-nuclear-weapons world

An important conclusion that follows from the above for a post-nuclear-weapons world is that the abolition of nuclear weapons would be insufficient without additional measures to ensure security for weaker states in the international system. Such additional measures do not currently exist and would need to be designed.

But designing such institutions is also likely to be problematic. One of the important features of the international system is that it is made up of states that are of vastly different sizes and capabilities. In addition, states also grow at different speeds at different periods, which make the global balance among states inherently unstable and unpredictable. The ascendance of the West over the last five centuries is now being replaced by the growing power of Eastern states. It is quite possible that over the next century some other parts of the world will grow much more rapidly, upsetting the Eastern ascendance. Just as Asian powers have grown over the last few decades, it might be the turn of African powers to grow in the latter half of the century.

The implication of these changing power balances among states is that it is difficult to design institutions, because institutions reflect the balance of power among states at the time they are designed. Thus, one of the frequent criticisms of the UN (and the Security Council in particular) is that it reflects the balance of power as it existed at the end of the Second World War and that it needs to be changed to reflect the new balance of power. We can also see the impact of power balances in other institutions

... it is difficult to design institutions, because institutions reflect the balance of power among states at the time they are designed

and norms, both in the security realm and in other areas such as trade. For example, the fact that nuclear non-proliferation rather than nuclear disarmament has become the dominant institution and norm is not accidental. It reflects the fact that the major powers all had an interest in ensuring that the nuclear club did not expand and that they had little interest in abolishing a critical power variable that was advantageous to them.

An additional difficulty with nuclear-weapons abolition is that nuclear knowledge itself has spread far beyond the nine nuclear-armed states. Thus, institutions and measures also need to be in place to ensure the control of nuclear knowledge. Such ideas were discussed during the first nuclear decade, when both the US-sponsored Baruch Plan and its Soviet counterpart, the Gromyko Plan, included institutional measures for international control over nuclear technology, material and knowledge. These plans did not go far because there was well-founded suspicion that both Washington and Moscow were attempting to use international institutions to control each other's nuclear programmes.[13] But in addition, even if the superpowers had been sincere, they would still have faced significant difficulties in designing appropriate mechanisms for such a task. Today, with nuclear knowledge far more widespread, these difficulties have also increased.

Another difficulty in designing institutions for a post-nuclear-weapons world is that whether such institutions can be designed might depend on the kind of international system that might exist over the coming decades. Would it be a unipolar, bipolar, multipolar or non-polar system? Different types of international systems have different consequences for the establishment and sustenance of institutions. For example, it might be relatively easier for international institutions to be established or strengthened in a unipolar or bipolar period than in a multipolar period, because a multipolar order would require cooperation from a greater number of great powers, increasing the difficulties of establishing such institutions.

Institutions for a post-nuclear-weapons world

Assuming that all of the difficulties mentioned above can be resolved, what kind of institutional structures are necessary to ensure a stable order? The most radical solution would be a global government. Institutions are needed that would ensure that the de jure equality among states is also, to the extent possible, also a de facto equality among states. Admittedly, there are no absolutely equal societies and even in the most democratic of societies, wealth begets power. Nevertheless, international society needs to begin to resemble the more democratic societies where the material differences among members of society matter less. This is possible only if there is a credible global government that takes over the respon-

13 S. Talbott, *The Master of the Game: Paul Nitze and the Nuclear Peace*, New York, Vintage Books, 1989, pp. 71-72.

sibility of defending individual states. If states continue to be responsible for their own security, then anarchy and its consequences – i.e. the security dilemma, fear and war – would be difficult to abolish.

It is possible that a dominant hegemonic power – think of the US during the Clinton administration – could force other states to create new institutions that would arbitrate disputes between states and ensure that there is no wide disparity in power between them (or at least that this would not have military consequences). This could include new institutions to limit the spread of conventional weapons and ban some kinds of destabilising technologies. But it is likely that weaker powers, including other great powers, would chafe under such dominance and such an order might not last very long.

Therefore, a key institutional requirement for a post-nuclear-weapons world would be a strong global conventional arms control and management institution that would limit conventional military power disparities among states. While many nuclear-disarmament proposals have included further steps towards general disarmament, such measures have been seen as impractical. Even if general disarmament is impractical, conventional arms limitation agreements are probably necessary to reduce the incentive for states to reconsider nuclear weapons. One way to achieve this might be to extend the Treaty on Conventional Armed Forces in Europe (CFE) worldwide. Although this treaty is currently dead for all practical purposes, the intention and methodology behind its approach might be a useful model to consider. Obviously, this would be an extremely difficult venture.

... a key institutional requirement for a post-nuclear-weapons world would be a strong global conventional arms control and management institution

Conclusion

The prospects for a stable and peaceful post-nuclear-weapons world are not particularly good. While nuclear weapons represent a unique danger, they are also a great equalizer for conventionally weaker powers and inhibit great-power behaviour. Removing nuclear weapons would therefore bring some benefits, but these are unlikely to be in the realm of peace and stability. While international life for much of the currently non-nuclear-armed parts of the world might show little difference, there could be significant negative consequences for powers that are already armed with nuclear weapons.

Conclusion

The chapters in this volume do not lay out one definitive view of the requirements for security and stability in a world without nuclear weapons, nor do they provide a single vision of the track from here to there. What they do, however, is point to a range of issues and approaches that will of necessity make up parts of what must become the way we think about nuclear disarmament in the years ahead.

One thing that the Security in a World without Nuclear Weapons project has revealed so far is that, although a good start has been made, much more thought will need to be given to further developing thinking around some of the issues presented in this volume – and others not tackled so far.

Already, a number of issues suggest themselves for further analysis, as part of filling out the picture and deepening engagement around certain issues that can be seen as important focal points for political action in the coming period. Among these are the following, posed as questions at this stage:

- How might the concept of "cooperative security" (including its necessary arrangements and institutions) be helpful in shaping consensus around what is required to achieve a nuclear-weapons-free world?
- How can dealing with regional nuclear-weapons dilemmas and global requirements for nuclear disarmament proceed in mutually reinforcing ways?
- What strengthened roles for regional organizations and institutions (including nuclear-weapons-free zones) can be seen as helpful in building the confidence needed to eliminate nuclear weapons?
- What "reassurance" steps – between nuclear-weapons states and non-nuclear-weapons states and among nuclear-weapons states – can be seen as building confidence to undertake bolder initiatives in the reduction of the numbers of nuclear weapons and in the prevention of nuclear proliferation?
- What needs to happen in relation to conventional-weapons management in order that conventional-weapons realities and balances do not block the willingness to relinquish nuclear weapons?

- Taking into account a broad range of actors (including emerging powers), what types of coalitions are required to facilitate the move to zero nuclear weapons and where will the necessary leadership come from?
- What risks are associated with hostile non-state actors in the framework of achieving and maintaining global zero, and how will these risks be mitigated?
- How can including nuclear weapons in the context of a broader set of international security-related issues (e.g. global poverty, climate change, resource scarcity, etc.) help in building consensus towards common action?

It is our hope that the set of challenging ideas contained in the chapters in this volume may contribute to deliberations at all levels in the common quest for moving towards a world free of nuclear weapons.

Biographies

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Dr David Atwood is a Visiting Fellow in the Emerging Security Challenges Programme at the Geneva Centre for Security Policy and an Advisor at the Small Arms Survey. He is the former Director of the Quaker UN Office in Geneva, where he also headed the Disarmament and Peace Programme. He has worked on a wide range of international peace and security issues since coming to Geneva in 1995. His work has concentrated mainly on enabling processes related to international peace and security policy with UN missions, international agencies and non-governmental organizations. He obtained his PhD in Political Science from the University of North Carolina in 1982. His most recent publications include: "Under the Gun: Can a Global Treaty Regulate Small Arms Trade?" (*IHS Jane's Intelligence Review*, March 2013); *From the Inside Out: Observations on Quaker Work at the United Nations* (Australia Yearly Meeting of the Religious Society of Friends, 2012); and "NGOs and Multilateral Disarmament Diplomacy: Limits and Possibilities" (in John Borrie and V. Martin Randin (eds), *Thinking Outside the Box in Multilateral Disarmament and Arms Control Negotiations*, UNIDIR, 2006).

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Commander Robert D. Green, Royal Navy (ret.) served in the British Royal Navy from 1962 to 1982. As a bombardier-navigator he flew in aircraft carrier-based Buccaneer nuclear strike aircraft with a target in Russia, then in anti-submarine helicopters equipped with nuclear depth bombs. Promoted to Commander in 1978, he served in the UK Ministry of Defence as Personal Staff Officer to the Assistant Chief of Naval Staff (Policy); then as Staff Officer (Intelligence) to Commander-in-Chief Fleet at Northwood HQ near London in the 1982 Falklands War. In 1984 the murder of his aunt, Hilda Murrell, an anti-nuclear campaigner, followed by the break-up of the Soviet Union and the 1991 Gulf War, caused him to become one of very few ex-British Commanders with nuclear weapon experience to speak out against them. From 1991 to 2004 he chaired the UK affiliate of the World Court Project, an international legal challenge to nuclear deterrence in the International Court of Justice. After he and New Zealand anti-nuclear campaigner Dr Kate Dewes married in 1997, they established the Disarmament & Security Centre in

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